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The Operation of the Great Southern Railway during the Emergency

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Thesis submitted for the degree of Ph. D

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Summary

This thesis examines the operation of the Great Southern Railway during the Emergency period. The GSR operated all railway lines which lay wholly within Éire, together with large bus and lorry fleets. It was on the verge of bankruptcy in 1938, but became the main transport provider throughout much of the state during the Emergency as petrol shortage put many vehicles off the road. From mid 1941, its operations were severely disrupted by the collapse in the quality of the coal sold to it by its British suppliers. The thesis examines the accepted historical view that emergency rail service was one of unremitting chaos and unpunctuality and finds that this was not the case, but that the experience of the GSR in these years was similar to railway companies on other neutral countries.

The thesis combines a chronological and a thematic approach in order to explore the full breadth of the influence of the GSR on Emergency Ireland. Chapter one examines the background to the use of coal by the GSR, and attempts to change the company's orientation during the economic war. Chapter two details the collapse of coal supplies and the crises which surrounded that event, leading to the imposition of government control in February 1942. Five thematic chapters follow, dealing with experience of railway companies in other countries, the significant role the GSR played in Anglo Irish trade politics, the development of a nationwide turf distribution network from 1941, the role of the extensive bus an lorry fleets in the period and the role of the GSR in serving the defence needs of the country. The chronological pattern is resumed in chapter eight which deals with the stabilisation of services between 1942 and early 1944. Chapter nine deals with the disruption caused by the D Day restrictions and considers how services were affected by the end of the war.

This mixture of the chronological and the thematic shows the railway company as more than merely as a transport provider. The GSR was Ireland's biggest coal importer, one of its largest single employers, and its biggest owner of engineering workshops. The thesis will argue that the company played a key role in Anglo Irish trade diplomacy, building a relationship with the British Ministry of Fuel and Power which helped the Allied war effort. Finally the thesis will argue that the Emergency experience caused

Irish railway managers to take crucial decisions on technology earlier than their counterparts in Europe and particularly their counterparts in Britain.

This project has been based on the quantitive and qualitative use of primary archive material to build up a picture of the operation of the GSR in these years. The archives used have been the National Archives in Dublin, the British National Archives in Kew and the Archives of the Irish Railway Record Society in Heuston Station Dublin, This archive contains the files of the general manager of the GSR for the period in question. This latter archive has been of crucial importance in building up a picture of railway operations. Use has also been made of the national and provincial newspapers, the contemporary trade press, in particular the *Railway Gazette* and of memoirs written by railwaymen who worked through the period.

The range of sources available in the IRRS archives allow the day to day activities of the GSR to be put under the microscope. This use of what might be termed mundane documents follows the path set by Clair Wills in 'That Neutral Island'. The GSR experience allows us to examine such diverse themes as soap rationing, fuel poverty and desertion from the British forces. The railway company was so big and had so great a reach that it can be used as s proxy for emergency Ireland as a whole. The thesis also throws some new light on emergency trade diplomacy, showing that some of the commodity trades were kept quiet or their existence deliberately obscured for a variety of reasons. In terms of the wider economy the thesis will argue that wartime trade co operation was much greater than previously thought and was considered important by the British in their drive for production to support the war effort. It will also argue that the Irish experience in these years is not unique.

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I am indebted to my supervisor Professor Eunan O' Halpin for his support and enthusiasm for this project throughout the period of its preparation. The centre for contemporary history on the sixth floor of the Arts block provided a congenial place for writing as well as providing a critical mass for historical scholarship. The centre is vibrant living proof of the seanfhocal: 'Ni neart go chur le chéile'.

I am also grateful to a number of working and retired railwaymen. Dan and Tony Renehan taught me how steam locomotives work. The late Val Horan and the late Paddy Guilfoyle worked as firemen through these bad times and shared their knowledge with me over a number of years. Pearse Mc Keown remains a mine of information on the Great Northern.

A number of people helped with the preparation of this work. Eve Morrison gave me access to her BMH database allowing me to track down Percy Reynolds' background, while a number of people read drafts of the evolving work. Thanks are therefore due to

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Abbreviations

ARP	Air Raid Protection
ASLEF	Associated Society of Locomotive Engineers and Firemen
CP	The Portuguese railway company
BCDR	Belfast and County Down Railway
DUTC	Dublin United Transport Company
ESAI	Engineering and Scientific Association of Ireland
ESRB	Emergency Scientific Research Bureau
GNR	Great Northern Railway
GSR	Great Southern Railway
GS&WR	Great Southern & Western Railway (absorbed into GSR in 1924)
GWR	Great Western Railway (British)
LDF	Local Defence Force
LMSR	London Midland and Scottish Railway
LNER	London and North Eastern Railway
LSF	Local Security Force
NCC	Northern Counties Committee (Northern Ireland Arm of LMSR)
NIRTB	Northern Ireland Road Transport Board
NUR	National Union of Railwaymen
RCA	Railway Clerks' Association
RENFE	The Spanish Railway company
SHAEF	Supreme Headquarters Allied Expeditionary Force

SJ	The Swedish Railway company
TDB	Turf Development Board

Introduction

This thesis deals with the operation of the Great Southern Railways (hereafter GSR) during the Emergency period. The central issue addressed is how a shortage of coal, or more particularly of usable coal affected the Irish economy during the period. In January 1941 Britain imposed restrictions on exports to Ireland in an attempt by Britain to secure the return of the Treaty Ports. Included in this package of restrictions was a requirement that only the lowest quality coal should be shipped to Irish customers. This caused an operating crisis for the GSR, whose steam locomotives could not work effectively with the low grade coal exported from Britain. The thesis deals with the company's experiments in adapting to low grade fuel. These had wide ranging implications for the Irish economy, given the extent of the Irish railway network. In addition the company had to deal with the additional traffic which was transferred from road to rail due to petrol shortages.

In 1939, economies were dependant on coal for rail transport, steelmaking, town gas manufacture and domestic heating. One of the motivations for the foundation of the European Economic Community in 1951 was to place coal and steel under common control and thus lessen the chance of future European wars. Coal was described by the German side of the annual trade negotiations with Sweden in 1943 as 'an exceptionally valuable commodity almost as valuable as gold'.[1] For Germany, as for Britain, the use of coal as a bargaining tool with neutral countries was complicated by the need to make sure that neutral railway systems were capable of delivering much needed goods. Throughout Europe, coal shortages were exacerbated by petrol shortages which severely restricted road transport and restored to railways the monopoly they had enjoyed before the First World War. In Ireland the belief that the railway company was abusing this position, together

[1] W.N. Medlicott, *The Economic Blockade* (London, 1959), Vol.1, p. 185.

with a decline in rail services worsened relationships between the Irish government and the GSR. However as table 1 shows, the emergency period was particularly busy for the company.

Table 1 GSR freight carryings 1938 - 1945

Year	1938	1939	1940	1941	1942	1943	1944	1945	1946
tonnage	2.3	2.4	2.45	2.6	2.55	2.8	2.95	3	2.63

Source C Ó Gráda, *The Rocky Road,* pp. 14-15

The Irish railway system shared with its British counterpart the distinction of being 'Unusual in international terms in that it was still privately owned and not dependant on public subsidy'.[2] The government had struggled since the foundation of the state with the chronic financial problems of the GSR which, despite legislative remedies, seemed to move inexorably towards insolvency. Thus when Córas Iompair Éireann was created on 1 January 1945, it was born out of wartime experience.

A full appreciation of the situation of the Irish railway companies in 1939 requires an understanding of the evolution of the railway companies in the first three decades of the twentieth century. In the decades before 1921, Irish railway companies were the subject of criticism until 'The railway companies came to rival and even surpass landlordism as the *bete noire* of the Nationalist Party.'[3] Critics such as businessman and nationalist M.P. William Field argued that 'Irish industrial development was stifled by high railway rates and by the dominance of unionist businessmen whose interests lay in importing and retail rather than in production'.[4] The Liberal government established a Vice Regal Commission on Irish railways in 1906 shortly after assuming office.[5] The Commission's majority report

[2] G. Crompton and R. Jupe, 'An awkward fence to cross- railway capitalization in Britain in the inter war years' *Accounting Business & Financial History* 12.3 (2002), p. 439.
[3] D. Delaney, 'English and Irish Railways' *Journal of the Irish Railway Record Society* 106 (1988), p. 394.
[4] P. Maume, *The Long Gestation- Irish Nationalist Life 1891-1918* (Dublin, 1999), p. 24.
[5] Report of Commission of enquiry into Irish railways, CD 5247, 1910.

recommended state acquisition of the railway system. The minority report opposed such acquisition. A conference of Irish chambers of commerce held shortly after the publication of the report rejected nationalisation and opted for a scheme of voluntary amalgamation. The report became a dead letter and the *status quo* was maintained.[6] The railway companies also came in for criticism because Catholics did not receive fair consideration in appointments and promotion. After a period of public agitation in the early years of the twentieth century, the appointment of clerks was made the subject of competitive examination in most of the major Irish railway companies. This was enshrined in the Railways Act of 1924, but an unintended consequence was a failure to recruit clerks above entry level. Most management posts outside the engineering area were filled by those who had progressed through the ranks and this led to a management culture which made for 'inbreeding and a conservative outlook'.[7]

While the railway system of Britain was taken into government control as a strategic industry on the commencement of the First World War, the Irish companies remained in private hands until November 1916. A threatened strike over war bonuses forced the government to take control of the railways. The companies reverted to private control in 1921. Sir Eric Geddes, the Minister for Transport (and himself an ex railway manager) told the Irish companies at a meeting in 1921 that they were not taken over for war needs but for financial reasons.[8] The First World War also accelerated the development of cheap and reliable motor vehicles and the army trained men to drive them. The *Railway Gazette* described how 'It was after 1914 -1919 that the road haulage industry in its motorised form came into being…when discharged soldiers who had driven during

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[6] Delaney, 'English and Irish Railways' *JIRRS* 106 (1988), p. 395.
[7] M. Bonavia, *Railway policy between the wars* (Manchester, 1981), p. 31.
[8] CIE Arch MGWR book 39, Minute of meeting 1 Feb. 1921. For a brief biography of Geddes see Bonavia, *British railways*, p.119.

their period of service purchased reconditioned vehicles from the disposals board and took them home in order to earn a living by fetching and carrying for their neighbours'.[9] The munitions strike of 1920, where rail transport was restricted and then suspended over much of the country for some months ensured that the Irish economy was more practiced in functioning without a rail service. Road competition bore heavily on the Irish rail system with its lack of intense traffic flows such as those generated elsewhere by the transport of coal from the Welsh valleys to the south Wales ports, iron ore from the Baltic ports to the Ruhr, or the heavy suburban traffic flows of cities such as Manchester, Glasgow, Lyons or Munich.

The ending of government control in August 1921 precipitated a crisis in the finances of the Irish Railway companies. A commission of enquiry was established by the Provisional Government in April 1922.[10] Its broad terms of reference covered the financial position of Irish railways, the best method of administration and relations between the railway workers and their employers. The commission found that Irish railways had been well managed from the point of view of the shareholders, but that pre-war dividends had been earned as a result of low wages. While the majority report recommended state ownership, the government adopted the minority report recommendation that existing railway companies should amalgamate. This reluctance to countenance railway nationalisation continued under Fianna Fáil and was a constant aspect of government policy for a quarter century after the foundation of the state. The Railways Act, 1924 saw the amalgamation of twenty-six companies into the GSR and by 1925, all railway companies lying wholly within the area of Saorstát Éireann were part of the GSR. Five companies - the Great Northern Railway, (hereafter GNR) County Donegal railway, Dundalk, Newry and Greenore railway,

[9] *Railway Gazette,* 7 Jan. 1944, p. 3.
[10] *Boithre Iarainn na hÉireann- tuarasgbháil an choimisiúin do cheap an rialtas sealadach*, (Dublin 1922)

Sligo Leitrim and Northern Counties Railway and the Londonderry and Lough Swilly railway which straddled the border, continued as independent entities. [11]

There was a widely held view that the management of the Irish railway system was not really Irish. The 1922 commission reminded its readers that 'we think it right to point out that Irish railways are directed and managed by Irishmen'.[12] In 1943, when seeking exemption from military service for the GSR agent in Britain, the Department of External Affairs asked the GSR to confirm that the man concerned was an Irish citizen.[13] The issue over the underlying nationality of the railway companies bore some resemblance to the debate over the English owned (and managed) railway companies of Argentina.[14] The views of C.S. Andrews, Fianna Fáil activist and later head of the Turf Development Board, on railway management would not have been untypical:

> Their failure to prevent the rot did not proportionately diminish the very high estimate the railway managers had of their own importance: they were the *crème de la crème* of the Irish Business community. When Fianna Fail came to power in 1932 the GSR directors invited Seán Lemass [Minister of Industry and Commerce] to meet them. Having agreed to accept the invitation he was informed that they had arranged to receive him in the boardroom in Kingsbridge at a given date and time...They lived in a dead age'.[15]

From the end of the Civil War in 1923, the Free State government 'pursued an energetic road construction programme and within three or four years the road network, hitherto suitable for only pedestrian or horse drawn traffic, was dramatically upgraded'.[16] This facilitated shorter journey times, lower vehicle maintenance costs and the operation of heavier vehicles. Edward Mc Lysaght, a member of the 1922 commission, wrote 'We showed a certain amount of intelligence in dealing with the situation as it then stood, but

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[11] Delaney 'English and Irish Railways' *JIRRS,* 110 (1989), pp. 106-120.
[12] *Boithre Iarainn na hÉireann,* p.6.
[13] GSRGM 50541 'Materials Inspector –Appointment of Mr. C Johnston', Sec. DFA to Bredin, 21 Apr. 1943.
[14] W. R Wright, *British owned Railways in Argentina their- effects on economic nationalism* (Austin, 1974) passim.
[15] C.S. Andrews, *Man of no property* (Dublin, 1982), p. 242.
[16] Delany 'Irish and English Railways-3' *JIRRS,* 112 (1990), p. 237.

very little vision. We simply failed to see the vast and inevitable increase in road traffic'.[17] In the 1930s both governing parties legislated in an attempt to come to terms with the railway problem, and the railway companies were permitted to close uneconomic lines such as those to Clifden and Achill, many of which had been unprofitable since the first decade of the century. The road construction programme of the twenties did not extend to the western seaboard and rail closures would have been swifter and more extensive were it not for the bad state of the roads in these areas.[18]

The response of the railway companies to road competition was to seek control of road transport, often in the guise of co-ordination. In Britain, the Netherlands and Germany as well as in Ireland, co-ordination was code for using road services to feed traffic into the rail network.[19] In some countries railway companies entered the road business themselves. This reached its most ambitious point in the (unsuccessful) bid by the Deutches Reichsbahn to control the German autobahn network.[20] In Ireland the Road Transport Acts of 1932 and 1933 restricted the operation of road transport businesses while giving the right to railway companies to compulsorily acquire their road transport competitors. In the ensuing years the GSR and the GNR used these powers to acquire bus and lorry services.

By 1938 the railway companies were in financial difficulties and the GSR was virtually bankrupt. On 7 December 1938 a motion was put before the Dáil to establish a tribunal which would *inter alia* enquire into 'the circumstances which have led …to the present unfavourable financial position of the Great Southern Railways and of the other railway companies', and would make recommendations on: 'Any changes in the ownership or in the methods of administration or both in the ownership and in the methods of

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[17] E. Mc Lysaght, *Changing Times* (London, 1978), p. 145.
[18] J. Beaumont, *Rails to Achill,* (Usk, 2002), p.67.
[19] A.J. Veenendaal, 'Railways and the coming of road transport to the Netherlands 1919 – 1940' *Business and economic history,* 25 1 (1996), p. 296.
[20] A Mierzejewski, *The most valued asset of the Reich* (Chapel Hill, 2000), pp. 40-42.

administration of existing transport undertakings'.[21] The Oireachtas having approved the motion, a warrant for the tribunal was issued on 22 December, and the tribunal held its first meeting the following day, examining witnesses took place between 27 January and 15 May 1939. The majority report was dated 11 August 1939.[22]

The timing of the tribunal created a climate of uncertainty which prevented the GSR and the government from formulating an emergency plan in the period between the Munich crisis of September 1938 and the outbreak of the Second World War. The period between the establishment of the tribunal and the finalization of its report coincided almost exactly with the last nine months of peacetime. That unfortunate coincidence meant that there could be little or no effective planning for war as the uncertainty over what the tribunal might recommend undermined trust between the parties. If the work of the tribunal prevented preparation for war, the outbreak of war precluded there being sufficient time and space at a policy making level to implement the tribunal's recommendations. Among these recommendations was a rejection of the railway companies' demand that further restriction be put on the use of private lorries. Radical changes in the governance structures of the GSR were recommended, with the number of directors being reduced to two, to be joined by an executive chairman and two controllers appointed by the government.

The problems facing the GSR in the 1930s were similar to those facing Iarnród Éireann in the 1990s: a network which was falling into decay, sporadic and patchy purchases of new equipment, an insufficiency of shareholder funds even for maintenance and ambivalence on the part of Government as to what size of rail network was required. The drive towards self sufficiency in the 1930s affected the Irish railway companies through a number of government initiatives to lessen the dependency of the Irish railway

[21] Dáil Debates, vol.73, cols. 1401,1402, 7 Dec. 1938.
[22] Tribunal of Enquiry into Public Transport Report 1939, p 4866, p.118.

system on British coal. These had not yielded significant results by 1939. Following the outbreak of war two new problems arose: how would the railway system carry the vastly increased traffic consequent on petrol shortages; and how would the GSR be seen to use its monopoly powers. Shortages of fuel combined with increases in traffic bore on most railway systems in the 1939-45 period. They bore particularly strongly on railways in neutral states, and an attempt will be made to compare the response of the GSR with the response of railway companies in other neutral states such as Sweden, Argentina and Portugal. The thesis seeks to put the experience of the GSR in a comparative framework, comparing it with other European railway companies. The operation of the GNR in Éire forms a useful basis for comparison. The time boundaries of the thesis exceed those of the Emergency, with more emphasis placed on the period of the Economic War than on the period between September 1939 and December 1940, and with the fuel emergency considered as ending from a railway point of view with the timetable change of 1946.

The thesis explores a number of questions. The first chapter will examine the historic dependency of the GSR on Welsh coal and on the organisational culture of the locomotive running department. This chapter will also consider the pressures on the railway companies to use native fuel. It will explore these pressures and whether they were technologically justified. Chapter two will deal with the government takeover of the GSR in March 1942. It will consider whether this takeover was motivated by wartime conditions or by conditions existing before the outbreak of the war. The chapter will explore why the government took control but not ownership of the GSR and what this tells us about Irish political culture.

Chapter three deals with the operation of the GSR in a comparative framework, and will compare the operation of the GSR with the operation of railway companies in neutral

and belligerent states. It will argue that the war years saw a global energy shortage with the response of the GSR being typical of other railway operators. Chapter four will consider the role of coal and in particular that of railway steam coal as a bargaining chip in Anglo Irish trade, especially after the imposition of trade sanctions by the British in January 1941. It will examine the shift from adversarial to integrative bargaining and the shift of both governments from their original positions. It will also examine the divided approach on the British side and the autonomous behaviour of some Government departments. This chapter will also explore when British trade policy towards Ireland ceased to be a punitive policy, and what actions by the Irish side accompanied this move.

In the first four chapters a chronological approach has been taken; four issues are then discussed thematically. The trade sanctions policy imposed by the British in December 1940 was an opportunity for turf to be tested as a substitute fuel. Chapter five will examine the role of the GSR in getting the turf crop from the west coast and the Bog of Allen to the east coast urban centres. It will examine the justification for the poor opinion that was held in government circles of the GSR turf transport campaign. No full understanding of the emergency operation of the GSR would be complete without an examination of its road and in particular its road freight division. Chapter six will examine the contribution of this division in building a nationwide logistics network. Chapter seven will deal with the role of the GSR in defence planning. A railway company was a potential source of transport to an invader, an owner of large workshop facilities, an employer of large numbers of potential military recruits and most importantly a way of getting civilians away from urban areas vulnerable to bombing. This chapter will consider how the GSR fulfilled these roles.

The final two chapters will return to a chronological approach. Chapter eight considers the period of relative normality between December 1942 and April 1944. The

improvement of services during this period contradicts the conventional narrative of unremitting chaos which characterises the description of the emergency railway system. This chapter will outline these changes and the possible reasons for the distortion of the narrative. Chapter nine examines the time of greatest test- the cut back in supplies in the run up to D Day. This period saw coal shortages which were more severe than any of those previously experienced in the 1941 to 1942 period, and the chapter will explain how a shift in British policy helped the GSR to cope with these changes. The chapter will also examine the strategic decisions made by the GSR in spring 1944 which reshaped the post war railway system. The foundation of CIÉ in January 1945 will be considered briefly, and the persistence of coal shortages in post war Europe will be dealt with in more detail as they were much more on post war railway operation.

The sources

The secondary literature dealing with the economic side of the Emergency is sparse. Most recent work has concentrated on security and high politics. Carroll's work[23] and Meenan's article[24] are still therefore of use. On the British side, the official history of the war, civil series, contain sporadic references to Éire and deal at length with food and fuel. Professor Court's history of the coal industry is still crucial to understanding the period, being described as 'magisterial' by the authors of the official history of the South Wales miners. [25] There is an immense literature on the steam locomotive, but the challenge to the historian is to extract useful material. I was helped in this task by the comprehensive nature of the library of the Irish Railway Record Society (IRRS), which holds many technical and instructional works on the steam locomotive. This library holds the *Railway Gazette* which was, and remains, the international journal of record of the railway profession which gave

[23] J.T. Carroll, *Ireland in the war years* (Newton Abbot, 1975),.
[24] In K.B. Nowlan and T.D. Williams, *Ireland in the war years and after* (London, 1969),.
[25] H. Francis and D. Smith, *The Fed* (London, 1980), p. 395.

global coverage to railway operations despite the difficulties of war time censorship and Ireland figures prominently in its columns. This thesis draws on both national and provincial press.

The material in the IRRS archives made possible the writing of this thesis, and has balanced the sparse nature of Irish public records in the transport area. This archive contains the records of both the GSR and the GNR and vitally the files of the General Managers (GSRGM and GNRGM respectively). In addition to recording high policy, files on minor incidents or industrial relations files survive, and show how the global pattern of shortages played out at local level. Other collections in the IRRS archive include the Chemist's Department (CHEM) which is crucial to understanding the technical issues involved in running a railway in such difficult circumstances. A number of collections of correspondence and instructions to foremen and superintendents give a unique picture of how trains actually ran.

The records of the Marine and Transport branch of the Department of Industry and Commerce which regulated the GSR do not survive. While part of the correspondence which survives in the GSR papers, the deliberations of government are lost. The records of the Department of Supplies survive only sporadically and are silent on the issue of coal supplies. This is somewhat offset by the survival of material in the Department of External Affairs and the Taoiseach's department. The British National Archives in Kew contains useful material on Ireland at cabinet (CAB) and at departmental level. The most important departments are Board of Trade (T), Ministry of Food (MAF), and Ministry of Fuel and Power (POWE). These papers compensate for the dearth of Irish government sources. Another key source is the reminiscences of a number of locomotive drivers who worked through the period in question. Two of these (who coincidentally were branch secretaries in the locomotive union The Associated Society of Locomotive Engineers and Fireman

(ASLEF) committed their experiences to print in the *Journal* of the Irish Railway Record Society.

Chapter one

Fuel supply and crew skill

The chapter outlines the international predominance of Welsh coal in the operation of railways in the British sphere of influence. It also deals with the attempts at promoting the use of Irish substitute fuels, driven by an ideology of import substitution which intensified after independence and especially after the accession of Fianna Fáil to power in 1932. One of the first battle fronts in the Anglo Irish economic war was the coal trade but as this chapter will show, experiments with German, Polish and Irish coal proved both unsuccessful. Turf had been the subject of experiments during the nineteenth century and such experiments were undertaken on both the GSR and the GNR between 1940 and 1942. The chapter will examine the lack of success of these and further experiments with turf briquettes undertaken in 1944. The chapter will show that the experience of the GSR during the Emergency can only be fully understood in the context of its experience during the economic war. In addition to the politics of import substitution, the chapter also deals with the other factor affecting the working of the steam locomotive – the skill of the crew. The chapter will attempt to locate the experience of Irish railway companies within the broader framework of railways in other countries within the British sphere of influence.

The dominance of coal

Coal is a heterogeneous commodity ranging from lignite at the lower end of the quality scale, through bituminous coals to anthracite. Particular types of coal are used for example in steelmaking or for the manufacture of town gas.

Welsh steam coal was so rich in energy and low in ash that it outsold, even in Virginia, the product of America's great Pennsylvania field. It made the valleys

north of Cardiff and Swansea the equivalent of today's Saudi Arabia with locomotives and fifteen ton trucks standing in for pipelines.[26]

Coal was a key commodity in Anglo Irish trade and in Irish economic discourse as is illustrated by Dean Swift's comment that one should burn everything English except their coal. Sir Robert Kane's *Industrial Resources of Ireland,* published in 1845 gave a view of the coal resources of Ireland later characterised by Cormac Ó Gráda [27] as 'over sanguine' and by F.S.L. Lyons[28] as 'excessively optimistic'. Laurence Kettle, Irish Parliamentary Party activist and engineer, in his evidence before the Coal Industry Committee of 1919 stated that 'Most of us hark back to Sir Robert Kane for our information and he is certainly a little out of date'.[29] He continued: 'The system of government under which this country has been labouring for the last century has been responsible for the failure to develop the Irish coalfields'.[30] Arthur Griffith asserted that coal deposits in Counties Antrim and Down remained unexploited because the Londonderrys were safeguarding their Durham coal interests.[31] The Irish coalfields which were exploited consisted of the Leinster coalfield which produced anthracite and the Connaught coalfield, centered on Arigna, which produced low grade bituminous coal. These deposits were developed during the coal shortages of the First World War and part of this process saw new railways being constructed at public expense to Arigna, Co. Roscommon, Castlecomer, Co. Kilkenny and Wolfhill, Co. Laois.[32] The Irish coal industry

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[26] C. Harvie, *A Floating Commonwealth- Politics, Technology and Culture on Britain's Atlantic Coast 1860-1930* (Oxford, 2008), p.69.
[27] C. Ó' Gráda, *Ireland a new economic history* (Oxford, 1995), p. 319.
[28] F.S.L. Lyons, *Ireland since the Famine* (London, 1973), p. 253.
[29] Irish Coal Industry Committee 1919, *Minutes of Evidence with Appendices thereto* (Dublin, 1920) (Hereafter ICIC) q. 222b, q. 1840.
[30] ICIC, q 229.
[31] Maume, *Long gestation*, p. 57.
[32] S. Johnson, *Johnson's atlas & gazetteer of the railways of Ireland* (Leicester, 1997), pp. 98, 22, 120.

prospered best in the disrupted trade of wartime, an experience it shared with Sweden whose coalfields 'flourished during three short periods when there have been blockades: the Napoleonic war … the First World War … and the Second World War'[33] and of Switzerland whose Riedhof mine was closed in 1921, to be reopened between 1942 and 1947.[34]

The railways were Ireland's largest single coal importers, typically accounting for ten per cent of annual consumption.[35] Irish railway companies bought coal from coalfields on the West Coast of Britain. The Belfast and County Down Railway (BCDR) purchased from Cumberland, while the GNR purchased from the West of Scotland, mainly Ayrshire and from South Wales.[36] The Great Southern and Western Railway (GS&WR) imported exclusively from South Wales and based an engineer in Newport to liaise with the coal producers.[37]

The advocates of Irish coal saw the product through rose-tinted spectacles. In 1908 an article in the *Journal of the Statistical and Social Inquiry Society* asserted that the Cavan and Leitrim Railway burned Arigna coal and achieved results equal to that of best Welsh steam coal.[38] No statistical evidence was given for this statement and its veracity is open to question as is seen by the company's experience during the First World War,[39] when the company reported to the Department of Transport that 'in comparison with the 77 lbs. per mile used…working with Arigna coal, the same engine using Welsh on the same line is 47.5 lbs per mile'.[40] At the 1919 enquiry into the Irish coal industry the railway companies

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[33] S. Ollson, *German coal and Swedish fuel 1939-1945* (Goteborg, 1975), pp. 66-67.
[34] http://www.swissworld.org/eng/swissworld.html?siteSect=809&sid=4103541&cKey=1060247203000&rubricId=16090 consulted 10 Feb. 2006.
[35] L.J. Kettle, 'Ireland's sources of power supply' *Studies,* 41 (1922), pp. 61-75.
[36] GNRGM 33/1113, 'Arigna coal', memorandum, 12 Sept.1933.
[37] GSWR Sec 3288a, 'Steam coal supplies', memorandum, 10 Feb. 1921.
[38] H.C. Geoghegan, 'A plea for Irish mines and minerals' *JSSISI,* 12.83 (1908), p. 155.
[39] IRRS C&L papers, Circular letter, O' Brien to companies, 12 Feb.1920.
[40] IRRS C&L papers, Shanks to Stewart, May 11 1920.

were criticised for their reluctance to use Irish coal. J.J. Parkinson of the Castlecomer Colliery Company and a member of the committee said that the GS&WR had indicated in 1913 that it would adapt locomotives to burn anthracite if guaranteed a sufficient supply, but had failed to honour this commitment.[41] E.A. Watson responded on behalf of the company that 'Irish coal has been tried on this railway by practically all engineers since the line opened'.[42] The reality was that Irish railway companies found Irish coal either unsuitable in the case of anthracite, or of too low a quality in the case of Arigna coal. Steam coal has a reputation 'dependent upon [its] high calorific power [which enables the] rapid generation of steam'.[43] It is therefore ideal for a narrow locomotive firebox constrained by the width between the wheels. Large boilers found in factories or ships are free from this constraint and can therefore burn lower grades of coal. Locomotives were designed around the coal which was to be consumed. In 1901, the New Zealand railways sought a locomotive capable of burning low grade lignite. Their order went to the US builder Baldwin because the use of low quality coal 'Was far better understood in Philadelphia than it was in Glasgow–or in Lille or Berlin for that matter'.[44] At the other end of the quality scale, anthracite was used by a number of US railroads in purposely designed locomotives.[45] However, the US anthracite mining industry was wholly owned by railway companies and these locomotives were a testament to the integration of mining and railway companies rather than to the suitability of anthracite as a locomotive fuel. GSR locomotives were designed to burn Welsh coal which was both cheap and plentiful in the buyers' market of the nineteen twenties and thirties, and especially after the rout of the miners' union in the 1926 general strike as can be seen in table 2.

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[41] ICIC q.1550, evidence of J.J Parkinson, colliery proprietor.
[42] GSWR Sec 3288c, CME to GSRGM, 1 Mar. 1920.
[43] R. H. Walters, *The economic and business history of the South Wales steam coal Industry* (New York, 1977), pp. 3-4.
[44] D. Ross, *The willing servant – a history of the steam locomotive* (Stroud, 2004), p. 157.
[45] C. Mc Shane, *The locomotive up to date (*Chicago, 1900), pp. 428-9.

Table 2 GS &WR and GSR contract price per ton of steam coal

1915	1921	1922	1923	1924	1925	1926	1927	1928
23/-	46/- to 53/-	25/-	27/6	27/-	24/6	20/-	19/-	17/6

Source GSWR Sec 3288a 'Steam Coal Supplies'

The perception of Welsh coal as a premium locomotive fuel was world wide. The chairman of the Central Argentine Railway told his shareholders that while: 'They had co-operated with government efforts to burn maize … from the company's point of view coal from South Wales was pre eminent'.[46]

The Saorstát Government strongly urged the railway companies to use Arigna coal, and the GNR carried out some tests in 1923.[47] When Welsh coal was substituted for Arigna coal on the Cavan and Leitrim Railway on its absorption into the GSR in 1924, coal consumption dropped by 20%.[48] The district superintendent observed that 'Arigna steam coal is not able to impart sufficient heat to maintain a uniform supply of steam'.[49] In 1925 J. R. Bazin, the Chief Mechanical Engineer of the GSR urged that tests be progressed as: 'The general manager is being strongly pressed by the Ministry on the subject'.[50] In 1928 the GSR board decided against resuming use of Arigna coal despite a mine owner's threat to stop using rail transport.[51] The locomotive foreman in Ballinamore wrote: 'I could continue for a month renouncing (sic) the unsuitability of Arigna coal for locomotive steaming purposes…I sincerely hope that it will not again be seen on this section'.[52]

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[46] *Railway Gazette*, 28 Nov.1941, p.569.
[47] GNRGM 33/1113 'Arigna coal', report.
[48] Unnumbered file 'Arigna Coal', return of coal consumption Cavan and Leitrim section, Jan. – June 1924 and Jan. – June 1925.
[49] 'Arigna Coal', running supt. Athlone to Harty, 5 Aug. 1924.
[50] GSR Arigna Coal, Bazin to Harty, 8 Nov 1925.
[51] GSWR Sec 3288c Loco, Permanent Way and Works Committee minute, 21 Dec.1928.
[52] 'Arigna Coal', foreman Ballinamore to running supt. Athlone 11 Nov. 1928

Total coal costs were a combination of the pithead price, the transport cost and the amount of coal burned to do a given amount of work, and any advantage possessed by Arigna coal by virtue of its proximity to the railway was negated by poor quality. The effect of this relationship is seen in 1926 when Arigna coal was delivered to the railway at 29/2 per ton compared to Welsh coal at 49/9 per ton, yet Welsh coal was cheaper when coal consumption was taken into account.[53]

When Fianna Fáil came to power in 1932 one of the first battlefronts in the Anglo Irish economic war was the coal trade. A five shilling per ton duty was imposed on British coal, new suppliers were sought in Germany and Poland, and Irish mines were encouraged to increase production. In August 1933, a French technical delegation arrived in Arigna to conduct tests in co-operation with the Geological Survey of Ireland.[54] Unlike the readily marketable quality anthracite of Castlecomer, Arigna's coal with its high ash content needed production and sales support if the coalfield was to prosper.[55] Seán Lemass, Minister for Industry and Commerce, told the Dáil that 'The [railway] company has estimated that the additional cost involved, if duty were paid on the whole of its requirements of coal, would be approximately £52,000 per annum. I have, however, no reason to believe that the company cannot obtain adequate supplies of suitable coal from non-British sources.[56] These sources were Germany and Poland. The new government was attempting to change long-standing trading arrangements and this upset both Irish railway companies and UK coal producers.

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[53] 'Arigna Coal', Bazin to Harty, 25 Mar., 26 May 1926.
[54] *Irish Press,* 11 Aug. 1933.
[55] P. Rigney 'Report on Arigna coal mines 1942', *Breifne,* 10 (2002), p .513.
[56] Dáil Debates, Vol. 44, col. 537, 27 Oct. 1932.

Measures to promote the use of indigenous coal were unexceptional in inter war Europe. Coal was a globalised product in the years before First World War, but ceased to be so as countries developed their own mining industries in the face of wartime shortages. The received wisdom that native coal deposits were not viable could be and sometimes was proved fallacious as in the case of Brazil in 1938.[57] Britain lost market share both globally and in Europe. As the Dutch sought to reduce their reliance on imported coal: 'Output rose from a mere 1.9 million tons in 1913 to 10.9 million tons in 1938'.[58] In 1927, the Spanish government restricted the importation of coal. The use of Spanish coal was made obligatory in companies assisted by the state through protective laws or concessions. Selected Spanish industries were allowed to import a proportion of their needs, with railway companies allowed to import ten per cent of their requirements or fifteen per cent if express trains were run.[59]

Economic war experiments

The economic war affected the Irish railway companies in a number of ways. The decline in Anglo – Irish trade caused an immediate decline in railway traffic. The lucrative cattle traffic to ports such as Dublin, Rosslare and Greenore plummeted. In August 1933 it was reported that GSR merchandise receipts had fallen by 17.98% and livestock receipts by 31.15% compared with the same period in 1932 and that the 'magnitude of these decreases was partially due to tariffs'. [60] The GSR told the transport tribunal that the number of cattle carried fell from 737,000 in 1931 to 558,000 in 1934, and the tribunal considered that 'Depression in trade from 1930 and the late dispute with Great Britain have adversely affected the traffic of the company...their effect on goods traffic and in particular in

[57] F.D. Mc Cann, *The Brazilian American alliance* (Princeton, 1973), p. 194.
[58] N. Buxton, *The economic development of the British coal industry* (London, 1978), p. 168.
[59] BNA POWE 26/296, memo re the Spanish coal trade, 15 Nov. 1934.
[60] Irish Railway Society *Bulletin* 1 (1933), p. 19.8.

livestock was serious'.[61] Faced with this fall in receipts, the GSR and the GNR, unenthusiastic about fuel experiments at the best of times, were particularly unenthusiastic about the enforced use of German or Polish coal. While the GNR was ostensibly more co-operative with government policy, in February 1934, W.H. Morton, General Manager of the GSR wrote: 'While the company is most anxious to facilitate the wishes of the Minister as far as possible, it is a matter for regret that the products of the Saorstát coalfields cannot be used without serious detriment to our locomotives and ... punctuality'. He hoped that the department would not press a course which would: 'merely accentuate the heavy disabilities which we already endure from the enforced use of German coal'.[62]

Another effect of the Economic War was renewed pressure on the railway companies to use Arigna coal, and both companies again tested Arigna coal in these years. The GSR tests were conducted in July and August of 1933, using a blend of equal measures of Arigna and Welsh coal. Further tests were undertaken in March 1934 using Arigna coal in 5% 10% and 15% proportions,[63] on special test trains accompanied by a government inspector. The results showed increased fuel consumption, poor locomotive performance and a failure to adhere to specification, the ash content at 16% being twice the maximum specified.[64] In September 1933, the government indicated that it would allow the companies to purchase eighty five per cent of their requirements duty free, provided they bought the balance from Arigna.[65] The GNR undertook more exhaustive tests in November 1933 on pairs of scheduled service trains using the same locomotive. One train was fuelled with a blend of fifteen per cent of Arigna combined with eighty five per cent Welsh, while the other was allocated Welsh coal for comparison. The GNR Chief Mechanical Engineer

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[61] Tribunal of enquiry into public transport *Report* 1939, p.4866 p. 27, p. 32.
[62] GNRGM 33/1113 Morton to Industry and Commerce, 9 Feb. 1934.
[63] 'Arigna Coal', test reports, 3 Apr. 1934.
[64] 'Arigna Coal', report to board, 8 Aug. 1933.
[65] GNRGM 33/1113, Industry and Commerce to Howden, 12 Sept. 1933.

reported that balancing the lower quality of Arigna coal with the duties payable on British coal, 'by using 15% Arigna coal the company would be in no worse position than they are at present'. He suggested that a figure of ten per cent should be used in negotiations with the Government, noting that it would be impossible for Arigna to supply fifteen per cent of the requirements of the two big railway companies.[66] These events showed that on one side of the government – railway company negotiation the GNR realized that the Arigna mines would be unable to supply fifteen per cent of the needs of the Irish railway system. On the other side, the contradictory results of tests undertaken by the companies must have been obvious to the government, with the GSR claiming the coal was unsuitable while the GNR accepting that Arigna coal could be blended with British coal. On 20 November, the GSR passed to the GNR their draft letter to the government declining their offer. However, the following day Morton rang the GNR and indicated that the GSR policy might change as: 'last week they had several serious delays on the line owing to the use of German coal and if this continued it may necessitate their being driven to take advantage of the minister's offer much as they disliked the scheme'.[67]

In 1938, a large coal order was placed in Germany by Portuguese Railways. The chagrin of the Cardiff coal exporters at this intrusion on their traditional market got little sympathy from the British embassy in Lisbon which reported that CP (the railway company):

> Is the largest single importer with requirements of 250,000 tons per annum and the order of 127,000 tons was the largest ever given to a German firm … the Cardiff exporters were incensed at the idea that the [Portuguese Railways] should place an order in Germany and in a subsequent transaction they showed such resentment and were so unaccommodating that the mines dept of the Board of Trade agreed with me that the matter was not well handled. The only reason the CP bought German

[66] GNRGM 33/1113, report by CME, 21 Nov.1933.
[67] GNRGM 33/1113, draft GSR letter 20 Nov., note of phone message, 21 Nov. 1933.

> coal was that it was 2/ per ton cheaper than Cardiff coal. It proved to be of satisfactory quality and deliveries were per agreement.[68]

The substitution of German for British coal was possible, but not seemingly for the GSR. More than two decades later, John Reihill, a coal importer wrote to C.S. Andrews, then chairman of CIÉ:

> As far back as 1932 I played a certain part in bringing over to Ireland the Head Engineer of the Westphalian coal syndicate in order successfully to prove to the Southern Railways Engineers … that their assertion that the old Great Southern Engines, having been constructed to consume medium volatile Welsh steam coal [could not burn any other type] it was quite a problem for us to give any satisfactory explanation…as to how it was the locomotives of the Irish Railways were the only ones in existence where no satisfactory results whatever could be achieved [with German coal]. [69]

Reihill was not a naive enthusiast for native coal, but a businessman experienced in the coal business with a knowledge of coal similar to that possessed by railway managers.

The railway companies used Arigna coal as a bargaining chip with the government in negotiations aimed at resuming their purchases of British coal and minimizing their purchases of German and Polish coal. On 16 March 1934, an agreement was reached which allowed the companies to import seventy five per cent of their total requirements duty free from Britain provided that they would order five per cent of their requirements from Arigna. The Department of Industry and Commerce accepted that 'inability [by Arigna] to supply substantially to sample would be regarded as inability to supply for the purpose of the offer'. Germany and Poland were confined to twenty per cent of the market and the original government objective of weaning the railway companies onto a diet of German and Polish coal was shelved. George Howden of the GNR wrote 'The use of

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[68] BNA FO 371 22600, Arthur H King Lisbon to Anthony Eden, 12 Jan 1938.
[69] CIÉGM 72839/44, Reihill to Andrews, 23 Jan. 1960.

Arigna coal … was agreed to merely as a means whereby the company could obtain as much coal as possible free of the emergency duty'.[70]

Deirdre Mc Mahon has written ' On 19 December [1934] J.H. Thomas, Dominions Secretary, reported to the cabinet that the…Great Southern Railway had cancelled its German coal contract as had the Board of Works…Thomas wrote that this was the most gratifying behind the scenes gesture yet made'.[71] In January 1935 the *Economist* reported: 'The Irish Free State agrees to take all its coal from the UK in future', and expressed an expectation of an increase in exports from South Wales was anticipated due to the agreement.[72] This coal cattle pact was facilitated by John Dulanty, Irish High Commissioner in London, who played on the British fear that the Irish would instead conclude a pact with Germany. The agreement of March 1934 between the government and the two railway companies, confining continental coal to twenty per cent of the railway market was a precursor to the Coal Cattle Pact which in turn is regarded as a precursor to the Anglo- Irish trade agreement of 1938 which ended the economic war. These agreements confirmed the supremacy of British coal in Ireland and particularly confirmed the primacy of Welsh coal on the GSR.

This was a victory for the GSR companies, at least in the short term. This view is only tenable if supplies of Welsh coal remained available in the quantity and quality required. This did not happen, and the GSR, reliant on one type of coal was in a worse position than the GNR in the Emergency: the latter had been using both Scottish and Welsh coal for over thirty years. Greater perseverance with German coal might have left the GSR more adaptable in the face of the decline in coal quality that occurred from 1941. The reluctance of the GSR to conform to government wishes and use German, Polish or Irish

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[70] GNRGM 33/1113B, Howden to Stephens, 13 Oct. 1936.
[71] D. Mc Mahon, *Republicans and imperialists* (London, 1984), p .84.
[72] *Economist,* 5 Jan. 1935 p. 7, 14 Jan. p. 119.

coal did not endear them to a government waging a trade war. This attitude was clearly conveyed in September 1936 when the Department of Industry and Commerce wrote to the GSR - again on the issue of Arigna coal- that 'The present request, which involves the employment of several hundred men in a rural area is one which [can be reasonably pressed] on your company ... particularly on the grounds that various steps have been taken by the government which have tended to promote the interests of your company'.[73]

Turf Burning

Only in the 1860s did steam coal become available at a price that made other fuels uneconomic as a locomotive fuel. Up to that point locomotives used coke in Europe and timber in America. The abundance of turf in Ireland prompted a number of efforts to use it as a locomotive fuel. In August 1848, the Midland Great Western Railway ordered 'a boatload of black turf for the new engine'.[74] However a year later a coke oven was bought for locomotive fuel. In 1862 the Belfast and Northern Counties Railway carried out an experiment burning turf with seemingly impressive results. According to the *Newry Telegraph* the engine performed well 'with superior turf'. The GS&WR also carried out experiments with turf between 1873 and about 1877, establishing an experimental turf works at Mountrath, Co. Laois. The locomotive engineer, Alexander Mc Donnell, corresponded with the locomotive engineer of the Bavarian railways on the use of turf in locomotives.[75] Many of these reports refer to the need for superior quality turf, readily available in experimental quantities, but less so in quantities sufficient for widespread daily use. As Ó Gráda points out, the issue of heat per cubic metre as well as variability must be taken into account when comparing turf with coal, giving a ratio of between four and five

[73] GNRGM 33/1113B, Maguire to Morton, 29 Sept. 1936.
[74] R.N. Clements, 'Turf burning locomotives' *JIRRS*, 7 (1950), pp. 64.
[75] Clements, 'Turf burning locomotives', pp. 64-66.

tons of turf to one ton of coal.[76] In 1950 the *Journal of the Irish Railway Record Society* commented: 'From time to time over the last hundred years…a number of experiments have been made though it seems that in the majority of cases all that was done was to fill the tender with turf and hope for the best'.[77]

As a steam locomotive increases speed it produces increased exhaust, which draws a greater amount of air through the fire thus increasing its heat and producing more steam. This is known as the Stephenson cycle and works well with good coal, but it can become a vicious cycle with turf. Being much lighter than coal, turf can be drawn unburned through the boiler tubes as the draught increases, with consequent high risk of fire.[78] CIÉ reported to the 1946 World Fuel Congress that turf had:

> A very high moisture content (varying between 28 and 40 per cent) and its bulk density made it difficult to carry sufficient for a journey: [varying] between 70 and 120 cubic feet per ton compared with coal at approximately forty cubic feet per ton… the calorific value varied over a wide range, 7000 to 14 000 British Thermal Units. The exhaust blast had to be reduced very considerably or a large proportion [of the fire] was drawn through the chimney as sparks. In one experiment the fire was entirely eliminated'. [79]

Trials with turf burning locomotives undertaken by CIÉ between 1951 and 1956 showed that the successful resolution of these problems would require a radical redesign of the conventional steam locomotive. However, between 1940 and 1941, a number of highly publicised turf burning experiments were carried out by the GNR. These experiments faltered on the issue of a sufficient supply of quality turf, and also demonstrated that turf was not feasible as a locomotive fuel without adapting locomotives in a way which made it impossible to burn coal. The GNR succeeded in packaging this news in a manner which was palatable to government. These experiments originated in 1938 when the Turf

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[76] Ó Gráda, *Economic history,* p. 322.
[77] *JIRRS,* news section 7 (1950), p. 60.
[78] Ross, *Willing servant* pp. 225-230. For warning on danger of sparks see GSR 1942 Weekly Circulars passim.
[79] GSRGM 53960/10 'Briquetting –miscellaneous' contains this report.

Development Board sought to alert the railway companies to the possibilities of turf as locomotive fuel. They secured the interest of the GNR, whose General Manager, G.B. Howden wrote:

> I do not think the use of peat in crude form is economically possible apart altogether from the bulk and handling difficulties, but nevertheless I think the matter could and should be disposed of once and for all by means of a simple experiment at a cost not exceeding £20…the use of peat…is only economically…possible … when producing gas which would be used in the locomotive boiler [80]

Howden sought a grant no greater than £1,000 to pursue experiments in this area. In a memo to the Department of Finance, C.S. Andrews succinctly stated the problem: 'Is there any form of apparatus suitable for use on a rail locomotive that would eliminate the carrying of huge quantities of turf in the bunkers and also cut out the stoking which turf involves'.[81] While unenthusiastic about Howden's proposal, the Department of Finance felt that given the commitment of the GNR 'it is doubtful if we would be in a strong position if we were to refuse sanction for the experiment'.[82] The grant was sanctioned in July 1939 and the GNR recruited a scientist named T. Bratt who had worked in the Lullymore briquette factory.[83] Bratt's remit expanded beyond turf and he established a laboratory in Dundalk works which became particularly useful as Emergency shortages became more critical. [84]

In July 1940 a locomotive was modified to burn turf and experiments commenced despite delays in the supply of the necessary instruments. [85] The trials proceeded in an erratic manner, and were suspended later in the year due to a shortage of suitable turf. They resumed in February 1941 before coal shortages became severe and were described as being successful by the *Irish Press,* who quoted Bratt as saying:

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[80] NA DF 99/13/39, Howden to Andrews, 31 Dec. 1938.
[81] NA DF 99/13/39, D/ Finance memo, 27 Mar. 1939.
[82] NA DF 99/13/39, D/ Finance memo, 27 Mar. 1939.
[83] Information re Bratt from Jim Martin B. Eng retired Bord na Móna engineer.
[84] GNRGM 103/64, 'Salary T Bratt chemist Dundalk', Bratt to Howden, 20 May 1943.
[85] GNRGM 124/2, 'Turf for Locomotive Purposes', Bratt to McIntosh, 1 July 1940.

> 'If we could get compressed turf you might say that you have a perfectly adequate substitute for coal ... its water content is 10% compared with 3 to 4% in the case of coal and 30–35% in the case of machine cut unpressed turf'...Given plenty of compressed turf I can visualise the Irish railways run on it.[86]

This statement was capable of a number of interpretations. The compressed turf referred to was high quality machine harvested turf with superior burning characteristics available only from one or two bogs. Procuring such turf in sufficient quantities proved to be a major stumbling block in the use of turf in locomotives. The reporting of the GNR tests fostered the common misconception that sod turf was a useable locomotive fuel. This was expressed by de Valera to the Dáil when he said: 'We have the trains. The trains want coal, but they can be adapted... it has been done in the North for the use of turf if we have it in sufficient quantities'.[87] Although the GNR tests were based in Dundalk and carried out in Éire, de Valera subconsciously transferred them, for whatever reason, to Northern Ireland.

These positive reports from the GNR placed the GSR in a bad light by comparison. On 10 February 1941 Edgar Bredin, Chief Mechanical Engineer of the GSR, [88] addressed the Engineering and Scientific Association of Ireland on the subject of 'The steam propelled locomotive and other forms of railway traction'.[89] Bredin was then at the height of his professional reputation, his 800 class locomotives having been introduced to critical acclaim. The *Railway Gazette* described the 'Striking performance of the new Irish locomotives' and wrote: 'Mr. Bredin is to be congratulated on the exceptional competence which is being displayed in the performance of his new design'.[90] In the course of his address, Bredin made a number of points which, unbeknownst to him, would give hostages to fortune in the hard times which were ahead. He said that 'Under normal circumstances, Irish anthracite coal and peat could not in their unprocessed state compete economically

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[86] *Irish Press,* 5 Feb. 1941.
[87] Dáil Debates, vol. 82 col. 764, 14 Mar. 1941.
[88] Edgar C Bredin, CME 1937-1942, general manager 1942- 1945.
[89] GSRGM file 48999 contains a copy of this paper.
[90] *RG,* 10 Jan 1941, p. 42.

with steam coal…We must also go further away for our oil fuel than for coal and the future of oil supplies at any time is by no means as secure as that of coal'. Bredin's speech was shortly afterwards described as 'unscientific anti national blether' in *Irish Industry*, which drew attention to the different approaches of the GNR and the GSR on the use of turf.[91] However, in reality the differences between the two companies were of emphasis rather than of substance. For Bratt the glass was half full as we have seen, while for Bredin it was half-empty. However, this difference exposed the GSR to accusations of being out of sympathy with government policy at a crucial time.

By March 1941 the GNR experiments had come to a standstill due to a lack of suitable turf, and high quality turf was requested turf from bogs at Lyracrompane, Co. Kerry or Turraun, Co. Offaly. Unable to meet demand for turf from these bogs, the TDB suggested that Donegal turf -available on a rail line served by the GNR- should be used. [92] Tests of Donegal turf were made in July 1941. The locomotive inspector reported on 3 July that turf was mixed with slack coal, with 'excellent steaming results'. On 14 July he reported: 'The rate of firing is still high…I doubt it would be possible for a fireman to deal with the amount of work required…if turf had to be adopted as a fuel, substantial extension in timing would be necessary and loads kept within reasonable limits…using a mixture of coal and turf appears to be a more feasible proposition'. [93]

The GSR started to use turf in the autumn of 1941 as an emergency measure. In late September stationmasters were instructed to seek out sellers as 'It might be desirable in view of the low prices to purchase substantial quantities of turf...for future use, including locomotives if necessary'. In October 1941 instructions were issued that turf was to be

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[91] *Irish Industry,* 20 Feb. 1941.
[92] GNRGM 124/2, McIntosh to Lawlor, 22 Mar. 1941.
[93] Clements, 'Turf burning locomotives' p. 66.

used on all branch line trains, in the ratio of two-thirds turf to one-third coal.[94] In January 1942, Andrews wrote to Bredin requesting information on the quantity of turf used in GSR locomotives which he had promised some time previously to Hugo Flinn, Parliamentary Secretary to the Minister for Finance with responsibility for turf supply.[95] Bredin was embarrassed by this delay and wrote to T.J Ginnety, the running superintendent: 'Since October last I have been pressing you to make the fullest possible use of turf in locomotives … Please let me know what instructions you issued to your district superintendents foremen etc. regarding the use of turf in locomotives, and as to whether or not such instruction were carried out'.[96] Ginnety replied that 'turf is not being used exclusively but has been used to a substantial extent augmented by coal'.[97] Using turf in combination with coal alleviated some of the day to day train running problems, but it did not facilitate the widespread import substitution desired by the government.

In January 1942 the Stores Superintendent informed Bredin that it had been impossible to procure turf for four west Cork branch lines 'as the only offers received were for a comparatively small quantity at a very high price'.[98] Despite these emerging shortages, on 19 February Andrews offered the GSR up to 4,000 tons of turf per week for locomotive use.[99] A plan to increase turf consumption from 300 to 3,849 tons of turf per week was drawn up and was submitted by Bredin on 10 March.[100] Transporting this amount of turf from the bogs to the locomotive depots would use turf for locomotive fuel and wagons, thus denying these scarce resources to other traffics such as the transport of turf for domestic consumption. This issue was in Flinn's mind as early as October 1941,

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[94] GSRGM 50715/2, 'Consumption of turf in locomotives', Ginnety to Bredin, 14 Jan. 1942.
[95] GSRGM 50715/2, Andrews to Bredin, 14 Jan. 1942.
[96] GSRGM 50715/2, Bredin to Ginnety, 15 Jan. 1942.
[97] GSRGM 50715/2, Ginnety to Bredin, 22 Jan. 1942.
[98] GSRGM 50715/2, Meadows to Bredin, 23 Jan. 1942.
[99] GSRGM 50715/2, memo of meeting, 19 Feb.1942.
[100] GSRGM 50715/2, Ginnety to Bredin, 26 Feb. 1942.

when in a conversation with Bratt, Flinn said: 'His primary consideration was the movement of the largest possible quantity of turf...to the centres of population in the south. He regarded the movement of [the GNR] 4,000 tons rather unfavourably and as very unimportant as far as his department was concerned'.[101] This illustrates the potential difficulties posed by the widespread use of turf as a locomotive fuel.[102]

In March 1942 the GSR sought turf briquettes from the TDB and received fifty tons. Tests were carried out on 11 June on a Cork goods train. The results showed a fuel consumption of 107 lbs per mile (compared to around 40lbs for good steam coal).[103] A second tender was needed to cater for the increased volume of fuel, which in everyday use would have required a second fireman. The result of the test was inconclusive and the remaining briquettes were mixed with low grade coal. However, shortly afterwards the exercise became academic when the government allocated the entire output of briquettes to 'the poorer classes of Dublin'.[104]

In summer 1942 the government intensified efforts to persuade the GSR to use more turf. In June, Hugo Flinn sent a file to De Valera outlining the lack of progress on the issue. He wrote that 'I have no evidence that any progress however, has been made by the Great Southern Railway in relation to the use of turf for locomotives'.[105] Flinn attached a report on a visit to Dundalk by Bredin on May 22 where they had

> Discussed mechanical stoking apparatus and problem of open firedoors. Travelled on footplate of special train with six coaches from Dundalk to Drogheda. [Locomotive] running wholly on turf. Hand stoking was continuous, got 30 mph average speed.[106]

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[101] GNRGM 124/2, Bratt to McIntosh, 29 Oct. 1941.
[102] GNRGM 124/2, Andrews to Howden, 11 Nov. 1941.
[103] GSRGM 50715/7, 'Use of Lullymore briquettes in Locomotives', test report, 13 June 1941.
[104] GSRGM 50715/7, Lawlor TDB to Bredin, 24 July 1942.
[105] NA DT S12476, Flinn to Taoiseach, 11 June 1942.
[106] NA DT S12476, Candy to Bredin, 22 May 1942.

This speed compared to an average of 45 mph with normal coal, which would mean that using turf would require the slackening of timetables, as was done in Sweden in the same period when timber was used as locomotive fuel.[107] The use of a mechanical stoker might have alleviated the problems caused by the need for continuous firing, but development work being undertaken in Dundalk had to be abandoned due to lack of materials.[108] The report to Flinn was written by J.V. Candy, a senior engineer in the OPW, who was in charge of turf transport. Candy submitted a report of a meeting with Reynolds, who said that 'Progress [had been] slow in the last year but since he had taken over he had been pressing his people [on] the prime necessity of making the maximum possible use of other fuels'. Bredin then joined the meeting and the three men discussed a range of alternative fuels including turf, producer gas, oil and liquefied tar. Candy reported that 'the briquetting of slack for the use of locomotives is being pushed ahead by the GSR…107 tons of slack had been made into briquettes the previous day'.[109] By June 1942, coal briquettes emerged as the most promising alternative fuel as the second hand briquette plants referred to in chapter eight moved into production. Compared with turf, coal briquettes had the advantage that the supply of raw material was non-seasonal, the fuel could be stored outdoors with less danger of rain damage and no modifications were required to locomotives.

In early July Candy wrote to Bredin offering a smaller than anticipated turf allocation to be confined to trains hauling turf. Bredin replied:

> Your letter of 3 July has caused me great surprise...about this time last year, when the fuel problem was first affecting the railways, I carried out tests in connection with utilising turf fuel for locomotives…On 19 February last you urged the necessity for a greater use of turf on the railway…This list was prepared and the only remaining difficulty was the expressed anxiety of the parliamentary secretary

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[107] *RG,* 9 Jan. 1942, p. 43.
[108] GSRGM 50715/7, 'Mechanical firing'.
[109] NADT S12476, Candy to Flinn, 18 May 1942.

that wagons should not be withdrawn from general railway use for the purpose of conveying turf for locomotives'.[110]

This sudden policy reversal by the Department may have been caused by a realisation of the effect of widespread turf acquisition by the GSR on turf prices.

The abandonment of turf

By November 1942, the government realised that turf could not simultaneously be a mass domestic fuel and a locomotive fuel. On 20 November Flinn reported to de Valera that 'a new buyer had come into the market in the person of the GSR [who] were demanding an amount of turf which, while small was sufficient to disturb the market'. A memo prepared by Andrews showed that GSR purchases had raised prices by between eight and twenty five per cent. The memo recommended that matters should be allowed to run their course for the 1942 season and that the company should be asked to review its policy in the 1943 season.[111] On 15 December 1942, a meeting was held involving the GSR, Fuel Importers and the Special Employment Schemes office with a view to 'devising some method of eliminating competition'. On 18 January 1943, Bredin told those responsible for the purchase of turf to inform sellers that from 1 February the GSR would not pay more than Fuel Importer's rates.[112] The GSR's average weekly consumption of turf fell from 2,000 to 400 tons between the last week in December 1942 and the first week in February 1943. In the same period fuel consumption per mile fell by twenty seven per cent and fuel costs per mile fell by seventeen per cent.[113] In November 1943 the sale of some reserve stocks was considered, but abandoned when a stock take revealed a shortfall of 5,000 tons or forty per cent of total stock. The deficiency was attributed to natural shrinkage, deficiencies in stock control and: 'the disposition on the part of unscrupulous

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[110] GSRGM 50715/2, Bredin to Candy, 5 July 1942.
[111] NA DT S12417B, Flinn to Taoiseach, 20 Samhain 1942.
[112] GSRGM 50715/2, minutes of meetings, 15 Dec. 1942, 18 Jan 1943.
[113] Figures extracted from weekly fuel returns in GSRGM 50715/2 and 50802.

traders to supply turf with a high water content'. [114] These discrepancies may be due to the desperate situation of late 1941 when: 'the locomotive fuel position made the physical possession of the turf the first consideration if services were to be maintained,'[115] and to the fact that no procedures existed for managing the purchase or issue of turf before late August of 1942, and then only at the insistence of the chairman.[116] Turf was adopted by the GSR in summer 1941 as a desperate measure, but in late 1942 C.S. Andrews, who had initiated the turf-burning experiments in 1938, wrote the memorandum which caused the virtual end of turf as a locomotive fuel. This change in policy was tacit rather than explicit.

In late February 1944 the Department of Supplies requested that the GSR should test turf briquettes in locomotives. A test was conducted, and Bredin reported to the Department that while satisfactory for lighting fires, the costs and limited stocks available would not warrant depleting stocks.[117] This changed when the ESB coal allocation was cut to nil in late April. The dry spring of 1944 caused Shannon water levels to fall, which placed increased demands on Dublin's Pigeon House power station. Both railway companies received the entire output of Lullymore factory and transferred four tons of coal to the ESB in exchange for each five tons of briquettes received.[118] The GNR sought the approval of the British Ministry of Fuel and Power for the proposal, and it was approved, subject to 'The maintenance of railway services for cattle and various products for export to GB or NI'.[119] The exchange programme operated between June and October, and initially the turf briquettes had been used to supplement locomotive coal. In July the TDB requested the railway companies to test the performance of turf briquettes used alone as a

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[114] GSRGM 50715/2, Hartnell Smith to Bredin, 17 Nov. 1943.
[115] *Ibid.*
[116] GSRGM 50715/2, Bredin to Hartnell Smith, 20 Aug. 1942, circular 21 Aug.1942
[117] GSRGM 50715/7 Supplies to Bredin, 29 Feb. 1944, Bredin to Supplies 3 Mar. 1944.
[118] GSRGM 50715/7, Murphy to Bredin, 1 July 1944.
[119] GNRGM 114/15, 'Turf Briquettes in Eire Loco Coal in lieu of', Howden to Supplies, 12 May 1944, Forsyth to Howden, 17 May 1944.

locomotive fuel.[120] The result of both sets of tests was similar. While the GNR inspector reported that

> The test engine steamed well and that the while fuel consumption increased by 32.8% compared to the inferior coal then in use. The steaming qualities of briquettes were much better and would involve less labour in its use. I have no hesitation in recommending this fuel.[121]

Such favourable comments were edited out of the final reports submitted to the TDB by senior management and problems with briquettes were stressed.[122] This can be seen in figure 1, which is a draft of a report to the TDB. The letter was edited in Bredin's hand, and any positive aspects of the use of turf were, as can be seen, either toned down or edited out. Such responses were probably based on a fear that excessively optimistic reports would result in the enforced use of turf briquettes, on the lines of experience with Arigna coal during the economic war. As the GNR locomotive inspector noted in 1941 'using a mixture of coal and turf seems to be the most feasible proposition'.[123] This is borne out by the testimony of a GSR driver: 'We got number 444 to work an overload special from North wall. She had been coaled at Canal Street with a mixture of coal and turf briquettes. It was a good mix and she did well on it'.[124]

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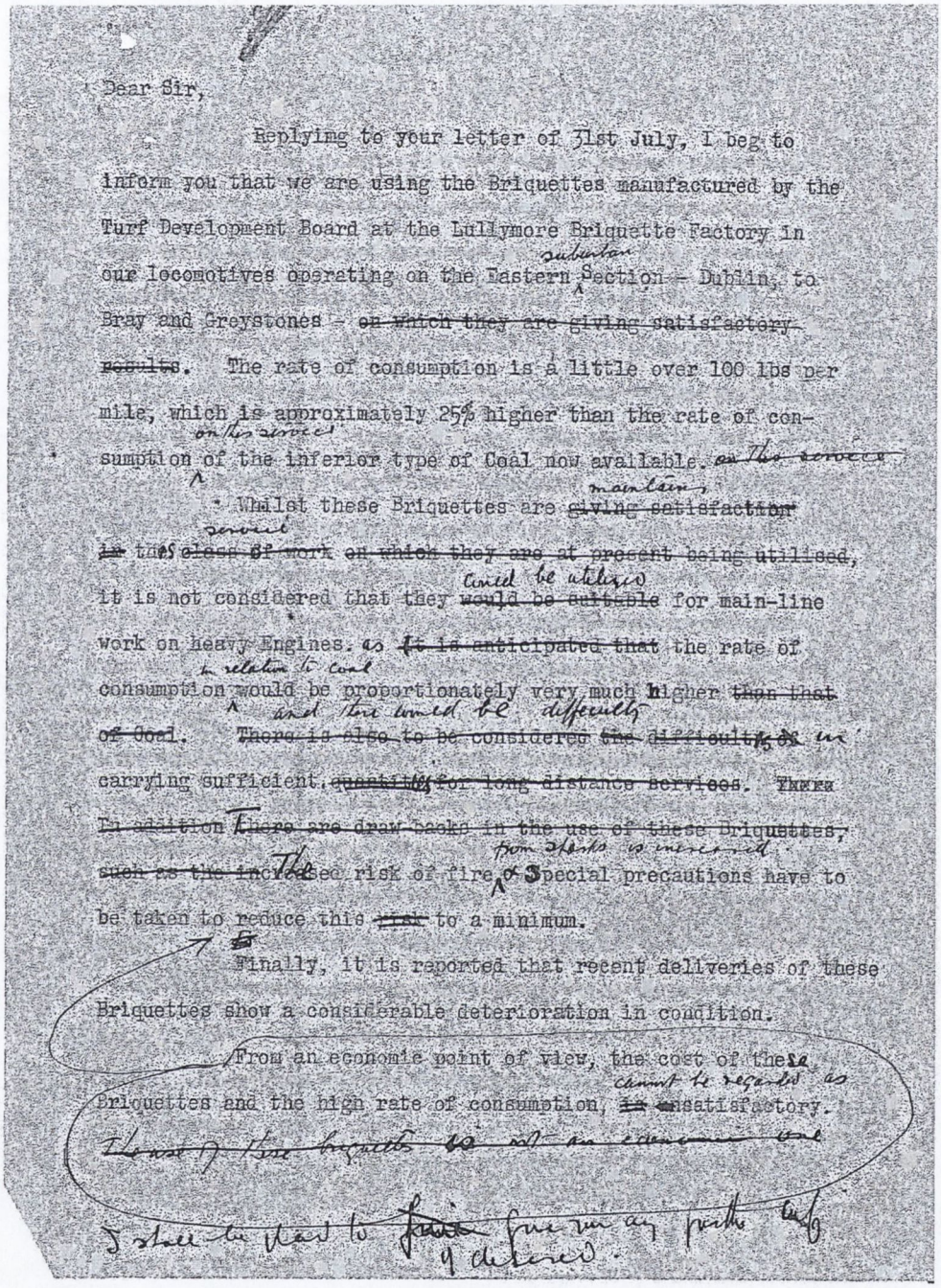
[120] GSRGM 50715/7, Lawlor to Bredin, 31 July 1941.
[121] GNRGM 114/15, Mac Intosh to Howden, 6 July 1944.
[122] *Ibid.*, Howden to TDB, 9 Sept. 1944
[123] *Ibid.*, Green to McIntosh, 14 July 1941.
[124] Letter from Val Horan, retired locomotive driver, to the author.

Figure 1 Draft GSR reply to TDB, as amended by Bredin, 1 Aug. 1944.



Dear Sir,

Replying to your letter of 31st July, I beg to inform you that we are using the Briquettes manufactured by the Turf Development Board at the Lullymore Briquette Factory in our locomotives operating on the Eastern suburban Section – Dublin, to Bray and Greystones – ~~on which they are giving satisfactory results~~. The rate of consumption is a little over 100 lbs per mile, which is approximately 25% higher than the rate of consumption on the services of the inferior type of Coal now available. ~~on the services~~

Whilst these Briquettes are maintain, ~~giving satisfactor~~ service ~~in the class of work on which they are at present being utilised~~, it is not considered that they could be utilised ~~would be suitable~~ for main-line work on heavy Engines. ~~as It is anticipated that~~ the rate of consumption in relation to coal would be proportionately very much higher ~~than that of Coal~~ and the load would be differently ~~There is also to be considered the difficulty of~~ in carrying sufficient ~~quantities~~ for long distance services. ~~There~~ ~~In addition~~ There are ~~drawbacks in the use of these Briquettes, such as the increased~~ The risk of fire from sparks is increased. ~~of~~ Special precautions have to be taken to reduce this ~~risk~~ to a minimum.

Finally, it is reported that recent deliveries of these Briquettes show a considerable deterioration in condition.

From an economic point of view, the cost of these Briquettes and the high rate of consumption, ~~is unsatisfactory~~ cannot be regarded as ~~The use of these briquettes is not an economic one~~

I shall be glad to have you inform me as early as possible ~~if~~ whether delivered.

Source: GSRGM 50715/7

In the Dáil on 20 April 1944 Seán Lemass demonstrated the evolution of public policy on the use of turf as locomotive fuel. He stated

> Most of our railway engines are not designed to make the best use of turf. Nevertheless they could be operated with turf but it is a completely false idea that we are likely to have a surplus of turf and could divert it to railway use... In fact the railway company some time ago proposed to purchase a very substantial quantity of turf ...we had to stop them from doing it because what they were proposing to purchase was required...for the domestic ration.[125]

While in 1941 turf was envisaged as a panacea for the problems arising from fuel shortages, by 1946 it was clear that while turf was available in abundance quality turf was scarce and had to be prioritised in its allocation. In September 1946, the Department of Industry and Commerce ordered CIÉ not to resume the use of turf in locomotives as weather conditions had made harvesting difficult and 'the requirements of the domestic consumers have not been met'.[126]

Bredin reflected on the turf - burning experiment late in 1945 in correspondence with Laurence Kettle. He wrote:

> Early in the emergency we fitted up a locomotive for experimental purposes for burning turf, the only important alteration made was to open the exhaust orifice in the smokebox in order to reduce the draught on the fire...The results show that the engine's capacity was very considerably reduced and it could only handle light loads, the reasons for this are of course obvious. Locomotive boilers are designed to operate on good welsh coal...at maximum capacity the rate of firing is in the region of 90 lbs per square foot per hour. On the relative calorific value of turf the rate of firing ...would be 200lbs per hour and in volume would mean at least five times as much turf as coal and it is simply an impossibility to handle such a volume of turf into the firebox and to burn it at this rate...Special arrangements are necessary in the construction of turf fired boilers...to utilise the 'long flame' product of combustion. A practical illustration of this fact is that the paint on the smokeboxes of our locomotives using turf to any appreciable extent clearly indicating the high temperature of the gases leaving the boiler. The only other matter of interest to you is the use of Lullymore briquettes in locomotives. These briquettes gave very good results on suburban work as the frequent stops enabled the fire to be replenished. It was not practicable to adjust the locomotives in any way as due to the varying supplies of coal and briquettes the locomotive burning briquettes today might have to run on coal tomorrow. Of course the use of briquettes was far from economic as a large proportion of the heat generated passed up the chimney.[127]

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[125] Dáil Debates vol. 93 col. 1347, 20 Apr. 1944.
[126] GSRGM 50715/2, Beere to Bredin, 25 Sept. 1946.
[127] GSRGM 65225, 'Mr L. J. Kettle Use of turf in locomotives', Bredin to Kettle 19 Dec. 1945

The first phase of fuel experimentation on Irish railways lasted from 1932 to 1934 and was driven by an ideology of import substitution. The second phase, undertaken during the emergency was driven by the need to keep the system going. The trials of Arigna coal undertaken in the early thirties got GSR a reputation of awkwardness in applying government policy to its operations. In contrast, the GNR kept any reservations on the use of native fuel to themselves and gained the reputation of being a model corporate citizen. This can best be seen in 1937 when the TDB sought a preferential rate for turf. Lockhart, the traffic manager, recommended the request be granted: 'as a gesture of good intentions in connection with a project not expected to materialise'.[128]

The skill of the crew

While the skill of the crew is critical to the efficient operation of a steam locomotive, the issue of crew skill was rarely examined in the professional railway press. During the inter war years, two papers on this theme appeared in the *Journal of the Institution of Locomotive Engineers.* 'The handling and consumption of coal' was published in 1938 and was written by C Case, a manager on the Central Argentine Railway. Another paper entitled 'Low grade fuel in Indian locomotive practice' appeared in 1942.[129] These are the only two contributions on low quality fuel to be found in the major locomotive engineering professional journal and they both come from the periphery rather than the centre of British locomotive practice. Low grade coal was not used in mainstream British locomotive practice (which included Ireland), but it was used in the broader colonial sphere of influence (which included the British owned railways of South America). This

[128] GNRGM 33/940, 'Peat traffic', Lockhart to Stephens, 19 Aug. 1937.
[129] C. Case, 'Handling and consumption of coal' *Journal of the Institution of Locomotive Engineers,* 143 (1938), pp. 249-312. Paper read before the South American Centre. J Da Costa, 'Low grade fuel in Indian locomotive practice' *JILE,* 166 (1942), pp. 64-92. Paper read before Indian and eastern centre.

theoretical vacuum was addressed by Case, who wrote regarding the firing of locomotives that

> In no branch of railway work are such vast sums expended under conditions of use so difficult to control…due to the nature of their work the men concerned are working without supervision…Everybody in the business knows how a locomotive should be fired and handled … but just how to impart that knowledge to the enginemen and what is more to see that they apply it is a different matter.[130]

In Britain and Ireland there was no formal period of apprenticeship for locomotive drivers. Young men were recruited as cleaners and were, in time promoted to firemen and then drivers. While acting promotions could be made after a year's service, the time needed for a cleaner to become a proficient driver of passenger trains was estimated at five years–equivalent to a normal apprenticeship. [131] As early as 1877, self help works were offering advice to aspiring drivers and firemen as to how to carry out their work in an efficient and safe manner. [132] Such publications abounded until the end of steam traction in the 1960s.[133] Multiple copies of such works survive in the library of the Irish Railway Record Society. Some bear the signatures of individual drivers, others the stamp of company libraries in Inchicore or Cork, or of a London based institution known as the Locomotive College. This system of informal training which applied in Britain and Ireland contrasted with that of continental Europe where the driver was often a time-served engineering worker and the fireman was classified as semi-skilled, who rarely progressed to driving.[134]

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[130] Case 'Handling', pp. 265-6.
[131] C. More, *Skill and the English working class, 1870-1914* (London, 1980), pp. 143-144.
[132] M. Reynolds, *Engine driving life* (London, 1877).
[133] Socrates, *Propulsive principles of the steam locomotive* (London, 1924), A.M. Bell, *Locomotives-their construction, maintenance and operation* (London, 1937), J. Hodgson and J. Williams, *Locomotive management from cleaning to driving*, (London, first edn. 1908, sixth edn. 1928), D. Drummond, *Lectures on the locomotive* (London, 1921).
[134] J. Tonnaire, *La vapeur - souvenirs d'un mecano de locomotive* (Paris, 1982), pp. 23-24.

Some French drivers had served their time as workshop fitters.[135] German locomotive drivers were classed with senior clerks and shop foremen and the prescribed entry grades were skilled trades, and a limited number of firemen (unskilled workmen).[136] This allowed German railways to issue precise locomotive handling instructions.[137] In the 1930s, the Argentine government regulated training for locomotive crews [138]in partnership with the companies and the locomotive crew union La Fradernidade.[139] British and Irish railway companies depended on informal company training systems which made it more difficult for railway companies to develop a high skilled locomotive workforce and to promote good practice among locomotive crews. The payment of coal consumption bonuses promoted fuel economy, but these disappeared in Britain and Ireland with the national agreement of 1919,[140] as did the practice of each driver having his own locomotive. This 'ownership' of a locomotive by one crew 'Caused drivers and their firemen [to take] a personal interest in their locomotives. When the system was abandoned this resulted in a loss of interest on the part of the running staff in the condition of the locomotives'.[141] During the nineteen twenties and thirties, the GNR made efforts to encourage higher driving and firing standards. The company fitted out a mobile training centre in a converted coach which contained instructional models of locomotives and key components,[142] and also posted illustrated material on correct methods of driving and firing

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[135] Ross, *Willing servant,* p. 13.
[136] Dr. –Ing. B. Schwarze, 'On the question of the methods followed in the training of staff, professional, technical and ordinary working grades', *Bulletin of the International Railway Congress Association* XII -4, (1930), p. 1205.
[137] Wardale, *Red devil*, p. 491.
[138] Case, 'Handling' p. 266.
[139] *RG,* 27 July 1945, p. 99.
[140] National Union of Railwaymen, *Irish railway agreements 1919 to 1925* (London, 1925), pp. 39-53.
[141] South African Railways memo in Wardale, *Red devil* p. 53. For this practice in Ireland see P.J. Currivan, 'Engineman's Son' *JIRRS,* 65 (1974), p. 263, 277. For France see E. Sauvage, *La machine locomotive* (Paris, 1918), p 326, 328.
[142] *RG,* 16 Sept. 1921, pp. 434-435.

in locomotive sheds.[143] In addition the GNR issued a textbook to each cleaner as he was passed for firing duties.[144] Their GSR colleagues had to buy the book themselves, or borrow a copy from the company library.

Mutual improvement classes originated in Britain in the nineteen twenties, involving the attendance of enginemen at after-work classes where the tutors were their more senior colleagues. By the nineteen forties a national federation of mutual improvement classes existed.[145] In 1943 the *Railway Gazette* described how savings of ten per cent in coal consumption had been made through training programmes which were: 'a function of the mutual improvement class movement for which facilities were provided by the companies although the classes were managed by the men themselves'.[146] The London Midland and Scottish Railway, (LMS) in response to a complaint by Associated Society of Locomotive Engineers and Firemen (ASLEF) on difficulties caused by bad coal, reported in early 1944 that 'The number of firing instructors has been increased in order to carry out a more extensive educational campaign...and this campaign is having a good effect'.[147]

Mutual improvement classes did not commence in Ireland until 1941. The first one was established in Dublin at the instigation of the National Union of Railwaymen, whose journal, the *Railway Review,* reported that 'it will come as a surprise...that mutual improvement classes are almost unknown...this has long been recognised by the Irish Office...The Office has paid for the construction of a wooden model of a locomotive valve gear'.[148] When the first Irish-based ASLEF organiser was appointed in 1942 he was struck by the relatively low level of technical skills in Ireland, and requested the establishment of

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[143] Information from P. Mc Keown, retired fitter GNR/ CIÉ / IE 1945-1999
[144] IRRS Arch. GNR Enginemens' record book 1920-1960 recording transfers and promotions.
[145] *Locomotive Journal,* Jan. 1940, p. 26.
[146] *RG,* 3 Dec. 1943, p. 559.
[147] BNA RAIL 1172/2371, Royle LMSR to Railway executive 3 Mar. 1944.
[148] *Railway Review*, 7 Feb. 1941.

the classes.[149] In Athlone: 'In 1943 lectures were started with a view to improving the mechanical knowledge of the footplate men; they were given…on one evening a week. The men were expected to attend in their own time. The majority of the footplate staff were members of ASLEF and it was at the request of that union that lectures were given'.[150] It is significant that in the case of both unions it was the influence of a newly arrived British union organiser that was crucial in having classes established. However, voluntary attendance at lectures after work is a poor substitute for a systematic training programme. Higher motivated workers will tend to take up training opportunities available. Those who lose most from the lack of general training programmes are the lower skilled and motivated.

French railways reserved better coal for passenger trains, with freight and shunting locomotives using slack or briquettes made from coal screenings from South Wales which had no market in the UK.[151] A French locomotive driver refers to 'le prestigieux Cardiff' as being reserved for express passenger locomotives.[152] In contrast, good quality coal was an assumption embedded in British locomotive practice at home and overseas. Case describes how 'For many years the coal selected for use on the central Argentine railway was entirely of first grade locomotive Welsh…Some seven years ago a slightly cheaper [coal] was adopted and recently through coal was added to the [purchasing] list'.[153] Case went on to compare British and American practice as Argentinean railways also used American built locomotives, which unlike their British counterparts were not designed for good coal. In the discussion on the paper one speaker said 'with regard to design…the British designed locomotive looked as if designed for bad firing…with regard to the

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[149] Information from discussion with Val Horan.
[150] V. Horan, 'Memories' *JIRRS,* 87 (1982), p. 336.
[151] Court, *Coal,* p. 83.
[152] Tonnaire, *La Vapeur,* p. 87.
[153] Case, 'Handling' p. 252.

continental type…they had to be fired very light or they would not steam'.[154] Another speaker said 'In the United States most of the fuel was burnt with a thin fire, almost rubbish', and that when they introduced 'through' [lower quality] coal…the firemen…had to carry a thinner fire.[155] These two papers[156] are rare examples of discussion on low grade fuels within the British school of locomotive design. They also constitute a rare example of locomotive engineers in one geographical school discussing the practices in another geographical school. They show the extent to which the British school of locomotive design was based upon an assumption of high quality coal which meant that the challenges of using inferior coal were seldom considered.

Neutral comparisons

Comparing practices in Ireland with those in the other neutral countries poses some difficulties. Portuguese railways used both British and German coal from at least 1938, but there is no evidence as to how this worked out in day to day operation. However, during the war Turkey achieved a high level of import substitution in the area of coal. Sir Hugh Knatchbull, the British ambassador, wrote that production in the Zonguldak basin in central Turkey had been raised from 900 tons a day in 1942 to 7000 at the time of report, accounting for 77% of Turkey's coal needs.[157] British locomotives were exported to Turkey in 1942 accompanied by a commissioning engineer, whose reports to headquarters give us a rare glimpse of the use of low grade coal in British locomotives as well as showing a railway system where British and German practice co existed. In March 1942, he wrote:

> Our first problems arose from the poor coal, which is practically all slack, of low calorific value, and the engines behaved most unsatisfactorily. I have carried out a

[154] Case, 'Handling', p. 309.
[155] *Ibid.*, p. 310.
[156] Da Costa, 'low grade fuel' p. 67.
[157] BNA FO 922/463B, Report by Hugh Knatchbull, 10 Feb. 1943.

> large number of tests and found to my disappointment that no simple expedient exists…Now I have a shock for you … we were endeavouring to find just the right blastpipe diameter when we were summoned to Ankara...On our return we found that the [local] people had fitted the engine with…a permanent 'jimmy' of 12mm width. The works manager had already made a trip with this and reported very satisfactorily [on the results achieved] with this rather fearsome device. Incidentally we find that all the Turkish engines have permanent 'jimmies'–it is the standard! The Germans are up against the same thing on all the standard Prussian state and Reichsbahn types and the same measures had to be adopted. There is now no complaint of steaming and the Turkish people are well satisfied. So my feeling is that the best political outlook is to be satisfied too. [158]

The report shows that Turkish railways were accustomed to adapting imported locomotives to cope with inferior quality coal and shows the capacity of a railway in a country with inferior coal to successfully adapt imported locomotives. The engineer also reports with evident surprise at the everyday adoption of a jimmy, a device to modify the exhaust, which improved locomotive performance at the price of higher fuel consumption. This was considered a heinous crime in British practice as can be seen from a letter to ASLEF's *Locomotive Journal* of January 1941: 'Forty years ago there were many drivers who performed wonders… aided by the use of that forbidden instrument known as james, jemmy or jimmy. If any of my younger readers do not know what this is let him ask one of the old brigade'.[159] One can well understand the surprise of a British engineer in finding the officially sanctioned use of a jimmy.

Conclusion

The railways experimented with Irish coal and turf, throughout the nineteenth century. This was forgotten by economic nationalist commentators, resentful of the fact that the country's largest coal user depended exclusively on imports. The high quality of Welsh coal meant that it was cheaper than any native fuel and any suggestion to substitute lower quality coals would have been resisted by management on the grounds of cost and by

[158] Chacksfield (Sivas, Turkey) to Sir William Stanier (Watford) Mar. 4 1942. Copy correspondence in possession of author. I am grateful to Tony Renehan of Iarnród Éireann for this reference.
[159] *Locomotive Journal,* Jan. 1941, p. 12.

locomotive crews on the grounds of ease of use. In 1911 the GS&WR bought Scottish and English coal during a dock strike,[160] and their Chief Mechanical Engineer later wrote to his counterpart on the GNR that 'It is, as I am sure you found when you first started using Scotch coal very difficult to convince the men that it is possible to use anything but Welsh'.[161] Using Welsh coal made financial sense for the GSR in the depressed inter war coal market. However, the company failed to pay sufficient attention to government policy in the years after 1932. The dependence of the GSR on Welsh coal, confirmed by the agreement of March 1934 and the Anglo Irish trade agreement of 1938, meant that it had little experience of using lower quality coal- unlike the Argentinean railways, who started to use low grade coal in the 1930s.

The cases of Portugal and Turkey show that railway companies and their locomotive crews could adapt the challenges of poorer coal. In 1941, GSR crews were less adaptable than their GNR counterparts who used both Welsh and Scottish coal. While no amount of technical knowledge or adaptability could have countered the sudden change in fuel quality which occurred in 1941, a better training culture and experience of different coal types might have lessened the scale and duration of the period of widespread disruption of GSR rail services. The GSR had been 'off message' on a key aspect of government policy during the economic war, in marked contrast to the GNR. The management of the GSR doubtlessly considered that they, as railway engineers (for they were mainly engineers) knew more about the efficient running of the railway than outsiders, no matter how well meaning their motives. The fact remained that the financial weakness of the GSR meant that they relied heavily on government goodwill, as would be seen as the emergency progressed.

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[160] GSWR Sec. 971, 'Supply of steam coal seamen's strike', Memo to board 25 July 1911.
[161] R.N. Clements, 'The locomotive exchange of 1911' *JIRRS,* 71 (1976), p. 298.

Chapter two

Government takeover

This chapter deals with the strategic repositioning of relations between government and the GSR. This was necessitated by a number of issues including the perceived abuse of the monopoly regained by the railways company as a result of petrol shortages and the operational crisis for the GSR caused by the sudden ending of supplies of quality locomotive coal in mid 1941. This in turn disrupted the vital task of transporting the turf harvest, causing tensions with the government, which sought priority for the movement of strategic goods such as turf and grain as opposed to the more lucrative transport of passengers to race meetings and GAA matches. The chapter will also consider the dispute between the government and the GSR in spring 1941 over an increase in bus fares. Faced with multiple crises and powerless to compel the GSR in the running of its business, the government dusted off the report of the transport tribunal which had been shelved since 1939, and used Emergency Powers legislation to implement it partially, taking over control of the company. This rearrangement of relations was necessitated by the need for government to exercise control over the main means of transport during the emergency. It manifested itself in a power struggle, and the GSR proved no match for the State.

The report of the transport tribunal had rejected the demand of the railway companies for further restrictions on the use of private lorries and had recommended a five-year transition period during which the government would guarantee the issue of new debt by the GSR. It recommended radical changes in the company governance structures, with the number of directors being reduced to two, to be joined by an executive chairman and

two controllers appointed by the government. In Britain and other belligerent nations control of the railways in time of war was a given. A British railway executive committee along the lines of that which had functioned between 1914 and 1918 was established in shadow format in September 1938.[162] The British railway companies were brought under government control on 2 September 1939 and the government guaranteed to pay them a minimum sum of £40m per annum based on average revenue of the preceding years. The generosity of this arrangement was later criticised by the Churchill government.[163]

War preparations took place later and on a much smaller scale in Ireland than in the UK, and it was not until June 1939 that the supplies branch of the Irish Department of Industry and Commerce sought information from major firms on their stocks of essential supplies.[164] The Irish Banks Standing Committee was requested by the Department of Finance to consider low interest loans to firms to accumulate supplies. The banks agreed to consider sympathetically requests for additional borrowing but declined to offer any reduction in interest rates. In the survey on supplies undertaken after the war the Department of Industry and Commerce observed caustically that 'It would have been no more difficult to organize credit in the years 1938 to 1940 than it was to organize shipping space in the years 1941 to 1944'.[165] This is borne out by the experience of the GSR who, just before the outbreak of war, sought the views of the Bank of Ireland on a government proposal that a year's supply of coal should be bought at a cost of £360,000.[166] The bank replied three days later that the matter should be reconsidered in the light of control of supplies by the Government.[167] Any large purchases by the GSR would have needed an overdraft. In fact in July 1939, it was ordered that coal stocks should be run down 'as a

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[162] K. Hancock, *Inland transport* (London, 1952), p. 52.
[163] *Ibid.*, pp. 124-129.
[164] GNRGM 1023/19, 'Coal supplies', Circular signed John Leydon.
[165] NA Emergency Historical Record 2/3 p. 3.
[166] GSRGM 37917, 'Supplies of materials in an emergency', Morton to Johnston (B of I) 5 Sept. 1939.
[167] GSRGM 37917, Johnston to Morton, 8 Sept. 1939.

matter of urgency to relieve the cash position' and stocks which stood at 3.45 weeks on 8 July fell to 1.54 weeks by 15 August before extra cargoes brought up stocks to 2.5 weeks on 30 September.[168] The scale of the overdraft needed for a year's supply of coal can be seen in the fact that it was more than ten times the size of the overdraft eventually granted to the GSR.[169]

Contrasting experiences of coal supply

The GSR and the GNR had widely diverging experiences of coal supply during the first year of the war. The GNR bought much of its coal in Scotland, as mentioned in the previous chapter where: 'heavy demands for Scottish navigation coals for the bunkering of ships have created a shortage of these qualities for railway purchasers'.[170] The fall of France in June 1940 meant that Welsh coal destined for the continental market suddenly became available. The amount of coal available caused problems when: 'In consequence of the capitulation of France a considerable number of wagons ... accumulated in the sidings and docks of south Wales. Some of the coal (2,920 wagons) consisted of duff which is not used in Great Britain in sufficient quantities to permit of supplies being disposed of through normal commercial channels. The remainder (approx. 24,000 wagons) could have been sold if sufficient transport was available'.[171]

On 26 June 1940 the GNR was advised that 20,000 tons of Welsh coal was available within a month and they decided to purchase the largest amount possible. In the period which followed, the GNR, the BCDR and the Northern Counties Committee made a sustained and unsuccessful attempt to further build up their coal supplies. The vulnerability

[168] GSRGM 37917, Undated Stores Department memo.
[169] GSRGM 37917, Johnston to Morton, 19 Oct. 1939.
[170] GNRGM 1023/19, Mines Dept. to War Office, 13 Mar. 1941.
[171] BNA T160/1041, N. Smith to Biggs, 8 Aug. 1941.

of the port of Belfast to bombing was advanced as a reason to build up stocks.[172] This argument did not get a sympathetic hearing from the Mines Department, which noted that the stock held by the GNR at that time was eight weeks, three weeks more than the stocks held by the British railway companies

The GSR bought its coal on an annual contract which ran from June to May. The company did not encounter any problems with their coal supplies until December 1940, by which stage buying additional coal had become impossible owing to the new British sanctions policy which will be dealt with in Chapter four. The GSR continued to receive normal deliveries of coal until the expiry of its contract at the end of May 1941. After that date, while the price increased low quality coal constituted an increasing part of the GSR allocation. Much of this was termed 'duff' - dust and fine screenings, which prior to May 1940, was shipped to continental Europe where it was used to manufacture coal briquettes. When this market closed after June 1940, duff began to accumulate in Wales, causing congestion in ports and coalfields. Exporting duff to Ireland assisted British policy in two ways. At a strategic level it fulfilled the new policy of only selling to Ireland coal which could not be sold in Britain, while at an operational level it secured an outlet for a bulky and unwanted product, unsaleable since continental markets were cut off after the German victories of June 1940.

The first full year of the war presented the bizarre prospect of the GNR which operated two thirds of its network in the UK having more problems with its coal supply than the GSR which operated exclusively in neutral territory. On 25 August 1939 the GNR indicated that attempts to get additional stocks were being frustrated by the British government commandeering vessels engaged in the Welsh coal trade and diverting coal for

[172] GNRGM 1023/19, Minnis (BCDR) to Pope (NCC), 4 Apr. 1941.

domestic use to areas scheduled to receive refugees.[173] The peculiar position of the GNR is reflected in their file on coal supplies which contains correspondence between the company and John Leydon, Basil Brooke, Northern Ireland Prime Minister, and the GOC of British troops in Northern Ireland. When John Leydon, (Assistant Secretary of the supplies branch of the Department of Industry and Commerce and later secretary of the Department of Supplies) was informed of the GNR difficulties in acquiring coal he was stated to be: 'of the opinion that no difficulties would arise, and that he was not inclined at present to take any action that would suggest difficulty'.[174] The GNR held three weeks supply on 5 September 1939 but attempts to increase that stock level[175] were restricted by difficulties in concluding a twelve month contract 'owing to the coal arrangements between the British and Éire governments which also covered supplies for Northern Ireland'.[176] In February 1940 the GNR looked enviously at the coal supply of their southern neighbour. George Howden, the general manager, wrote:

> Mr. Morton GSR phoned to say that their contract was for...20,000 tons per month. This contract does not expire until May of next year and up to the present deliveries have been carried out absolutely as stipulated. Mr Morton said that there were still 50,000 tons due to them and they had no reason to think that they would not be able to obtain delivery within the contract time. They had had no interference with supplies. Their present stock is equivalent to four week's consumption.[177]

On 6 June 1940, Howden wrote to the Northern Minister for Finance that 'The Great Southern Railways obtain the whole of their supplies from South Wales and are experiencing no difficulties and it seems inexplicable that this company should be placed in the serious position in which it now finds itself'.[178] In the period immediately after Dunkirk, a large amount of coal suddenly became available on the spot market, and the

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[173] GNRGM 1023/19, IBSC decision circular from Leydon 14 Aug. 1939; Howden to Leydon 25 Aug. 1939.
[174] GNRGM 1023/19, Secretary's office memo, 26 Aug. 1939.
[175] GNRGM 1023/19, Minute, 5 Sept. 1939.
[176] GNRGM 1023/19, Howden to Ministry of Finance, Northern Ireland, 8 June 1940.
[177] GNRGM 1023/19, General Manager's office memo, 19 Feb. 1940.
[178] GNRGM 1023/19, Howden to Ministry of Finance Northern Ireland, 8 June 1940.

GNR bought some of this coal through their agent Kelly's. Both the GSR and the government were the subject of criticism later in the war, especially during the 1943 election, for not having stocked up in this period.[179] The directors of the Portuguese railways came in for similar criticism from their shareholders in 1943.[180] Two points arise in this context. Coal is a bulky material and its long term storage presents difficulties from the point of view of deterioration in quality and spontaneous combustion. The GNR bought as much coal as it could store – to the point where storage became a problem[181]-yet they still needed to supplement their Eire allocation by removing coal from northern based locomotives in southern depots, as will be described later. Secondly, in June 1940 the continuity of GSR coal supplies was assured through their regular contract with their Welsh suppliers. Foreseeing the problems which later arose would have required a level of foresight that was generally absent in the early years of the war.[182]

Coal supplies tighten

Negotiations on coal supplies for the Irish market for the 1940 / 1941 coal year took place in Liverpool on 27 and 28 March 1940. J.P. Meadows, stores superintendent of the GSR and a member of the committee which negotiated Anglo-Irish coal supply, reported on these discussions to the GSR board. He stated that the British Government had taken complete control of the coal trade. Control was exercised through coal supplies officers in all districts and at all ports, who had the final say on the loading of each ship. Coal was allocated to the best advantage of the war effort, and coal producers had no jurisdiction over disposal of their coal. Under the Anglo – French economic agreement of 1938,

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[179] Dáil Debates vol. 90, cols. 500- 504, 20 May 1943.
[180] *RG,* 17 Sept. 1943, p. 280.
[181] GNR Adelaide file 40/2238 Banbridge- danger from ashes near emergency coal dump, District civil engineer to McIntosh, 2 Dec. 1940.
[182] See footnote 11 above.

supplies to France and her colonies would be charged at the domestic rate, entailing an increased in price to the GSR from 22/- to 27/-. Meadows warned:

> The British Government will endeavour to maintain coal supplies to Eire, but … they cannot guarantee that coal in normal quantity will be available for our country… Britain is experiencing a very serious shortage of industrial coals and while our company has so far been fortunate in obtaining cargoes … it may happen at any time that no coal will be available for our ships when they arrive at Newport. Such an event will entail using up some of our small stock, now only four weeks requirements unless consumption can be reduced by curtailing train services on unremunerative branch lines or in some other way. The position …, already very serious, may become acute at any moment and I cannot too strongly recommend that all possible measures be adopted to conserve our existing stocks of coal.[183]

This warning to GSR management to rapidly put coal conservation measures in place was discussed at greater length at successive GSR Chief Officers' meetings. However, political and commercial forces combined to prevent the necessary decisions being taken. Cutting coal consumption meant cutting the number of trains run. A general cutback was commercially unattractive, given the company's role as a monopoly transport provider, which it had enjoyed before 1914 but lost in the decades after the First World War with the spread of road transport. The preferred option of the company was the politically sensitive one of closing branch lines in accordance with proposals made to the transport tribunal. The truncated network is shown in Figure 2.

[183] GSRGM 43737/2, European war supplies, contains a copy of this minute.

Figure 2 Lines proposed to transport tribunal for retention marked in red.

Source IRRS

The minutes of the chief officers' conferences of the GSR show the failure of the GSR to agree a method of conserving coal. The matter was discussed in April 1940 with the suggestion that some operating practices were leading to higher coal consumption, but no

concrete decisions were taken.[184] At a meeting with Industry and Commerce on 25 June the company reported that its stocks stood at six weeks which could be extended to eighteen weeks if the government imposed travel and transport priorities. In addition the company sought suspension of their legal obligation to accept all freight traffic, the imposition of travel and transport restrictions on their competitors and, perhaps most controversially, the suspension of parts of agreements with the unions involving short time for train-operating staff and the layoff or dismissal of substantial numbers of maintenance and ancillary staff. [185] This particular proposal would have caused difficulties for the government and could have provoked strikes if it had been adopted. The imposition of a scheme of priorities and the imposition of restrictions on road competitors of the GSR would come later in the emergency as will be discussed below, but in June 1940 the opportunity for an agreed approach between the GSR and the government to the conservation of coal slipped from the grasp of the parties. The matter was not discussed at the October Chief officers' meeting, and by November the issue between the company and the government had shifted back to the closure of branch lines, a proposal being submitted for the closure of the entire West Cork system.[186] The government did not have power under the Railways Act 1924 to compel the GSR to act in the public interest. Such powers would require the use of emergency legislation – a matter which was contemplated by the government with reluctance, as will be seen. Thus in the last months of 1940, while there was still a possibility of building up coal stocks, the deadlock between company and government prevented any decision being taken.

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[184] GSRGM 43436, Chief Officers' Conference Meetings, meeting of 23/24 Apr. 1940.
[185] GSRGM 43436, meeting of 26 June 1941.
[186] GSRGM 43436, Chief Officers' Conference Meetings, Minutes of October and November meetings.

1941 the supply crisis commences

In January 1941, eight months after Meadows' warning about potential coal shortages, a decision was taken to double the stock of coal to eight weeks supply.[187] Implementing this decision was now impossible due to the British sanctions policy. In January 1941 the stock level was 6.75 weeks, but monthly deliveries were six thousand tons less than the amount issued to locomotives. While such a shortfall might be sustainable in the short term due to shipping delays or strikes, a discrepancy of this magnitude was not tenable in the long term.[188] Meadows reported to the February board meeting that increasing stocks to 40,000 tons would be a slow process.

> All boats entering the Bristol Channel are subject to Admiralty restrictions which...forbid them entering port after sunset. Mine sweeping...causes delays and [the] Channel is closed today to all shipping and a cargo loaded for us for Cork is held up there. Prior to the last few months each boat was able to deliver three cargos a fortnight but two cargos a fortnight is the usual working for each boat... [a boat] will load 1,000 tons of briquettes which will be a valuable addition to our stock. A quantity of these briquettes is now available as they cannot be shipped to their usual markets in South America and other foreign countries.[189]

During February it was reported that 'the mixture of coals has had an effect on the timekeeping of trains the weights of which have considerably increased. Enginemen generally are handling their trains very creditably having regard to the various difficulties with which they have now to contend'.[190] Stocks had fallen to six weeks and were continuing to fall, due to the closing of the Bristol Channel for a week and disruption of rail traffic in South Wales. While some of these shipping delays were real, others would have served as a screen for the British sanctions policy.

In March 1941 the situation continued to deteriorate, with a report that 'With the various classes of coal now being supplied there is a considerable increase in the

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[187] Board minute 4796, 7 Jan. 1941.
[188] GSRGM 47354, officers' report for Dec. 1940 board meeting, p. 4.
[189] GSRGM 47918, officers' report for Jan. 1941 board meeting, p. 6.
[190] GSRGM 48401, officers' report for Feb. 1941 board meeting, pp. 4-5.

consumption by locomotives and under existing emergency conditions this cannot be avoided'. With any interruption with the quick turnaround of coal ships adversely affecting coal stocks, bad weather and the sinking of the S.S *Castlehill* were blamed for the deficiencies.[191] In May it was simply reported that 'The quantity of coal supplied is not improving and this is reflected in time being lost with important trains'. Stocks of coal stood at five weeks.[192] After the termination of their 1940 coal contract, the situation deteriorated rapidly and by 17 July 1941 the stock level had fallen to 2.5 weeks, with a shortfall of between four and six thousand tons a week. Meadows explained that the Northern Ireland railway companies, denied of their normal Scottish coal, were being supplied from Wales which would reduce the amount available to the GSR. He continued: 'Our supplies are rationed on a weekly basis [at] 3,600 tons per week. Efforts are being continued to have this figure increased, but owing to the uncertainty of the coal position in Britain…it may well happen that our weekly allocation will be reduced'.[193] This would suggest the British policy of keeping their sanctions policy a secret (as will be discussed in chapter 4) was successful.

Government concern

The dwindling of coal stocks increased tensions between the GSR and the government. On 18 April 1941 John O' Brien, a Principal Officer in the Department of Industry and Commerce, wrote to Morton urging a reduction in (profitable) excursion traffic. Morton gave an undertaking that excursion trains would be discontinued.[194] However, on 25 September Leydon wrote to Morton advising him of a conversation with

[191] GSRGM 48802, officers' report for Apr. 1941 board meeting, pp. 3-4.
[192] GSRGM 49143, officers' report for May 1941 board meeting, pp. 3-4.
[193] GSRGM 50163, officers' report for Aug. 1941 board meeting, p. 5.
[194] GSRGM 41876, 'Restrictions on excursion traffic', O' Brien to Morton, 18 Apr. 1941, Morton to O' Brien 23 Apr. 1941.

Norman Smith of the British Ministry of Mines who promised to try and keep coal deliveries at five thousand tons per week and to keep up quality. Leydon wrote:

> I am hopeful he will live up to his promise…We do not feel satisfied that the position is fully appreciated by your company. The provision of special trains for Listowel races gave us a very bad shock. Having regard to your precarious position in the matter of coal supplies such an arrangement appears to us to have been utterly reckless and irresponsible. This particular incident… gives rise to a very uneasy feeling that the gravity of the position is not fully appreciated by your organization…Having regard to the steps which we have to take to assure for you a supply of coal we cannot escape a measure of responsibility for the way you use it.[195]

An annoyed Morton wrote to P.J. Floyd, the traffic manager, advising him of the undertaking given and asking him for an assurance in writing that 'the Gaelic Athletic Association and all other promoters who apply for special trains in future will be refused the facilities'.[196] Floyd naturally had close relationships with organisations that promoted mass travel, and was described by the racing correspondent of the *Irish Press* as a staunch friend of the industry.[197] This closeness, while it provided a rail service for Listowel racegoers, did so at the cost of the credibility of the GSR. It also demonstrated a weakness in managerial control with difficulty in securing the compliance of senior GSR management with policy directives.

The *Irish Press* and *Irish Independent* of 11 June carried the first reports that services would have to be cut in the face of dwindling supplies.[198] On 23 June, the *Irish Press* reported that the export of coal from Britain had been suspended, save for gas and electricity undertakings. The *Cork Examiner* of the same day reported discontent in GAA circles over the lack of special trains to inter county fixtures in the hurling and football championships. In the first week of July 1941, serious service cuts were announced with

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[195] GSRGM 41876, Leydon to Morton, 25 Sept. 1941.
[196] GSRGM 41876, Morton to Floyd, 26 Sept. 1941.
[197] *Irish Press,* 7 Jan. 1941.
[198] *Irish Press, Irish Independent,* 11 June, *Cork Examiner,* 12 June 1941.

the withdrawal of the special trains for newspaper deliveries. Two weeks later on 23 July a further round of cuts was introduced, which *inter alia* reduced Dublin suburban trains to a peak hour service. On 30 July the *Irish Press* reported that turf had been tried and had been found reasonably satisfactory when mixed with coal. On 1 August Hartnell Smith, the GSR accountant, told the Irish Railway Wages Board that the company's stocks of coal had been running down since the previous November and that deliveries had been cut from 4,600 tons per week to 3,600 tons per week and surmised that the passenger train service would have to be reduced to one train each way per day.[199]

On 28 August Morton met Sean Lemass and John Leydon to discuss the worsening crisis and submitted a memo which described how coal supplies had deteriorated in July and how:

> during August, from the commencement of which deliveries have consisted mainly of 'smalls' and 'duff'...Engines stoked with...'duff' are unable to maintain steam and frequently have to stop and relight fires on the road ...due to the fact that [the coals] ... fall through the...firebars and choke the ashpan beneath, thus cutting off the draft...the suction of the blastpipe sucks the small pieces through the tubes, ...and considerable quantities are ejected through the chimney and scattered in red hot condition throughout the countryside....Efforts have been made to overcome these difficulties by mixing with turf... but the available supply of turf is very limited, and even when it can be obtained it does not prevent the small coal being sucked over it into the smokebox or percolating through the grates into the ashpans...We have endeavoured to [use coal] briquettes but find that the few briquette making plants in the country are almost fully engaged in making briquettes for domestic use. :[200]

Morton reported to the September Board meeting that he had met Lemass who agreed to facilitate if possible the company's requests for Castlecomer Anthracite. It shows the desperation of railway management that Morton accepted that the use of Castlecomer coal, suitably mixed with good Welsh coal, could be a substitute for imported coal, as this had been denied by railway company representatives for at least half a century, and most

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[199] Irish Railway Wages Board, *Proceedings*, 1 Aug. 1941, pp. 21-22.
[200] GSRGM 53960/10, 'Briquetting miscellaneous', Bredin to Morton, 26 Aug. 1940.

recently before the Irish Coalfield commission of 1918, as outlined in chapter one. However:

> The minister intimated that he would require a further list of train reductions which would help to conserve the supply of coal for more essential services, that is grain harvest, turf transport and the beet season. It was the desire of the government that all unnecessary travel should be discouraged as far as possible'.[201]

The government was prioritizing the transport of goods while the GSR seemed to be prioritizing the transport of passengers for leisure purposes.

The phrase 'desire of the government' shows the lack of control mechanisms available to government. The government could advise or cajole but could not compel or direct a private company. The coal supplied to the GSR would not burn mainly because the draft in the firebox – estimated to have a speed of up to 260 mph carried the fuel over the fire and out the chimney.[202] Additionally the low quality of coal supplied caused locomotives to steam badly and it significantly increased coal consumption. Tests carried out in Britain in the 1950s showed that a 20% decrease in the calorific value of coal led to a 150% increase in coal consumption.[203] The difficulties facing the GSR were described by Norman Smith in August 1941 when he reported on a visit to Inchicore. His visit

> Was not stage managed being arranged at less than one half hour's notice, and I saw one of the company's largest and most up to date locomotives return to the sheds after completion of a journey from Cork. I am no engineer but I think it would have made one of our express locomotive drivers weep if he had to run his engine on this type of coal…Many stories are circulating of the difficulties to which the use of this coal is giving rise. It is said that on the Friday previous to my visit five trains had left Dublin for the west to bring back turf. On Saturday they had not reached their destination and no one knew of their whereabouts!...In any case it seems rather anomalous that the Great Northern Railway which operates both in Northern Ireland and in Éire can obtain good coal for its trains running into Dublin whilst the Great Southern Railway has to make the best of poorer quality coal and duff. The Southern Railway officials were careful not to draw attention to this distinction but

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[201] GSRGM 50349, officers' report for Sept. 1941 board meeting, p. 2.
[202] *RG,* 4 Sept. 1942, p. 216.
[203] Wardale, *The red Devil,* p. 503.

> had they done so, I think I would have found difficulty in arguing that the Southern Railway's position was due to our shortage of supplies![204]

The situation described by Smith continued to worsen during the summer, and on 19 September the *Railway Gazette* outlined the latest round of cutbacks in the Dublin suburban services. In peacetime Bray had fifty four daily departures from Westland Row station. This was reduced to forty in early July 1941 and to twenty three later in the month.[205] The low point came in early October as Bredin outlined to the Irish Railway Wages Board:

> When the board met on 1 August last the company had two weeks supply of coal in reserve. This had on 6 October fallen to one day's supply, and were it not for the fact that the company received a supply of coal from Irish sources the rail services would have ceased to function. The company's coal reserves today represent approximately eight day's supply…This figure I regret to say is the worst we have had since our complete collapse on 6 October…Our difficulty today is not so much to get coal but to get ships. We have no ships to carry our coal at the moment and we are steadily losing ground.[206]

Like doping a racehorse

The people with most contact with fuel are locomotive crew. Martin White was based in Dublin's Canal Street shed and worked suburban trains to Bray. In a paper delivered to the Irish Railway Record Society in 1966 he described how:

> For the next few years the lot of the footplate staff was truly unenviable…'Baling out' became part of the footplate man's vocabulary…this meant cleaning the fire sometimes after only five miles and lighting up again by timber from any available source…I remember seeing almost every engine from Canal Street and Bray depots at a standstill in Dun Laoghaire station…On the same night the foreman at Canal Street got the loan of two engines from the Great Northern …to work the remaining trains and haul home the stranded locos and coaches from Dun Laoghaire.[207]

In October 1941 GNR suburban trains began to run to Westland Row and Dalkey while those of the GSR started running to Malahide.[208] The GNR agreed to give the GSR 36 tons of coal per week, but wished the transaction kept secret. Bredin instructed Floyd that 'The

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[204] BNA T161/1402, minute of meeting 11 Sept. 1941 contains this report.
[205] *RG,* 19 Sept. 1941, p. 295.
[206] Irish Railway Wages Board, *Proceedings* 14 Nov. 1941, p. 16.
[207] M. White, 'Fifty years of a locoman's life' *JIRRS* (1966) p. 266.
[208] Prior to this all trains on both companies terminated in Amiens Street (Connolly)

Great Northern people are anxious that no comment whatsoever should be made to the press in regard to the question of coal supplies'.[209] This is explained by the fact that the GNR coal came mainly from Northern Ireland stocks. Of the twenty three invoices eight indicate a point of origin and Belfast is the point of origin in seven of these.[210] The interworking of trains provided some relief for the GSR at a very difficult time and was later described by Martin White as 'a splendid gesture', although of more significance must be his description of the response of GSR locomotives to even a small supply of lump coal obtained from GNR locomotives in Amiens Street: 'It was like doping a racehorse, the way our engines responded after such a chance'.[211] The inter-working ceased in May 1942 when Howden told Bredin that it was due to the depletion of the coal stocks of the GNR.[212]

The real reason was the increased vigilance of the Northern Ireland authorities. In 1941 the GNR was allowed to export 300 tons of coal a quarter from Northern Ireland to Éire.[213] Later in the year the export of loco coal to Éire was prohibited. The company was asked to provide particulars of coal supplies which passed through Éire in transit via depots in Northern Ireland.[214] The GNR informed the County Donegal Railway that they could no longer help them with coal.[215] Locomotives based in Clones and Dundalk were frequent visitors to depots such as Portadown, Belfast or Enniskillen. This facilitated a thriving export trade of uncertain legality in coal as northern based locomotives had some of their coal removed at southern depots. As this practice became known, the passage of coal across the border was closely monitored, and in spring 1942 the Northern Customs

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[209] GSRGM 45932, 'Suburban service-interworking with the G.N.R.', Bredin to Ginnety, 21 Oct. 1941, Bredin to Floyd, 24 Oct. 1941.
[210] GNRGM 72/3, 'Through working G.S.R.' copy invoices GNR to GSR Oct. 1941 to June 1942.
[211] White, 'locoman's life', p. 267.
[212] GSRGM 45932, Howden to Bredin, 21 May 1942.
[213] Louth County Archives, Mallon Collection, GNR Mechanical Engineer's letter index 1941, p. 63. reference to file 41/259.
[214] GNR Mechanical Engineer's letter index 1941, p. 63. reference to file 41/259.
[215] *Ibid.*, p. 65, file 41/260.

authorities complained that coal was being illegally exported on engines working to Clones.[216] Later in the year British Ministry of Fuel and Power demonstrated their continuing vigilance regarding exports of coal on locomotives when they informed the company of their view that all Éire and cross border supplies should be met entirely from coal imported from Britain to Éire.[217] This clampdown by the British side had the desired effect as can be seen in the complaint of the foreman in Clones that he had to draw on emergency stock but had not received regular replenishment.[218] On 21 August 1942, the locomotive foreman in Dublin wrote to the running superintendent in Belfast complaining about coal exports on locomotives: 'The position…is gradually becoming worse due to tenders not being filled to capacity …The small consignments of coal received in Dundalk in steamers which is being used in Dublin is of such poor quality that it would be almost impossible to use it if not mixed with a small percentage of good coal which can only be obtained from the tenders of cross border engines. I trust therefore that you will endeavour to effect some improvement'.[219] By the end of 1942 the GNR received a permit to export 300 tons of coal to Clones and Dundalk from dumps at Tynan, Newtonbutler and Goraghwood; the fact that it needed a permit shows that control had been re asserted and that the lax export controls of 1941 had been tightened up.[220]

The day-to-day operation of the GSR during this period can be seen in works of fiction. Myles na gCopaleen published an ingenious plan to maintain fuel services in his *Irish Times* Cruiscín Lán column: 'My plan is that all lines would be relaid to traverse bogland only and that the locomotives could be fitted with a patent scoop apparatus which would dig into the bog…and provide an endless stream of turf to the furnace…The

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[216] *Ibid.*, p. 63, file 41/259.
[217] Mallon collection, letter index 1942, p. 65. file 42/749.
[218] Mallon collection, letter index 1942, p. 64, file 40/755.
[219] GNR Adelaide files, 42/1868, Greene to Morrison, 12 Aug. 1942.
[220] GNR Adelaide files, 42/2236 'Loco coal', Secretary to Running supt. Dundalk, 24 Dec. 1942.

principle is at present recognised in taking up water when the train is at speed'. The author noted the differing responses of the GSR and GNR to his proposal, with humour reflecting reality. Myles later proposal 'not to banish steam but to banish coal' through an electrically heated shunting locomotive was a reference to a conversion undertaken by Swiss railways and illustrated in the *Railway Gazette*.[221] In his fictional treatment of Erwin Schrodinger's life in Ireland, Neil Belton describes a trip from Galway to Dublin:

> By the time it reached Athlone the train was crawling. It stopped at the station, barely making steam. A guard slid the door of the compartment open and shouted something about fuel…After two hours the whistle blew and the carriages were pulled slowly on across the flat plain but their progress was so hesitant that the constant frustrated expectation of an increase in speed exhausted him. He imagined the stoker [sic] raking and raking trying to get air up through the burning red mass in his firebox. Sinéad drowsed against the window. "Burning duff" she said quietly.[222]

The bus fares controversy

The chaotic state of GSR services led to deterioration in turf deliveries to the cities and added to the tensions between the GSR and the government. Additional tensions arose when the GSR decided to increase bus fares to the maximum extent permissible under law with effect from 19 March 1941.[223] In addition to provoking the ire of the Department of Industry and Commerce this decision provoked a disagreement with the GNR. The two companies shared the provision of services in the counties of Louth, Meath and Cavan, and joint agreement was needed to increase fares. The GNR swiftly rebuffed the GSR proposal stating that

> Shortly after the outbreak of war your company proposed the policy of abolishing all…return fares and we agreed somewhat reluctantly to follow suit. The consequence unfortunately proved so serious that the policy had to be revised …in order to offset the alarming fall in gross receipts …we arranged to reintroduce certain return fares…and this has proved very successful. I am therefore most

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[221] K. O' Nolan, ed. *The best of Myles a selection from cruiscín lán* (Dublin, 1968), pp. 114-116, p. 173. *RG,* 4 June 1943, p. 565.
[222] N. Belton, *A game with sharpened knives* (London, 2006), pp. 253-254.
[223] GSR Road transport committee, minute 735.

> reluctant to consider any change. I still consider that fares would be still further improved by revision downwards rather than upwards'.[224]

A disagreement between two members of a cartel had the potential to be extremely embarrassing and Griffith, the GSR road passenger manager wrote to Morton that 'I would suggest you having a conversation with Howden…This course would keep the subject out of further correspondence'.[225] The desire for secrecy was based on the need to protect the most vulnerable aspect of the GSR case for increased fares; the fact that other transport companies disagreed with the strategy. A culture of secrecy was therefore developed by the GSR in its struggle with the government. The hope that such matters could be kept secret was probably in vain, given the small size of Dublin and the close relationship between GNR chairman, Lord Glenavy, and the Dublin political elite.

The reservations expressed by the GNR about the effect of higher fares was raised with the GSR a week later by the Department of Industry and Commerce when seeking financial information on the increase.[226] After two reminders this information was forwarded on 5 May. On June 16 1941 the Department asked the company to reconsider 'The increases [which] went far beyond the limit which would be justified by increased operation costs or which judicious management might dictate'.[227] Griffith reacted in a bellicose manner and urged that

> Owing to the attitude of the minister and the general trend of this correspondence I recommend we stand firm for the policy…until the apparent attempt to interfere with the company's …operation of its road passenger transport within the law is defeated.[228]

Morton's reply to the Department was conciliatory and expressed regret at their reference to the Emergency Powers (Restriction of Companies) order 1941 as 'the company is always

[224] GSRGM 48473/2, 'Pool area', Howden to Morton, 14 Mar. 1941.
[225] GSRGM 48473/2, Griffith to Morton, 26 Mar. 1941.
[226] GSRGM 48473/2, O' Brien to Morton, 22 Mar. 1941.
[227] GSRGM 48473/2, Morton to Industry and Commerce, 5 May, Flynn to Morton, 16 June 1941.
[228] GSRGM 48473/2, Griffith to Morton, 23 June 1941.

prepared to meet the reasonable wishes of the minister [but] the company alone is best able to say whether the policy of increased fares is justified'.[229] On 11 August the Department replied quoting three routes as examples where carryings had fallen since the increase in fares, and followed on 22 September with an observation that since the GSR had increased bus fares the three bus companies which had not increased fares or imposed moderate increases had seen their revenue increase by between 10.9% and 54.4%, while GSR bus revenues had fallen by 8.61%. The Department concluded that 'These facts supported the minister's contention that the increases have been made in an arbitrary and indiscriminate manner ...and that the interests of the public and the company would have been better served by a more moderate and equitable system of increases'.[230]

The exchanges between the Department and the GSR on this issue ceased in February 1942 for reasons which will become apparent. They were yet another irritant in the relationships between the railway company and the government. While bad coal could be blamed on external factors, this controversy was home grown. The matter at issue was the lengths to which the GSR was prepared to go to avoid acceding to a government request. This is shown in a memo from the accountant dated 9 October which stated:

> The accountant's office considers it undesirable that any alterations of the omnibus department's accounts should be made...it will involve the Company in the risk that if the minister asks for the separate accounts of the road freight department ...the alteration in the omnibus accounts will be discovered and make the Minister suspect the bona fides of the company.[231]

The transport tribunal report

The report of the transport tribunal was published on 19 July 1941.[232] The majority report recommended raising the road tax on lorries to be paid into a fund which could be available to the GSR for the development of their road freight business. The report

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[229] GSRGM 48473/2, Morton to Flynn, 30 June 1941.
[230] GSRGM 48473/2, Ferguson to Morton, 22 Sept. 1941
[231] GSRGM 48473/2, Accounts Dept. memo, 9 Oct. 1942.
[232] *Irish Independent,* 21 July 1941.

recommended any further restrictions on road freight operators. After what he described as a cursory reading Morton put a brave face on the report, but its critique of management can have given him little comfort. The tribunal stated that in relation to accusations of faulty organisation and waste, while they discounted the value of much of the criticism that there was room for considerable improvement and that 'diversity of opinion between certain of the departments has been allowed to interfere unduly with …that co ordination which is essential to efficiency'.[233] In a clear indictment of the governance of the company the tribunal recommended that for a period of five years, instead of the business being carried on by seven part time directors operating through a general manager, the board should consist of three directors, two of whom would act in a part time capacity and would be elected by the shareholders while the remaining director who would be chairman would act in a full time capacity and be nominated by the government.

The board would be assisted by two controllers with specialist and financial knowledge, who together with the chairman would be primarily responsible for the day to day administration of the company.[234]

These recommendations had been written in August 1939, and the problems of the GSR had worsened in the interim. Petrol shortages had re-established the virtual monopoly on land transport sought by the GSR at the transport tribunal, and the company had since that time responded by abusing its bus customers and by using its scarce coal allocation for the most profitable rather than the most strategic purposes. In contrast, the GNR provided a better rail service with the same low quality fuel and gave the impression of being more appreciative of such key national policy objectives as the use of turf in locomotives. The GSR appeared arrogant, badly managed, and insensitive to these key national objectives.

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[233] Transport tribunal *Report*, p. 61.
[234] Transport tribunal *Report*, p. 83.

However, the implementation of the Tribunal's recommendations might prove difficult in that it involved the government taking over control but not ownership of the GSR. Legislation implementing the tribunal's recommendations would have been complex and could have conflicted with the right to property contained in the new Constitution. A Minister proposing such legislation could anticipate trenchant opposition from the management and the directors of the GSR and extravagant demands for compensation from its shareholders.

Morton expressed his desire to retire to the July Board meeting 'at such early date as may be acceptable to the directors, if possible no later than 30 September'.[235] Morton's retirement arrangements were finalized at the September board. He was retained as a consultant by the company for at an annual fee of £900: E.C. Bredin was given the title of Deputy General Manager while M.J. Ginnety was appointed Deputy Chief Mechanical Engineer.[236] These arrangements became public on 13 October in the *Irish Press*. At the October board meeting, requests for retirement were received from Griffith the road passenger manager, Woodley the Cork divisional engineer, H.W. Crosthwaite, the company's materials inspector in Britain, Reid and McNamara - senior clerical staff in the General Manager's Office.[237] Some at least of these retirements had been planned for some months. Morton sought service details for Crosthwaite on 31 May 1941 and on 16 June wrote to him assuring him that 'I do not wish in any way to hurry your retirement from the service…but it is clear that in the present emergency…there are overwhelming circumstances that prevent the general coal position being materially altered by the efforts of a company's officer'.[238] Crosthwaite was then sixty-one years of age and he was

[235] GSR Board Minute 4937, July 1940.
[236] GSR Board Minute 4974, Sept. 1940.
[237] GSR Board Minute 4993, Oct. 1940.
[238] GSRGM 50541, 'Retirement of HW Crosthwaite material inspector', Hartnell Smith to Morton, 31 May 1941, Morton to Crosthwaite, 16 June 1941.

replaced by the thirty-three year old Charles Johnston.[239] Whether this action was a culling of dead wood or an attempt by Morton to 'look after' certain senior people before he retired is uncertain. However, for those who did not go voluntarily, on 2 January 1942 the board decided that 'the retirement of all salaried [and wages] staff shall be compulsory and automatic at the age of 65…from June 1942'.[240] This order took immediate effect as the *Irish Press* outlined on 7 February 1942, and among its first victims were the company secretary, Coe, and Floyd, the traffic manager who had responsibility for train running, and with that the responsibility for unpunctuality and for the misuse of scarce fuel on excursion traffic. The *Irish Press* report concluded that 'Further administrative changes in the company are expected in the near future'.

The days of the GSR as constituted in 1925 were numbered. Since the establishment of the state, successive attempts to mend its finances had failed. In September 1941 Hugo Flinn T.D., in a memo to the Taoiseach, analysed the problems existing between the company and the state.

> Pre war the railway system had ceased to be capable of maintaining itself in normal times against the competition of alternative services…the position of the railway system has essential residual functions to perform and that it is incapable of discharging them under free competition has been recognised by the state by means of:
> (i) Open and disguised subsidies
> (ii) Legislation authorising them to eliminate statutory services which were unprofitable
> (iii) handing over to it of the most profitable road services… by discouraging legitimate alternative traffic services and (iv) by further legislation of an extreme character in the same direction as recommended in the recent tribunal of enquiry into public transport.

Flinn went on to state that the justification for any help given to the GSR would have to be judged by the service which it gave to the State in the emergency. He recommended that the Minister for Industry and Commerce should appoint a controller of

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[239] GSRGM 50541, Morton to Collison 11 Dec. 1941.
[240] GSR Board Minute 5038, 2 Jan. 1942.

railways, as recommended by the tribunal.[241] Flinn's suggestion that the transport tribunal recommendations be implemented, at least in part, received an unfavourable reaction from Finance, being described as:

> Altogether superfluous as there is no evidence that the GSR…is not trying in every way to meet the wishes of the government. Whatever confusion exists is, I think due largely to overlapping by Government Departments and semi government bodies like Comhlacht Siuicre Eireann. The latter wants priority for beet, Agriculture for wheat, Office of Public Works for turf, Industry & Commerce for raw materials and all make their claims on the railway company without any attempt at prior co ordination. The priority order will…help to clear up this muddle though…we must endeavour to get some space for revenue producing goods such as beer, spirits, tobacco etc., which have value also in keeping out the cold when no fuel is available and have according to the best authorities certain therapeutic properties not lightly to be overlooked! The appointment of a controller over what is private property would certainly furnish the railway with a reasonable case for compensation on grounds of interference with private property. No court would sustain any objection we might have on national grounds to such a claim.[242]

Although the response is tinged with sarcasm it is probably a realistic estimate of what could be done without having recourse to emergency powers. It is nevertheless a strange response from a department to a suggestion from their own parliamentary secretary. Finance's pronouncements are not noted for humour or for levity, and this combined with the references to the calorific value of alcohol would indicate that Finance did not rate Flinn's suggestion as likely to succeed.

This memo was written just before Emergency Powers Order 504 came into effect, according priority to certain freight traffic. The increased demand on the railway caused by the turf harvest described in chapter five made necessary the setting of priorities, and the order set out the priority commodities. It also forbade the GSR from increasing any service above the level provided in November 1941 without the authority of the Minister. This prevented the company from serving lucrative markets such as race meetings and GAA matches at the expense of strategic freight traffic such as turf. Having taken control of such

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[241] NA DT 12641, Flinn to De Valera, 7 Nov. 1941.
[242] NA FIN s/99/64/41, Leathan miontuairisc, 8 Nov. 1941.

a major aspect of the company's business, Industry and Commerce seemed unenthusiastic about making further major changes in the administrative arrangements of the GSR.[243] In December 1941 R. C. Ferguson, Assistant Secretary in the Department of Industry and Commerce, wrote to J.J. Mc Elligott, Secretary of the Department of Finance, that 'Our relations with the railway companies are sufficiently complicated, without putting a further strain on them by taking a step (decontrol of road haulage for grain) which would be...a reversal of the general policy of the government ... Only a drastic necessity... would justify such a step'.[244]

The development of a Government takeover proposal

On 3 January 1942 a memorandum for Government was submitted containing the bones of Flinn's proposal. This was certified as an emergency item for the Cabinet meeting of 6 January by Seán Lemass on the basis that 'The position of railway transport generally calls for immediate action'.[245] The policy change came in December, between Ferguson's letter to Mc Elligot and the preparation of the memorandum for government for the meeting of 6 January 1942. On the basis of the dating of surviving documents it would seem on the balance of probability that the proposal to take control of the GSR emerged from a political rather than a civil service source and was developed in some haste, possibly over the 1941 Christmas holidays. The memorandum for government stated that the management of the GSR required attention due to problems which had arisen out of or been accentuated by the Emergency. Seán Lemass wanted to implement certain of the transport tribunal's recommendations, though not necessarily in the exact form in which they were made. The tribunal recommended that the board be reduced to two shareholder representatives and a

[243] NA FIN 099/0019/41, 'Exemption of grain from road transport acts', Ferguson to Mc Elligot, 1 Dec. 1941.
[244] NA FIN 099/0019/41, Ferguson to Mc Elligott, 1 Dec. 1941
[245] NA DT S12684, memo for Government, 3 Jan. 1942.

chairman to be nominated by the Government. The sense of frustration felt at the behaviour of the GSR is encapsulated in a paragraph on the issue of the bus fares increase:

> The company have been relieved ...of competition from private motor cars. Instead of using this opportunity to the best advantage the company handled it in a manner immediately prejudicial to the interests of the community at large and ultimately harmful to its own best interests. Gross receipts from some services have actually declined. Despite continuous pressure from the responsible department the company has wholly failed to justify its policy in the matter of fares...In the opinion of the Minister there is little likelihood of any improvement in the operations of the company as at present administered. The administration, which was weak at the best of times and which, in the opinion of the transport tribunal would not appear to be competent to cope with the ...problems of the emergency...The present time appears to be particularly opportune for introducing administrative changes on the lines recommended by the transport tribunal in that the position of the general manager of the company is officially vacant, the previous general manager being temporarily retained by the board.[246]

The Department of Finance opposed the proposal on the basis that the move was a first step towards the nationalisation of the railways (a prediction which eventually proved to be true), that the taking over of a business would expose the government to compensation claims and that the existing board of the company should be given a chance to rectify the matter to the government's satisfaction. The fourth reason is of interest, in that Finance claimed that the justification for the step was insufficient as it:

> Could not...be expected to effect any improvement in the existing occupants of key positions nor would it enable ...difficulties due to lack of coal fuel and rolling stock to be overcome. These difficulties are mainly accountable for the delays ...in the handling of turf. The carriage of beet is understood to be reasonably efficient and as regards both turf and beet the road transport department is understood to be satisfactory.[247]

It would be unwise to ascribe to Finance any principle in opposing departmental proposals which might cost the taxpayers money, but the views of Finance on the problems facing the GSR would lead to the conclusion that the department opposed the use of emergency legislation to resolve peacetime issues.

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[246] NA DT S12684, memo for government, 3 Jan. 1942.
[247] NA DT S12684, finance memorandum, 5 Jan. 1942.

The proposal was approved by the Cabinet at its meeting of 9 January 'it being understood that the appointment of the new general manager will be subject to the approval of the minister.'[248] The failure of the GSR board to act decisively to fill the vacancy caused by Morton's resignation left a vacuum which the government moved to fill. Prior to the 1932 Transport Act, a report on the GSR had stated that

> The history of the chiefs of British and Irish railways had been that of their general managers and not of the unknown chairmen of their board. In the GSR the chief executive officer though described as a general manager has practically no powers. The undertaking is actually managed by directors or by a section of them who...cannot possess a fraction of the practical training and experience...necessary for reasonably efficient management. [249]

Leaving the post of General Manager vacant less than a decade later opened for government the 'appalling vista' that the GSR would revert to control by directors rather than by professional managers. This was unacceptable in peacetime and unthinkable in wartime.

The cabinet decision was communicated to the GSR on 19 January and Lemass met the Board on 28 January. No record survives of this meeting in the archives of either party, but a memo for government gives an account: 'The representatives of the board said that their reaction was one of keen resentment [and asked] if the scheme was open for discussion...The minister indicated that the government had taken a decision ...but any observations which might be offered would be taken into consideration'.[250] In a move which surprised the stock market, the directors recommended payment of arrears on 4 % preference stock for the three years 1938 to 1940. According to the *Irish Times* the market and the shareholders expected only two years.[251] At a further meeting on 13 February the directors unsuccessfully requested some form of compensation for carrying low-value high-

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[248] NA DT S12684, cabinet minute, 9 Jan. 1942.
[249] D. Delaney, 'English and Irish railways', *JIRRS,* 112 (1990), p. 240.
[250] NA DT S12684, memo for Government, 16 Feb. 1942.
[251] *Irish Times,* 7 Feb. 1942.

priority traffics such as turf. They did not however, leave the meeting empty handed as Lemass agreed to increase the number of shareholder directors from two to four.[252] The arrangements for a quorum made the number of directors irrelevant as the chairman alone constituted a board quorum and no board meeting could proceed in his absence. These proposals were approved at the Cabinet meeting of 17 January, with Lemass indicating on the emergency certificate that 'Owing to the transport situation it is necessary that the reorganisation of the management of the company be brought about immediately'.[253]

Percy Reynolds – transport dictator

Emergency Powers (no. 152) order was signed on 17 February and came into effect a week later. An *Irish Press* report of 19 February 1942 predicted that A. P Reynolds, managing director of the Dublin United Transport Company, would be appointed by the government as chairman of the GSR to be assisted by two controllers with special expertise in engineering and in accountancy. Percy Reynolds did indeed take up office unaided by controllers on 24 February 1942 on a salary of £2,500 per annum.[254] The GSR had not been nationalised, but private control of the company had been ended and an era of hybrid control had begun. This restructuring of management could not improve the quality of coal but it would institute - perhaps for the first time since the foundation of the state - a railway management structure which the government fully trusted. The *Irish Times* reported on 20 February that Reynolds had become a 'transport dictator' and that the government had, after a strong case was made by the directors, agreed to the retention of four of their number, although their role would be largely advisory. The report stated that the challenges

[252] NA DT S12684, memo, 16 Feb. 1942.
[253] NA DT S12684, teastas práinneach, 17 Feb. 1942.
[254] NA DT S12684, cabinet minute, 19 Feb. 1942

facing Reynolds would be to secure improved efficiency which would ensure the continuity of fuel to the cities.[255]

An *Irish Independent* editorial of 20 February stated that the one good aspect of the affair was the appointment of Reynolds. It criticised the use of emergency legislation, noting that 'Not in the lean years but as prosperity had begun to return had the government chosen to seize the shareholders' assets'. The other Dublin papers dwelt more on the national interest and less on those of the shareholders. The *Irish Times* leader expressed some surprise at the appointment of Reynolds, given his lack of railway experience, but stated that 'He emerged from the quiet of an accountant's office to become an extremely capable, far sighted and ambitious organiser of the city's transport services…if he contrives to inject into the GSR even one half of the efficiency which he injected into the DUTC his appointment will have been a signal success'. The editorial continued: 'The GSR system…is antiquated. It can be brought into line with the country's needs by…the relentless sacrifice of branch lines…Unless the new directorate has the mandate to carry out this reform its appointment will be without purpose'. The editorial concluded 'Last night's announcement represents the first and very long step towards the nationalisation of Irish railways'.[256] The *Irish Press* editorial of 23 February best captures the low esteem in which GSR management was held. It described the events of 1941 when:

> a breakdown in Irish transport at the greatest crisis in its history…at that very moment when it was vital that native fuel should be rushed into the cities…the supplies of steam coal were found to be completely inadequate…All who are concerned with the national economy…will be immensely relieved that a private concern which practically lived by state aid, state subsidies, even state coal and yet failed the public is at last to be controlled in the interests of that public.

The Dublin correspondent of the *Connacht Sentinel* wrote that

> He has made a big success of the Dublin transport services and has made a big reputation for himself in the process…I am told he was not anxious to assume

[255] *Irish Times,* 20 Feb. 1942.
[256] *Irish Times,* 20 Feb. 1942.

> control of the railways but that Mr. Lemass pressed him strongly…Mr Reynolds has gone in much as a commissioner would go in to take control of the affairs of a public body…I do not believe that a board of directors elected by "shareholders" will ever again control the railways…I believe that before the Emergency has ended the government will put through the Dáil a bill…on the lines of the emergency machinery now being operated by Mr. Reynolds.[257]

Of equal significance to favourable newspaper reaction was a private letter of congratulation from George Howden of the GNR to Reynolds: 'I know what ability, energy and foresight can accomplish you will bring to bear on your new task, one which is fraught with great responsibilities and from which no small results are expected'.[258] While Reynolds' term of office was to expire at the termination of the emergency his appointment was at least in part motivated by longer term strategic interests and aimed at resolving another emergency which had arisen in 1938, the prospect of a receiver being appointed to the GSR.

The analogy of a commissioner going into a local authority is apt and telling. Twelve local authorities were suspended between 1922 and 1942, with the honours equally shared by Cumann na nGaedhal and Fianna Fáil Ministers.[259] Commissioners were installed when authorities were found delinquent in some manner and dissolved. Emergency legislation allowed the Government to provide for the emergency while preparing for the post-emergency world. According to the *Irish Times* columnist Myles Na gCoplaeen, who, in another life as Brian Ó Nualláin was an Assistant Principal officer in the Department of Local Government, the state could 'do anything from frying onions to squirting chocolate on a fly boy's yellow shirt under the emergency powers act'.[260]

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[257] *Connacht Sentinel,* 24 Feb. 1942.
[258] GNRGM 200/36, 'Appointment of A.P. Reynolds as chairman of G.S.R.', 20 Feb. 1942.
[259] M. Daly, *The buffer state, the historical roots of the department of the environment* (Dublin, 1997), p. 297.
[260] O' Nolan, *Best of Myles*, p. 322.

The relationship between Percy Reynolds and Seán Lemass was a matter of speculation. At one point it was rumoured that Lemass kept a string of racehorses at the Curragh under Reynolds' name.[261] Reynolds lived in Abbeville, Kinsealy, and owned the Derby winner of 1941. Uinseann Mc Eoin (chronicler of the IRA in the nineteen thirties) described Reynolds as: '

> Head of a successful bus company - which was amalgamated to form the Dublin United Tramways which then became part of CIÉ. He was appointed head of CIÉ by Seán Lemass who was a racing buddy. [Michael Scott, architect of Busaras] was friends with Reynolds through racing also - Reynolds was an owner, there is a possibility that Scott was a part share owner in one of his horses...Reynolds was a moderniser except that he was more concerned with buildings than services.[262]

Percy Reynolds was also the son of John Reynolds who was Sean Mac Diarmada's accountant and treasurer of the Irish volunteers.[263] Bureau of Military History material shows that Percy Reynolds was active in the pre 1916 physical force nationalist movement, being adjutant of the youth movement Fianna Éireann until 1915.[264] He was also a member of the IRB circle within the Fianna which numbered Con Colbert, Seán Heuston and Liam Mellowes among its members.[265] His sister told the Bureau of Military History that he was active during Easter Week 1916[266] and was afterwards deported to Frongoch.[267] On his return he disappeared from sight in the nationalist movement, and did not figure in the reorganisation of Fianna Éireann in 1917.[268] Given his political background and his business experience Percy Reynolds seemed an obvious choice to steer the GSR out of its crisis. Apart from his political affinity with most of the members of the cabinet, he was a

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[261] J. Horgan, *Enigmatic patriot*, (Dublin, 1997), p. 102.
[262] http://ireland.archiseek.com/buildings_ireland/dublin/northcity/store_street/busaras/interview_maceoin.html consulted on 24 March 2007.
[263] G. Mac Atasney, *Sean Mac Diarmada –the mind of the revolution,* (Manorhamilton, 2004), p. 125.
[264] BMH WS 191 Joseph Reynolds, WS 1377 Hugh Mc Neill, WS 646 William Christian.
[265] BMH WS 8 Seamus Mc Caisin.
[266] BMH WS 195 Molly Reynolds.
[267] Irish Times *Sinn Fein Rebellion Handbook* (Dublin, 1917), p. 79: S. Ó Mahony *Frongoch : university of revolution.* (Dublin, 1987) p. 193.
[268] My thanks are due to Eve Morrison for use of her database of BMH witness statements to identify statements of Dublin Fianna activists.

transport manager with an established professional and national record. He was relatively young by the standards of railway managers and the DUTC had the reputation of being an efficient, well-run and profitable company, in the process of converting from tram to bus operation. Reynolds was appointed General Manager of the DUTC in 1936 and co opted to the board of the company and appointed its managing director in April 1941.[269] He was, together with Morton, also a member of the board of Aer Lingus.

Any change in ownership of the railway system exposed the taxpayer to possible claims by railway shareholders. Irish railway shareholders enviously eyed the generous arrangements made with the British railway companies in 1939. At the shareholders' meeting of March 1942 Col. the O Callaghan asked his listeners: 'To bear in mind that in a sister isle…where government had taken control…a sum [had] been put aside for shareholders'.[270] The cartoon from Myles na Goplaeen's topical Cruiscín Lán column illustrates the legendary capacity of railway shareholders for rent seeking. It reads: 'same old boring story as if anybody but themselves could be interested in their dividends. [271]

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[269] *Irish Times,* 26 Apr. 1941.
[270] *Irish Times,* 12 Mar. 1942.
[271] O' Nolan, *The best of Myles*, p. 135.

Figure 3. GSR shareholders washing the company's dirty linen in public'

Source: *The Best of Myles* , p.135.

The shareholders' protection association of the GNR demanded that the state take control of Northern Ireland's railways on the same basis as in the rest of the UK on the grounds that their shareholders 'were entitled to the same consideration'.[272] By 1941 Irish railway shareholders on both sides of the border were seeking government take control of their enterprises on a basis similar to that applying in Britain. A parallel case in Britain is the coal industry. Both British coal and Irish railways had been in dire financial state since the nineteen twenties following wartime control. Nationalisation of both industries had

[272] *RG,* 30 Jan. 1942, p. 178.

long been a controversial aspect of politics. In both cases a form of government control without ownership was instituted in 1942, and nationalisation was undertaken by both states after the war.

The style of board meetings changed upon Reynolds' arrival. Attendance at board meetings was confined to the directors and to the company secretary, unlike in the previous dispensation where the heads of function (locomotive, traffic stores etc.) attended. Accounts of board meeting became briefer, with 93 pages of minutes in the year until February 1942, 52 pages in the year after and 42 pages in the year ended February 1944. The appointment of Reynolds was swiftly followed by a number of appointments at middle management level. The *Irish Press* of 23 February reported protests by the Railway Clerks' Association (RCA) passing over 'Of clerks of long and unblemished service and experience by clerks with little more than half their service'. Moving from seniority based to merit based promotion was a culture change that may in fact have been welcomed by younger and possibly better educated RCA members. The transport tribunal had recommended that a means be found to recruit clerical staff at promotional level as well as at entry level as was the case for engineers.[273]

As outlined above, Percy Reynolds took up his new tasks with a considerable store of public goodwill. He also took office at a time when initiatives that predated his arrival were just beginning to bear fruit. Foremost of these was the commissioning of the briquette machines which enabled the GSR to manufacture acceptable fuel from low quality coal. The end of late train running and the improvements in the summer timetable came within months of his appointment. The retirements which followed Morton's departure gave him the capacity to make key senior management appointments and he took an active approach to the search for new talent. Bredin's vacancy as Chief Mechanical Engineer was filled on

[273] Such a recommendation was implemented in 2002.

an acting basis by M.J. Ginnety, in whom Bredin had little confidence. In April 1942 W.A. Smyth, a Broadstone trained engineer:

> Was working for the British government in the aircraft industry. I received a letter from E.C Bredin…asking me to go to Dublin and meet him…He took me to see Mr. A.P. Reynolds [who] after some discussion made me an offer [that] I should return to Inchicore in a new post of deputy CME and immediately begin a major reorganisation of the works…I should succeed M.J. Ginnety when the latter retired in September 1943 provided I had by then demonstrated my ability'.[274]

Smyth did not take up the offer and no one else was recruited. The episode highlights Bredin's low opinion of Ginnety at a time when emergency shortages were placing increasing demands on engineering capacity as well as showing Reynolds' involvement in the resolution of this problem.

Conclusion

In early 1942 the government took control of one of the largest commercial undertakings in the state through emergency legislation. In doing so they instituted a joint managership between the GSR and the DUTC. Was it necessary to take this step in order to resolve the operational crisis of the GSR? The answer from an engineering point of view is probably not. It is difficult to distinguish measures taken as a result of Reynolds' arrival from experiments under way (such as briquetting of coal) - measures would have been undertaken in any event. However, organisations are about people as well as machines and large organisations need leadership if they are to function well. The failure by the board to act decisively to fill the vacancy caused by Morton's resignation left a leadership vacuum which after some months the government moved to fill. Apart from the operational considerations the likely successor in normal times would have come from a British or Colonial railway which might have proved difficult in the circumstances of the Emergency.

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[274] W.A. Smyth, 'My service on Irish Railways' *JIRRS*, 83 (1980), p. 128.

Reynolds seems to have enjoyed a good relationship with Bredin who retained most of the functions associated with the post of general manager. However, Reynolds took an active role in the management of relations with the Irish and British Governments. This was the case with the use of turf in locomotives as seen in chapter one, with relations with the British Ministry of Fuel and Power as will be seen in chapter four or in the procurement of Irish coal as will be seen in chapter seven. Reynolds' role as Chairman was threefold. The first task was a tactical one to bring an outside mind to the running of the company. The second task was to manage relationships between the government and the main transport company in emergency Ireland. The third task was of reorganising the GSR and of bringing a solution to the financial problems which had dogged that company since its foundation. This was a key strategic task and one attended with considerable urgency as the enabling legislation would lapse with the end of the Emergency. One commentator stated that '[Fianna Fáil] found it difficult to get people to believe in these projects or to find the right people to carry out the projects'.[275] The government needed a safe pair of hands to bring the GSR out of its operational crisis and to lay the basis of a post war transport policy. Percy Reynolds was just such a safe pair of hands and the emergency powers legislation the only way of imposing the managing director of one publicly quoted company as executive of another publicly quoted company without the permission of either board of directors.

[275] Kevin O Doherty Centre for Contemporary History witness seminar, TCD, Oct.2003 .

Chapter three

Coal crisis a comparative perspective

In March 1941, under the heading of 'unusual locomotive fuel substitutes' the *Railway Gazette* described how restrictions by the war on coal distribution caused many countries to try locomotive fuel substitutes. These included maize in Argentina, rushes in Astrakhan and experiments with turf in Ireland.[276] In 1943 the *Railway Gazette* reported that 'one of the major wartime problems...throughout the world [was] the need to maintain essential services using native fuels'.[277] This chapter will argue that the experience of the GSR can best be understood in an international context in comparison with the experiences of railway companies in other neutral countries such as Portugal, Argentina or Sweden.

The distortion of collective memory

Slow trains and inferior coal are hallmarks of the collective memory of Ireland's Emergency experience. This collective memory has been distorted in two ways. Firstly the experience of the period from summer 1941 to summer 1942 is applied to the Emergency period as a whole, when in fact what happened during that period was not representative. The second distortion is represented by the *Dublin Opinion* cartoon of a deserted railway station.[278] In common with most wartime railways the Irish railway system was busier between 1939 and 1945 than in preceding or subsequent years. Wartime railway networks were occupied with freight instead of passenger trains. The passenger trains which ran were fewer in number, more crowded and less comfortable. Examining railway operation

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[276] *RG,* 7 Mar. 1941, p. 245.
[277] *RG,* 3 Dec. 1943, p. 568, dealing with Victoria railways, Australia.
[278] Carroll, *Ireland in the war years*, p. 86.

in a comparative framework gives a clearer view and counteracts the myths which, like the glimmerman have been absorbed into the historical narrative.[279]

Under the terms of the 1938 Anglo Irish trade agreement the coal trade between the two countries was negotiated centrally by a joint committee representative of the major Irish purchasers and the British producers. The stores superintendent of the GSR, J.P. Meadows, was a member of this committee, which gave the GSR access to British coal merchants at the highest level.[280] The Irish side of the committee was transformed into Coal Importers Ltd. on the outbreak of war. The Anglo Irish coal trade was relatively undisturbed until the fall of France, as outlined in chapter two, when the sudden closure of continental markets affected the exporting coalfields, especially those in South Wales.[281] Some pits closed and, in a move which caused severe problems later in the war, redundant miners enlisted or sought alternative civilian employment

The introduction of trade sanctions as discussed in chapter four was designed as a punitive measure, but the British restricted railway coal supplies to 'friendly' neutrals such as Portugal and Uruguay, and to 'ambiguous' neutrals with whom they wished to maintain influence such as Argentina. In his work on Swedish- German wartime trade Sven Ollson states that the countries of Europe could be divided into three categories: 'Surplus countries' which produced more coal than they consumed (Britain, Poland and Germany), 'deficit countries one' which needed imports for specialist purposes despite having a fairly large domestic production (France, Belgium and the Netherlands), and 'deficit countries two' which had a great need for imports and little or no domestic coal production (Italy, Greece, the Scandinavian countries)'.[282] Applying this categorisation would place Ireland,

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[279] See Girvin, *Emergency*, p. 226, Grey, *Lost Years,* pp. 142-144.
[280] See chapter two, fn 24.
[281] Court, *Coal,* p. 85.
[282] S. O. Ollson, *German Coal and Swedish Fuel 1939-1945* (Goteborg, 1975), pp. 21-22.

Portugal and Switzerland in deficit two category, and Spain in deficit one category. Britain exported locomotive coal to deficit one countries such as Spain and France, and deficit two countries such as Ireland, Sweden and Portugal. Beyond Europe, Britain also supplied Argentina and Brazil as well as Egypt and Palestine. Ollson's categorisation needs to be treated with some caution as it measures coal rather than overall energy use, ignoring hydro electricity in the case of Switzerland or indigenous timber in the case of Sweden. Ireland's proximity to Britain, the past political union between the two countries and the wide circulation of English newspapers in Ireland meant that Irish people made comparisons with Britain rather than with mainland Europe where comparison would, in any event, have been impeded by language and censorship.

Coal quality was not a severe wartime problem for British railways. In 1944 ASLEF raised with the railway executive the difficulties being faced by their members. The most common complaint was the poor condition of locomotives rather than poor coal. The response from the Great Western Railway stated: 'This company in common with other users has had to accept a reduction of large coal and use in its place unscreened through coal and other substitute fuel [which we] will attempt to minimize by checking wagons'.[283] The LMS replied that 'The quality of coal used on passenger services and important freight trains is of pre war standard but it has been necessary to accept a certain proportion of coal of a lower grade quality for use on less important freight services'.[284] Coal supply was similarly unproblematic for the Deutches Reichsbahn until the very end of the war,[285] when in January 1945 it: 'turned to using brown coal to power its locomotives. Brown coal fouled the fireboxes...and could ignite flammable cargo. Fuel consumption

[283] BNA RAIL 1172 2371, GWR to railway executive, 25 Mar. 1944.
[284] RAIL 1172 2371, LMS to railway executive, 3 Mar 1944.
[285] A.C. Mierzejewski, *The collapse of the German war economy-allied air power and the German national railway,* (Chapel Hill, 1988), pp. 45, 138,154.

tripled, and this necessitated the use of a second fireman and a larger tender'.[286] This experience with lignite which was superior to top grade turf gives an indication of how widespread turf burning might have been handled in Ireland.

The means to put the experience of the GSR in a broader context can be found in the *Railway Gazette* which was (and remains) the authoritative trade periodical for the rail industry.[287] The *Railway Gazette* was established in 1905 but its origins can be traced to the *Railway Magazine*, founded in 1835 at the dawn of the railway age. The *Gazette* prided itself as a journal of record, recording in 1945 that the Soviet authorities had in 1941 sent a forwarding address in the event of Moscow falling. From the account of its wartime activities published after censorship was lifted in 1945, and in its obituaries for prominent German railwaymen we can see how it valued its impartiality. In 1942, Fritz Todt was described as 'one of the most outstanding civil engineers produced by the Nazi regime and by reason of his transport achievements one of our most dangerous enemies'. In 1945 Julius Dorpmuller, head of the Reichsbahn since before 1933, was eulogised as 'the most outstanding railwayman on the European continent …representative of the best features of the German character'.[288] Through a network of correspondents in neutral countries 'who…continued to send us news by devious routes often at some risk to themselves.' the *Railway Gazette* carried regular features on the operation of the railway system in areas under Axis control.[289] Its scepticism of the Ministry of Economic Warfare's claims about the effectiveness of Allied bombing on the German rail network was expressed in October 1941

> In these columns…care has been taken to avoid a delusion fostered in some sections of the daily press that the enemy's transport system is unable to cope with the strain

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[286] Mierzejewski, *Collapse,* p. 154.

[288] *RG,* 13 Feb. 1942, p. 217 Todt: *RG,* 31 Aug. 1945, p. 211 Dorpmuller.
[289] *RG,* 31 Aug. 1945, p. 226.

> to which it is subjected...the continental transport system is not creaking its way to breakdown as some would suggest.[290]

The *Gazette's* contempt for the official line of the Ministry of Economic Warfare was expressed more explicitly in June 1943 when it decried the

> Pitifully ill informed statements and ill judged deductions [which] continue to be made about enemy facilities. For nearly four years we have tried to explode [this] fallacy...but the story continues to rear its head (usually with the assistance of the Ministry of Economic Warfare).[291]

The desire of the *Railway Gazette* to maintain a position as journal of record makes it an authoritative source for historians.

Alternatives to steam traction

Generally speaking 'On the technical level, the Second World War started where the First World War left off'.[292] The continuity between 1919 and 1939 is most apparent in the continuing predominance of the coal-fired steam locomotive. Railway managers responded to coal shortages in the same way that they had during the 1914-18 war through discouragement of passenger travel, cuts in passenger train services, the withdrawal of dining and sleeping cars, and the favouring of freight over passenger services. A significant difference between 1919 and 1939 was in the area of railway electrification which had expanded in response to shortages of imported coal between 1914 and 1918. Countries which had undertaken extensive electrification in the interwar period were best able to cope with shortages between 1939 and 1945. Both Italy and Switzerland had electrified some lines before 1914 using hydro electricity but had deferred further electrification until technical issues such as the choice of voltage were sorted out. The wartime coal shortages gave an incentive to resolve these issues. Between 1917 and 1918

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[290] *RG,* 10 Oct. 1941, p. 374.
[291] *RG,* 25 June 1943, p. 630.
[292] W.G. Jensen, 'The importance of energy in the First and Second world wars' *Historical Journal,* 11 (1968), p. 545.

the Italian railway system was almost paralysed due to coal shortages.[293] The *Railway Gazette* noted that train speeds had been reduced to as low as 10 mph due to low coal quality and that 'the dependence on foreign coal explains why the question of railway electrification had aroused such attention'.[294] In the immediate post war years, companies which bordered on the Alps with their potential for hydro electric power carried out electrification programmes. In Switzerland the Federal estimates for 1918 contained 20 million Swiss francs for electrification which was widely demanded as 'one of the best measures of becoming independent of... German coal',[295] where 'Patriotic Swiss are pressing on with the electrification of their railways...The Swiss would rather pay more and have the work done by their own workmen'.[296] A Swedish report, published in 1918,[297] recommended electrification to 'Free the country from dependence on foreign supplies of fuel'.[298] Railway electrification was seen in continental Europe as a means of escape from dependence on imported fuel.

During the inter war years, Diesel powered railcars were developed and became increasingly popular in Europe as an economical alternative to steam locomotives for light trains. In 1938 diesel railcars carried seventeen per cent of the passenger traffic in France.[299] In Emergency Ireland diesel railcars allowed the County Donegal Railways, -the cradle of diesel railcar development, to maintain a good level of service, while enabling the GNR to maintain its Dublin suburban schedules relatively unscathed. Developments with alternative traction on the GSR were concentrated on experiments with battery traction developed by Professor Drumm of UCD through a company bearing his name. The

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[293] *RG,* 30 Nov. 1917, p. 607.
[294] *RG,* 14 June 1918, p. 679.
[295] *RG,* 1 Feb. 1918, p. 124.
[296] *RG,* 16 Aug. 1918, p. 174.
[297] *RG,* 1 Nov. 1918, p. 479.
[298] *RG,* 19 Mar. 1920, p. 468.
[299] *RG,* 4 Feb. 1944, p. 122.

impetus to develop these trains came from a desire to develop to the full the potential of electricity from Ardnacrusha, and was undertaken as an alternative to full electrification. With the benefit of hindsight it can be seen that battery traction was a technological dead end. When the French Railways were considering the development of railcars in the nineteen thirties 'accumulator operation was rejected...as 1kg of battery weight provides 22 watt hours of power a quantity which a diesel railcar produces by burning an almost imperceptible amount of fuel oil'.[300] Four battery trains (known as Drumm trains after their inventor, Professor Drumm) had been delivered in 1939. They allowed the GSR some certainty in assuring Dublin suburban services, but a fully electrified service or a fleet of diesel railcars similar to those of the GNR would have provided a more efficient solution.

The beginnings of service cuts

Any restrictions in coal supply would quickly impact on the level of railway services. In 1936, railways were the fourth largest consumer of coal in fourteen major coal consuming countries, accounting for sixteen per cent of national coal usage.[301] Under wartime conditions railways were priority customers and this percentage could increase to a level of thirty per cent as it did in Spain. Some countries restricted services as a precautionary measure at the outbreak of war while others awaited the emergence of actual shortages in 1941. War conditions led to shortages of shipping for coal transport, while the victories of 1940 left all of continental Europe, outside Iberia, dependant on German controlled coal. Before the coal shortages of spring 1941 began to affect the GSR reports of fuel shortages in European countries began to appear in the *Railway Gazette*. In February 1941, a five per cent cut in passenger services in Vichy was reported together with a report on the introduction of a 'crisis timetable' in Sweden with 'a heavy reduction in services to

[300] *RG,* 4 Feb. 1944, p. 122.
[301] T. Wright, *Coal mining in China's economy and society* (Cambridge, 1994), p. 75.

save fuel'.[302] Both of these countries were reliant on German coal, having previously received steam coal supplies from Britain.[303] The Deutches Reichsbahn began to cut services in May of 1941 due to 'shortages of rolling stock and coal', [304] but continued to deliver an increase number of freight wagons to serve the needs of the German war economy. [305] Throughout the war 'The Reichsbahn gradually reduced the quality of its services by slowing trains, allowing overcrowding and restricting access to premium trains'.[306] Despite this, the number of passengers carried increased in each year between 1939 and 1944.

The growing shortage of coal in Allied and Axis spheres of influence was demonstrated by the experience of neutrals. In early June 1941 it was reported that cuts were expected in Swiss services due to shortages of coal, while a week later Portugal's railway company announced a drastic curtailment of rail services, with Lisbon to Porto services reduced from two trains a day to four trains a week[307] A fortnight later additional cuts were announced in Sweden with passenger trains reduced to running three or four days a week.[308] On 4 July it was reported from Argentina that by government decree, maize was being used as fuel for freight trains as a result of the need to find a use for stocks of maize which were no longer exportable due to shipping restrictions.

The first Irish difficulties were reported in the *Railway Gazette* of 18 July 1941 when reports of the restricted GSR timetable shared the page with a report on a shortage of coal in Argentina where 'the Central Railway is to use both wood and maize and …states

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[302] *RG,* 7 Feb. 1941, p. 138 (Sweden), p. 152 (Vichy).
[303] *RG,* 27 June 1941, p. 713.
[304] *RG,* 30 May 1941, p. 609.
[305] Mierzejewski, *Collapse,* p. 55.
[306] A.C. Mierzejewski, *Hitler's trains The German national railway and the Reich* (Stroud, 2005), pp. 157-159.
[307] Switzerland *RG,* 6 June 1941, p. 635, Portugal *RG,* 13 June 1941, p 663.
[308] *RG,* 27 June 1941, p. 713.

that there can be no guarantee that trains will run on time'.[309] The following week's issue reported that in Egypt high price coal was being displaced by oil.[310] This was part of a strategy whereby Egypt would 'Greatly reduce her need for coal by converting her railways to burn oil of which there was a plentiful supply near at hand and ... this work was begun in 1941'.[311] A report of further train service reductions on the GSR on August 5 was followed immediately by a report on service cuts on Dutch railways where services on steam operated lines were down to between ten and thirty per cent of pre war levels while electric services were at fifty percent of pre war levels.[312] Continuing cuts on the GSR meant that within three months the service level had declined to what the *Railway Gazette* described as being 'The minimum consistent with the maintenance of trade and commerce'.[313] Table 3 shows the spread of coal shortages across Europe and illustrates that the cuts in passenger service imposed by the GSR were part of a European pattern. In September 1941, the *Gazette* described the service cuts in Éire as being 'more serious than in belligerent and occupied countries',[314] while on November 28 it wrote that 'It is doubtful whether the entire history of railways has seen any parallel to the present position on the GSR. The...present meagre service has every prospect of staying in force for some considerable time in a country which is not even a belligerent'.[315] Later events were to prove this observation to be untrue. The central issue was that of an emerging global fuel shortage affecting all railway administrations. Any mitigation of shortages in Allied and Axis spheres of influence depended on the availability of alternative fuels or the extent of electrification.

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[309] *RG,* 18 July 1941, p. 67.
[310] *RG,* 25 July 1941, p. 106.
[311] C.B.A. Behrens, *Merchant shipping and the demands of war* (London 1955), p. 231.
[312] *RG,* 6 Aug. 1941, p. 146.
[313] *RG,* 19 Oct. 1941, p. 392.
[314] *RG,* 19 Sept. 1941, p. 295.
[315] *RG,* 28 Nov. 1941, p. 547.

Table 3 Curtailment in passenger services

Country	First reported cuts	Principal trains per day	Operating days per week	Sleeping cars withdrawn
Sweden	February 1941	-	-	June 1941
Vichy	February 1941	1	3 or 4	-
Portugal	June 1941	-	3 or 4	-
Ireland	July 1941	1		n/a
Holland	August 1941			-
Spain	January 1942		4	-
Denmark	March 1943	2		-

Source: *Railway Gazette.*

Northern Europe

The German conquests of September 1939 placed the mines of Poland at the disposal of the Reich. Shortages nevertheless emerged in areas under Axis control from spring 1941 onwards, but the service cuts which followed were less severe in areas where the rail network was electrified. This holds true regardless of whether the electricity was generated by hydro power as in Switzerland or Italy, by coal as in Holland, or by a mixture as in Sweden or France. The view that the vulnerability of transmission and generating plant made electrified railways vulnerable in wartime was debunked in May 1941 by a *Railway Gazette* article which contended: 'so far as electrified railways being a danger in war it is an advantage to the countries which have undertaken it'.[316]

Switzerland maintained a stock of steam locomotives as a strategic reserve. In order to keep these locomotives occupied a number of secondary lines were steam worked. When the Germans restricted coal exports to Switzerland, the Swiss responded by

[316] *RG,* 30 May 1941, p. 609.

electrifying the lines in question, causing the *Gazette* to report: 'Electrification since has been so rapid that with the exception of a few unimportant branches the working is now entirely electric'.[317] The service curtailments in Switzerland were of an entirely different order to those applied elsewhere in Europe. In August 1942 the tram services in Zurich were described as being curtailed when the frequency was cut from one every six minutes to one every eight minutes![318] In January 1945 the *Gazette* observed that 'the one European country in which passenger services have shown little deterioration...and in some respects have improved is Switzerland'.[319]

In Sweden a pre-war committee had concluded that the level of electrification was at its optimum level, given the price of coal needed for power generation. In 1943 this decision was reviewed and a number of electrification projects commenced which were scheduled for completion in 1944 and 1945. In France it was reported in October 1941 that 'The best services are on electric lines'.[320] Despite material shortages the French expanded their electrified network during the war, linking Paris with the Mediterranean, albeit in a somewhat circuitous manner. The most striking case is that of Holland, whose electricity was all coal generated, and whose train services were described by the *Gazette* in 1944 as being 'up to recently the best in Europe'. The Dutch decided to completely electrify their network in 1945.[321] The ability to electrify railways in wartime as in Switzerland implies a level of access to supplies of non ferrous metals which was beyond the capacity of the British war economy, where a number of electrification projects were shelved for the duration.[322]

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[317] *RG,* 15 Jan. 1943, p. 61.
[318] *RG,* 21 Aug. 1942, p. 186.
[319] *RG,* 9 Feb. 1945, p. 126.
[320] *RG,* 3 Oct. 1941, p. 343.
[321] *RG,* 22 June 1945, p. 629.
[322] M. Bonavia, *A History of the LNER 1939-1948* (London, 1983), pp. 60-61.

Iberia

The railways of Spain had become more self sufficient since the nineteen twenties as a result of government policies on increasing the use of native coal. In 1938, Spain produced 7.4m tons of coal and imported 1.1m tons from Britain. In 1941 it produced 7.4 million tons of coal, 1.1 million tons of anthracite and 0.8 million tons of lignite and imported no coal. Spanish railways consumed 2.3 million tons of coal per annum in 1941 or approximately thirty per cent of national coal production.[323] Despite this, Spain began to encounter difficulties in January 1942 when the *Gazette* reported: 'The coal shortage is proving to be a serious handicap to rail traffic and moreover the available coal is of poor quality…so that timekeeping is bad. The services have been reduced by about a fourth and all ordinary fast trains have been discontinued'.[324] From the point of view of Allied strategy the pressure point on the Spanish authorities was oil rather than coal. Oil shortages impacted on the railways through shortages of lubricant and through 'the heavy burden thrown on the railways by the almost total cessation of road transport'.[325] Rail cuts in Spain went in tandem with the sanctions policy of the Allies, and were applied again in February 1944 when services were reduced to three days per week.[326] Railway service cuts commenced in Portugal in June 1941 and by November the *Gazette* reported that services had been curtailed drastically due to shortage of coal, with the Lisbon to Porto service reduced from two trains per day to four per week. The *Gazette* concluded that 'Many locomotives are said to be burning wood with which the country is well supplied'.[327] In January 1942, services dwindled to the point where 'only mails and a few passenger trains

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[323] *RG,* 17 July 1942, p. 54.
[324] *RG,* 2 Jan. 1942, p. 7.
[325] *RG,* 24 Apr. 1942, p. 503.
[326] *RG,* 17 Mar. 1944, p. 285.
[327] *RG,* 7 Nov 1941, p. 483.

are now being run'.[328] Given the shortage of coal in Ireland, it is ironic that Portugal was sometimes supplied by Irish ships with coal from Britain. The Arklow schooner *Cymric* was carrying coal from Ardrossan to Lisbon when she was lost in unexplained circumstances February 1944.[329]

The Americas

As one of the world's greatest coal producing nations, the USA was relatively unaffected by coal shortages. Production of bituminous coal increased by seventy eight per cent between 1938 and 1944 and the market preference for the higher grades of coal was curbed by the Solid Fuels Administration for War. In contrast, coal and shipping shortages were felt in Latin America from September 1939.[330] Problems with supply also developed in Canada where experiments with lignite were undertaken in summer 1941 on the Northern Ontario Railway.[331] In October it was reported that the Canadian National Railway was buying US coal. 'Before the war Canadian coal was used as far west as Toronto but now American coal is used as far east as Mount Joli Quebec and Edmonstown, New Brunswick'.[332] The fact that shortages developed before Pearl Harbor shows how the outbreak of war pushed the global coal market into shortage.

South American railways used oil and imported coal. Until 1940 Argentine railways imported more than ninety eight per cent of their coal from South Wales.[333] All the major Argentinean railways were British owned, managed by British staff and from a technical point of view were in the British sphere of influence. During the First World War they had converted locomotives to burn oil. In 1939, 'The companies rearranged their

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[328] *RG,* 6 Feb. 1942, p. 211.
[329] F. Forde, *The Long Watch* (Dublin, 1981), pp. 19-20.
[330] R.M. Weidenhammer, 'A national fuel policy III- Bituminous coal: Postwar prospects', *Journal of land and public utility economics,* 21.3 (1945), p. 232.
[331] *RG,* 12 Sept, 1941, p. 258.
[332] *RG,* 3 Oct. 1941, p. 343.
[333] *RG,* 7 Jan. 1944, p. 25.

timetables, curtailing or abandoning non-essential services'.[334] A shortage of shipping made it impossible to export maize and the practice resumed of burning it in factory and locomotive boilers. Maize has a calorific value near to timber and had been used in this manner during the First World War.[335] The use of a certain amount of maize as locomotive fuel became mandatory. There are parallels with the pressure brought on Irish companies to use Arigna coal during the nineteen thirties and turf during the Emergency.

On the British side there were differing views as to what extent Argentina should be supplied with coal. The Mines Department wished to maintain exports, the Ministry of Food to maintain imports at a maximum, while the Ministry of Shipping wished to concentrate on the shorter run to North America: 'Policy is to ship only whatever coal is sent in the shipping space required to bring back essential food'.[336] After the entry of the United States into the war all South American countries except Argentina expressed support for its position at the Rio Conference of January 1942[337]. This isolation increased the political problems of Argentine neutrality and this in turn affected coal supply. The Foreign Office cabled: 'We agree not to supply to South America supplies which are being withheld for good reason by the U.S. Argentina is a special case...we intend to co operate with the U.S. in bringing the Argentinean government into line but this does not mean we should not argue with the Americans when we think they are wrong'.[338]

In spite of the development of native coal resources, shortages of locomotive fuel remained a perennial problem for Argentina for the duration of the war years. Locomotive coal consumption fell by seventy per cent between 1940 and 1942.[339] By 1942 Brazilian

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[334] *RG,* 26 Sept. 1941, p. 310.
[335] *RG,* 24 Oct. 1919, p. 525.
[336] BNA MAF 83/215, J. Frank to Whalley, 19 Mar. 1941.
[337] F.D. Mc Cann, *The Brazilian American alliance* (Princeton, 1973), p. 250.
[338] BNA MAF 83/1114, FO to Washington, 6 June 1942.
[339] *RG,* 11 Sept. 1942, p. 260.

coal was being successfully used mixed with Argentinean coal.[340] Oil was also in short supply and in December 1942 drastic cuts in the Buenos Aires suburban services were only averted when the navy released some of its fuel oil reserve to the railway companies concerned.[341] In October 1944 the British embassy in Buenos Aires indicated that the railways had no difficulties other than with fuel and that coal represented seventy five per cent of the problem.[342] According to Norman Smith 'It was agreed [in 1941] that the US should look after the coal needs of Brazil and the UK after the coal needs of Argentina, [a traditional trading partner]...the difficulties in supplying Brazil from the US [arose] not from a lack of supplies but from a lack of transport'.[343] Despite a ninety six percent increase in coal production between 1938 and 1941 Brazil was far from self sufficient in coal and it was reported that many factory boilers would be converted to burn charcoal emulsion or cotton seed.[344] In early August 1942 a British civil servant wrote: 'There is an acute shortage of coal...the central railway has stopped railing ore. Unless something is done no [iron] ore will be shipped to the UK in six weeks'.[345] Matters began to change when Brazil entered the war on the Allied side on 22 August 1942, but as late as October the British had to 'assist' the Brazilian navy in order to avoid requisitioning of bunker stocks.[346]

The use of native coal by the Brazilian Central Railway almost trebled to thirty five per cent of the company's coal needs between 1937 and 1942. Even then, timber was used as fuel on flatter sections of line and coal was only used on hilly sections where greater tractive effort was needed. According to the *Railway Gazette* 'no satisfactory substitute for

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[340] *RG,* 20 Feb. 1942, p. 258.
[341] *RG,* 12 Mar. 1943, p. 264.
[342] BNA MAF 83/1114, Embassy Buenos Aires to Ministry of Food, 6 Oct. 1944.
[343] BNA MAF 83/1114, Smith to Mather Jackson (MAF), 27 July 1942
[344] *RG,* 5 June 1942, p. 631.
[345] BNA MAF 83/1114, Smith to Jackson, 8 Aug. 1942.
[346] BNA MAF 83/1114, Ferguson War Transport to O' Rourke MEW, 2 Oct. 1942.

Cardiff coal has yet been found'.[347] In 1943 that it was largely due to national coal that the railways had been able to maintain their services.[348] In the following year, Brazilian coal production fell by twenty per cent but the shortfall was made up with supplies from South Africa and from Mozambique.[349] The improved status of Brazil as a co-belligerent can perhaps best be seen in its capacity to complete a significant railway electrification project during the war years. A proposal was made by the Ministry of Economic Warfare to supply Argentina with coal from South Africa but it does not appear to have come to fruition.[350] The contrast between neutral Argentina and belligerent Brazil could not have been more apparent than in the area of railway fuel. While Argentinean locomotives struggled on timber, maize and linseed oil, the Brazilian railway was kept supplied with coal and even completed an electrification project during the war years. There is a parallel between this and the contrasting performance of the GSR and the GNR on either side of the Irish border, detailed in chapter two.

The general pattern in South America was that native coal and timber were generally unsatisfactory as alternative fuels. Brazil coped best, especially after it joined the Allies, supplying them with iron ore and with base facilities and earning itself supplies of coal from Africa. In Uruguay the predominant locomotive fuel was oil and in June 1941 the Central Railway was warned that cuts in deliveries of up to twenty five percent were imminent, while in Chile service cuts due to coal shortages were made in 1943.[351] The overall experience of the railways of this sub-continent which was almost untouched by war shows the global nature of energy shortages.

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[347] *RG,* 5 June 1942, p. 631.
[348] *RG,* 21 Jan. 1944, p. 61.
[349] *RG,* 10 Aug. 1944, p. 141.
[350] BNA MAF 83/1114, Frazer, War Transport to Eggers MEW, 12 Dec. 1942.
[351] *RG,* 17 Dec. 1943, p. 621.

The near and middle east

Egyptian railways began to convert locomotives to oil burning in 1941, having unsuccessfully experimented with cotton seed cake as locomotive fuel when the export of cotton seed became difficult and 'Coal of sufficient quality was almost unprocurable'.[352] This was similar to the experiments with burning maize in Argentina. In Palestine coal was supplied from Britain, but when deliveries dropped by 40% during 1940, large stocks of wood fuel were acquired and alternative coal supplies were sought from India.[353] Coal shortages developed in India in 1942 and the conversion of Palestinian locomotives to burn oil was accelerated.[354] Oil was supplemented by low grade coal mined by British forces in north eastern Iraq. They attempted to interest Syrian Railways, but met with little interest as 'Consumption of this stuff on locomotives...would be higher if quality had been more suitable'.[355] Oil was the chief substitute for imported in this region. When the British took over the Iranian railways in 1941 as a conduit for supplies to Russia, they first imported their own coal-burning locomotives and later adapted them to burn oil, the most plentiful fuel in the region. When the US army took over operation of the railway from the British they took the use of oil one step further by using diesel locomotives.[356]

In 1944 Turkey's transport difficulties were listed by the *Railway Gazette* as greatly increased traffic, shortage of rolling stock and difficulties in getting replacements. Shortages of fuel were not mentioned, and Turkey's situation was likened to that of 'Other neutral countries which are entirely surrounded by belligerents'[357]

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[352] *RG,* 1 Aug. 1941, p. 106.
[353] *RG,* 26 Sept. 1941, p.310.
[354] *RG,* 9 Apr. 1943 p. 374.
[355] BNA FO 922 333, A/D industrial Production to Middle East supply centre, 23 Mar. 1944.
[356] *RG,* 16 Feb. 1945, pp. 159 -160.
[357] *RG,* 14 Apr. 1944, p. 398.

South and East Asia

The sheer size of the Indian sub continent meant that it consisted of a number of regional markets for coal. The railways of the south and east depended on Bengal coal while those of east Bengal and the North West provinces relied on Middle East oil. Services were cut by twenty five per cent in 1942 due to coal shortages, a fact which was not reported until June 1944, when additional service cuts were reported.[358] On the North West Railway (now in Pakistan) 'for many years most of the locomotives working in the Karachi area burned imported oil but in recent years in spite of the distance of the haul from the Bengal coalfields it has been found preferable to burn coal'.[359] Coal shortages developed in Ceylon in spring 1941 arising from shortages of shipping. These difficulties led to unsuccessful experiments with a coconut by product as a locomotive fuel. These difficulties increased during the year and it was 'not possible to continue the service due in part to delays in getting coal. Firewood is being increasingly used and the sale of old sleepers has been prohibited'.[360]

Japan used indigenous coal for eighty six per cent of its needs and imported the balance from China. This coal had an ash content of between eleven and twenty three percent, and would have been considered unusable in Britain. This reflects the trend outlined in chapter one whereby steam locomotives were built to suit the coal available and the crews accustomed themselves to the locomotive and fuel available.[361] In a move reminiscent of British policy in 1939, internal coal distribution in Japan was switched from sea to rail transport. As a result passenger services were cut and sleeping and dining car

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[358] *RG,* 2 June 1944, p. 568.
[359] *RG,* 16 July 1943, p. 65.
[360] *RG,* 23 May 1942, p. 598.
[361] *RG,* 11 Sept. 1942, p. 234.

services were withdrawn, a fuel conservation measure which had been widely adopted in Europe.[362]

Conclusion

The wartime period saw a global energy shortage with new types of railway fuel being used. The pattern of use depended on availability of fuel, availability of shipping to carry it and the political relationship between producer and consumer countries. Brazil's coal supplies improved markedly after it entered the war in August 1942. In the Middle East, oil replaced coal as a locomotive fuel in Egypt and Palestine, while coal replaced oil in North Western India.[363] New coal mines were brought into production in South American countries and also in Africa, where it was planned to increase coal production in Nigeria by forty per cent to save imports from Britain and from South Africa.[364] The Irish experience was not unique but part of this global shortage, made to look worse by comparison with its nearby coal-rich neighbour, Britain. British railways suffered less from coal shortages than their export customers of Éire, Portugal, and Argentina. A similar pattern can be observed on the networks of mainland Europe where the DB and its associated Ostbahn network suffered less from coal shortages than did its export destinations of Vichy, Sweden and Switzerland. The record of the GSR compares well with that of the railway systems of other neutral countries. The most appropriate comparator countries are Portugal and Argentina where the wartime experience of railway operation was very similar to Ireland whether it is in restricted running – such as in Portugal - or government encouragement to use unsuitable alternative fuel – turf in Ireland and maize in Argentina. However, Irish citizens viewed the world based on the Irish and

[362] *RG,* 13 Nov. 1942, p. 474.
[363] *RG,* 16 July 1943, p. 65.
[364] *RG,* 24 Dec. 1943, p. 646.

British press and on information from returning migrants, not from the trade press. Even if that was possible, it would have been a cold comfort for the Irish public in the twelve months wait from summer 1941 for an alternative locomotive fuel to emerge.

Chapter Four

The politics of Trade 1940-1942

This chapter will explore the evolution of British policy on supplies to Ireland between 1940 and 1942. In December 1940 a sanctions policy was applied in retaliation for the refusal to grant access to the Treaty ports. This policy was supervised by Churchill and his inner circle. By late 1941 it had become apparent that the ports would not be returned. In spring 1942, as responsibility for Irish trade policy returned to the Dominions Office, a new policy emerged, based on the needs of the British war economy. This change coincided with the assumption of responsibilities for Irish matters by the Dominions Secretary and Deputy Prime Minister, Clement Attlee. A new pragmatic approach brought about an increase of some supplies to Ireland, and was based on the value of the commodities and services the Irish had to offer Britain. In wartime governments take control of international trade and regulate it through bilateral agreements, trade sanctions or outright blockade. Britain and Germany did not trade with each other and sought to limit the trade carried out by neutrals with their opponents. In these circumstances, services, facilities and commodities controlled by neutrals came into the trading equation. Most neutrals fell into the exclusive trading orbit of one of the belligerents. Ireland and Argentina were part of the Allied orbit while Switzerland and Sweden were part of the Axis orbit. Spain and Portugal were exceptional in that they traded with both sides. The case of the Irish Treaty Ports was mirrored by the case of the Azores bases for Portugal, by the case of Norway – Finland troop transit for Sweden and by the case of transalpine railways for Switzerland. Commodities played a central role in trade between neutrals and belligerents

as in the case of Swedish iron ore, Portuguese[365] and Spanish wolfram, Turkish chrome and Swiss electricity. Coal assumed a critical role for all the neutral countries as Britain and Germany were Europe's only coal exporting countries. Coal figures prominently in trade relationships between Ireland and Britain between Germany and Switzerland and between Germany and Sweden.[366]

The conception of the sanctions policy

During 1940, negotiations on a renewed trade agreement between Ireland and Britain continued at a slow pace, as outlined by Paul Canning in his analysis of British trade policy towards Ireland between 1921 and 1941.[367] In November 1940 the negotiations took a different turn and became entwined in the issue of the Treaty ports. Both Churchill and Cranborne, the then Dominions Secretary had decided to take a policy initiative on Ireland, but were unsure as to what shape an initiative might take. Cranborne, 'a deeply traditional Conservative…devoted to monarchy, church, country and empire [which was] intrinsic to his notion of British identity' had been brought into cabinet by Churchill in October 1940.[368] As outlined by Canning and by Robert Fisk[369], the basis of an Irish policy was provided by Sir Wilfrid Spender, a Stormont civil servant who urged a boycott and/or price cuts on Irish agricultural exports, combined with severe restrictions on the sailing of British ships to Ireland.[370] Cranborne prepared a memorandum for cabinet describing the situation in Ireland as one where

> the ordinary life of peace is still carried on…People still hunt and shoot and race, dine out and go to the theatres and cinemas in the evening. Rationing has indeed

[365] C. Leitz., *Nazi Germany and neutral Europe (Manchester, 2000),* .N. Wylie, eds., *European neutrals and non-belligerents during the Second World War* (Cambridge, 2001), In addition see D.L. Wheeler 'Allied relations and negotiations with Portugal' at www.usembassyisreal.com

[366] Wylie, *European neutrals*, p. 247 for reference to Spain's 'desperate need' for fuel, and p. 340 for the premium placed on securing access to German coal and raw materials'.

[367] P. Canning, *British Policy towards Ireland 1921-1941* (London, 1985), pp. 296 -303.

[368] http://www.oxforddnb.com/subscribed/ .date accessed 1 july 2004.

[369] R. Fisk, *In Time of War* (London, 1983), pp. 153-155.

[370] Canning, *British policy,* p. 298, fn 17, p. 296.

> been instituted but it is of a very mild kind, and all reports that reach this country speak of abundant food, lashings of cream and practically unlimited petrol.[371]

Cranborne's statement reflected the sentiments of the GSR road passenger manager who said in January 1940 that 'the neutrality of the country, combined with the lack of blackout regulations and of food rationing, should make the country especially attractive as a holiday destination'.[372]

In autumn 1940 the main concern of Irish trade negotiators was with the price and not the amount of coal available. In September John Reihill, a prominent coal importer, wrote to the Department of Supplies that he had learned confidentially that 'the advice to coal shipping firms was not to estrange the Irishmen these days'.[373] On 8 November, John Leydon wrote to Norman Smith complaining of the increased prices being charged.[374] Smith played a key role in coal exports and was regarded as an expert in the matter by Ministry of Economic Warfare.[375] Ireland's favourable position as regards coal supply was shortly to change as Churchill took a lead role in the question of trade relations with Ireland, excluding civil servants and cabinet colleagues. John Colville, Churchill's private secretary, describes the role of this small circle who, with Churchill,

> Conspired with Cranborne, Rob Hudson, Kingsley Wood and Oliver Lyttleton about the means of bringing pressure on Ireland. Refusal to buy her food to lend her our shipping or to pay her our present subsidies seem calculated to bring de Valera to his knees in a very short time. On the other hand the Irish are an explosive race, and economic coercion might mean trouble. But the issues at stake justify the risk. [376]

On 5 December Churchill instructed Kingsley Wood, Chancellor of the Exchequer to convene a meeting to discuss the measures necessary to reduce the burden on shipping consequent on the sinkings off the Irish coast:

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[371] Canning, *British policy*, p. 299.
[372] GSRGM 43436, 'Chief Officers' Conference' , Minute of meeting, 28 Jan. 1940
[373] NA DFA P23.1, Reihill to Williams, 2 Sept. 1940.
[374] NA DFA P23.1. Leydon to Smith, 8 Dec. 1940.
[375] TNA POWE 26/398, memo on export policy to Spain, 1939.
[376] J. Colville, *The fringes of power. Downing Street diaries 1939-October 1941* (London, 1985), p. 363.

> A general plan should be made for acting as soon as possible, together with a timetable …It is not necessary to consider either the Foreign Affairs or Defence aspect at this stage. These will be dealt with later. The first essential step is to have a good workable scheme, with as much in it as possible that does not hit us worse than it does the others.[377]

On 27 December, Churchill asked Kingsley Wood:

> Have you held your meeting on the Irish business? I propose to tell them we cannot carry the 400,000 tons for them in 1941...Let me know exactly how this process is being put into operation who gives notice and of what interval between the notice being given and imports coming to an end…the timing of this action must be fitted in with President Roosevelt's financial performance and the Congress decision thereupon.[378]

A memorandum outlining measures to be taken was brought to the British Cabinet on 2 January 1941. It stated that 'The Éire Government would feel difficulties because they would see their supplies of feeding stuffs food and coal endangered'. In relation to coal the phrase 'if we took action on it' is added in handwriting, showing the influence which the weak state of the Welsh coal industry had on British policy makers. The memorandum continued: 'The only serious effect on us would be felt by the South Wales coal miners'. Prior to the finalisation of the cabinet memo it was by no means certain that coal would be included in the programme of trade sanctions. A memo from Kingsley Wood to Churchill states: 'Éire takes 3m tons from south Wales which employs 10,000 men and as in the case of [other industries] where there is an export drive we shall not have the same ground for starving Éire as in the case of the commodities previously mentioned', while a Treasury minute stated: 'It seems undesirable to include coal in view of the existing under employment and its complication by the recruitment question'.[379] For goods other than coal a system of exports licences was introduced limiting 1941 exports to half of 1940 levels and 1942 exports to one third of 1940 levels. This package of measures was termed

[377] TNA T161/1402, Churchill to Wood, 5 Dec. 1940.
[378] TNA T161/1402, Churchill to Wood, 27 Dec. 1940.
[379] TNA T161/1402, undated memo, Wood to Churchill, Dec 1940. Treasury minute, 16 Dec. 1940.

'stage one' and included restrictions on the sale of coal, phosphates, oil and wheat to Ireland together with a restriction on the supply of shipping to transport Irish goods and a scaling down of remaining exports

Stage two of the plan was not elaborated on, being mentioned in a single paragraph at the end of the document, where it was described as being 'in effect economic war', and would involve the Ministry of Shipping withholding facilities for insurance, meaning that the Irish would get no ships. Administrators and politicians on the British side were at pains to stress to each other that stage two should be avoided. These sanctions were imposed at a time when the Irish bargaining position was at its weakest. From the time of the Napoleonic war Ireland's contribution to British war efforts had been food and manpower. In spring 1941 the British economy was still not on a full war footing and the potential need for Irish labour was not yet been fully appreciated.[380] In the area of food, the position of Ireland was weakened by an outbreak of foot and mouth disease first reported on 24 January 1941. In an unrelated development three days later, house coal rationing was introduced in a move described by the *Irish Press* as precautionary.[381]

Coal as a bargaining tool

During the First World War coal was the most important commodity in discussions between Germany and Holland.[382]

> For every ton of coal steel or timber…the Dutch had to supply one ton of food. It became a question of priorities: food or coal. Both were absolute essentials and there were not enough sources of coal or other fuels to meet Dutch consumption needs.[383]

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[380] A. Bullock, *Bevin* (London, 1967), pp. 52-53.
[381] *Irish Press,* 24, 27 Jan. 1941.
[382] S. Broadberry, M. Harrison, *The economics of World War 1* (Cambridge, 2005), p. 142.
[383] M. Abbenhuis, *The art of staying neutral –the Netherlands in the First World War* (Amsterdam, 2006), p. 130.

One result of this process was a tenfold increase in Dutch coal production between 1913 and 1928.[384] In December 1916, in response to the perceived failure of the Norwegians to exercise more controls on German U-boats, the British government imposed a ban on coal exports. This had a devastating effect on the Norwegian merchant marine causing 'a terrible energy crisis that lasted for three months'.[385]

Coal was the most important commodity in Anglo-Irish trade diplomacy during the Emergency period. The Irish side sought priority for public utilities such as gas undertakings, the ESB and the GSR. Gas undertakings used Durham coal and the employment sensitivities applying to the South Wales coalfield did not apply in Durham. The gas industry was of crucial importance in urban areas but it could be substituted by electricity or by solid fuel cookers. Most of Ireland's demand for electricity could be met by Ardnacrusha power station, supplemented by the coal fired-Pigeon House power station, which had just undergone an extensive refurbishment in 1940, part of which had adapted it to burn anthracite duff.[386]

At the British Coal Control Committee meeting of 20 May 1941, the chairman of the Great Western Railway urged the other British railway companies to use more Welsh large steam coal as 'at present a substantial amount of this type of coal was being shipped to Éire because it could not be disposed of in the home market'. He urged that the railways should take as much of this coal as possible'.[387] This demonstrates why cuts in steam coal deliveries to Ireland were opposed by the Ministry of Mines. In early 1941 a debate was also under way between the ministries of Mines and of Food regarding exports of steam coal to South America. A Mines Department representative said 'Argentina and Uruguay

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[384] N. Buxton, *The economic development of the British coal industry* (London, 1978), p. 169.
[385] T. Kristiansen, 'The Norwegian merchant fleet during the First World War, the Second World War and the Cold War', Paper delivered to 30th ICMH conference Rabat August 2004.
[386] P.G. Murphy, 'Reconstruction of the Pigeon House electricity station' *TICE,* 62 (1939-40), p. 143.
[387] TNA POWE 26/408, minutes of meeting of lord president's coal committee, May 1941.

were practically the only markets for large coal left and a reduction in exports could not be made up in other directions. It was now very difficult to get as much as 500,000 tons a month (already below the 750,000 needed to keep the south Wales miners at work). Of this 125/150,000 tons went to the river Plate and to reduce the last figure to 50,000 tons would put about 24,000 men out of work'.[388] The new Irish trade policy restricted the export of steam coal to Ireland while there were surplus stocks of such coal. However the policy allowed the disposal of low quality coal just as continental markets for it were cut off. In this way British policy makers managed to square the circle.

A deniable policy

The existence of a trade sanctions policy was consistently denied by the British side. In the absence of records it is difficult to state with accuracy when the Irish side recognised such a policy was in place. On 23 January 1941 Leydon spoke to Norman Smith advising him of many complaints from the ESB and the Dublin Gas Company regarding the new licence regime. Smith assured him that Ireland was not suffering any more than the British were themselves.[389] Within a week the true nature of the supply problems was conveyed to Leydon by W.J. Grey, manager of the Dublin Gas company, who said that 'his supplier could not understand the refusal of a licence as there was adequate coal and wagons to carry it'. When Grey pressed for a reason he was told: 'it was political and the decision had come from the very highest quarters'.[390] The British side sought to keep secret the existence of an informal committee chaired by Kingsley Wood, which first met on 7 February 1941. No effort was spared to ensure that the Irish side did not get conclusive evidence that the British restrictions were motivated by anything other than shortage of materials and shipping space. The desire for secrecy caused the committee to have an

[388] TNA MAF 83/215, 'Coal exports from GB as affected by cereals switch', Minute of meeting 24 Jan. 1941.
[389] NA DFA P23, note of phone call, Leydon to Smith, 23 Jan. 1941.
[390] NA DFA P23, report by Leydon, 28 Jan. 1941.

uncertain status, being described as 'a committee under the chairmanship of the Chancellor' rather than a cabinet sub committee.[391] The uncertain nature of the committee can be seen in correspondence between the Ministry of Food and the Treasury.

> I am told that you act as secretary of the meetings held from time to time by the Chancellor of the Exchequer on exports to Éire. It must be extraordinarily difficult to produce orderly minutes of these meetings, particularly in view of the lack of any papers circulated beforehand, and I write to enquire whether you would not like us and the other departments concerned to put in some sort of paper in advance for future meetings'.

The Treasury replied 'I do not think that the character of the meetings really requires that papers should be circulated'.[392]

As early as February 1941 concerns were expressed at 'One or two recent observations by Éire Ministers which seemed to suggest that the shortage of supplies was as a result of deliberate actions on our part.'[393] A Treasury minute of 21 March, urged that procedures on secrecy on Irish issues should be tightened up, as 'The Prime Minister is particularly tender about the secrecy of our present policy towards Éire'.[394] However given the tendency of suppliers to speak to their customers, it was inevitable that the Irish side would learn of the existence of a British sanctions policy. In July John Dulanty, the Irish High Commissioner in London had established the source of the decision when he wrote to Leydon that 'not only on coal but on anything involving a cabinet decision he is certain that any request we make at present will be turned down.'[395] Dulanty had worked in the Ministry of Munitions during the First World War and understood the workings of a war economy.[396] He had also been Churchill's private secretary at the Ministry and had a good insight into the Prime Minister's temperament and outlook. On 28 October, the

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[391] TNA CAB 72/25, minutes of meeting, 5 Mar. 1942.
[392] TNA T161/1402, Smith to Dunnet, 30 July 1941, Treasury to Food, 8 Aug. 1941.
[393] TNA T161/1402, report of meeting, 7 Feb. 1941.
[394] TNA T161/1402, Treasury memo, 21 Mar. 1941.
[395] NA DFA P23, Report by Leydon, 25 July 1941.
[396] C. Crowe, R. Fanning, M. O Kennedy, D. Keogh, E. O Halpin, eds. *Documents on Irish foreign policy IV 1932-1936* (Dublin, 2004), xxiv.

Chancellor's committee discussed with alarm Dulanty's mention of a British cabinet committee in the course of a meeting on fertiliser supplies and recorded that 'It would be very dangerous if further enquiries from Éire received the answer that there was a cabinet committee responsible for policy'. The following day, Kingsley Wood wrote to Geoffrey Lloyd, Minister for Petroleum that 'we have been particularly careful to keep confidential the fact of these periodic reviews by ministers of supplies going into Éire'.[397] The reasons for this confidentiality are uncertain but it is likely that it was linked to avoid uniting the Irish electorate behind de Valera.

Initial evaluations of the sanctions policy were sanguine. On 20 February, Kingsley Wood reported to Churchill that the policy 'is making Éire daily more uncomfortable with daily accelerating effect, and that Éire will very possibly come to us in the next three or four weeks'.[398] On 11 March Lyttelton said that 'he had in mind to give the screw another turn' and that 'in March Éire would be feeling the effects of his policy quite considerably.' He went on to observe that 'the Éire Government have sent a representative to the USA ostensibly to buy arms but in effect to buy ships and wheat. The Government has stated officially that Éire can hold out until her next harvest is available but another view is that they may have no wheat by June'.[399] The capacity of the Irish to hold out until harvest time was a key indicator of the success of the policy. The Irish grain position was raised with Lord Woolton by the prominent miller J.V. Rank who wrote:

> I am egotistical enough to think I know a bit about their point of view which, I am afraid is only possessed by a small percentage of the citizens of this country…their flour mills will stop by the middle of July…the flour they have will be consumed by mid August they cannot be certain about their harvest until mid September. All they require is 9,000 tons of wheat a week 3,000 of which they can produce for themselves…an opinion is strongly gaining ground in this country that we think we

[397] TNA T161/1402, Kingsley Wood to Lloyd, 29 Oct. 1941.
[398] TNA T161/1402, Wood to Churchill, 20 Feb. 1941.
[399] TNA T161/1402, Wood to Churchill, 11 Mar. 1941.

> are going to get the ports or anything else by doing it. Well, I should imagine knowing the people over there as I do, they would sooner starve.[400]

This letter shows that between 11 and 22 March the critical date for wheat imports had moved backwards a month from mid June to mid July. It also shows how the policy went against long standing trading relationships which had survived the Belfast boycott, Irish independence and the economic war.

On 26 April the *Economist* observed that 'Éire is at present experiencing the reality of self sufficiency…and it is generally accepted that the advantages of this condition are not unmixed'. At the meeting of 22 May, Cranborne echoed the *Economist* stating: 'the façade of the policy of self sufficiency is crumbling, but…there is no general bitterness against the (British) policy'. He went on to say that the policy was 'not likely to give quick results'.[401] This was an acceptance that the Treaty Ports would not be made available in the foreseeable future. The emphasis of the British policy began to change as British ministries began to approach the Treasury seeking authority for commodity exchanges with the Irish side. The Ministry of Food requested authority to exchange rennet for cheese and to exchange cocoa for chocolate crumb and also sought a general sanction to issue export licences 'where the object of the export is to a correspondingly desirable import'.[402] Such applications show the increased pressure for exemptions from British ministries doing war related business in Ireland.

The sanctions policy did not command unanimous support on the British side. The meeting of 29 August was attended by Sir John Maffey, who stated

> The strength of de Valera's position rested on the general approval…of the policy of neutrality (which) made it impossible for our friends to make an effective opposition…There is a strong danger that Éire is being drawn further towards self sufficiency and to the status of a foreign country.

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[400] NA DFA P23, Copy letter Rank to Woolton, 22 Mar. 1941.
[401] TNA T161/1402, report of meeting, 22 May 1941.
[402] TNA T161/1402, undated memo, Wood to Churchill, Dec. 1940. Treasury minute, 16 Dec. 1940.

Notwithstanding Maffey's warning, the consensus view remained that the policy ` should be continued. This meeting decided that: 'The supply of good quality coal to Ireland should be gradually restricted, as existing supply levels were not consistent with the full application of stage one policy'.[403] A decision was deferred until 'Lord Cranborne had had time to discuss with Sir John Maffey certain advantages (other than the return of the ports which Sir John thought could never be secured by this policy) which might be obtained in return for tempering these proposals'. Cranborne was beginning to doubt the effectiveness of the policy towards Ireland. As a conservative party grandee his reservations are all the more telling. In a memorandum to Kingsley Wood on the matter of tea he wrote:

> I have never been in favour of treating the Irish too gently. On the contrary, it was a memo which I sent to the cabinet which started the policy of restriction…But the essence of the policy has always been that it should be so manipulated that the Éire Government should never be given the chance of accusing us of imposing an economic blockade. It seems to me essential that we should keep this consideration uppermost in our minds. Otherwise we shall have De Valera rallying his people behind him, which is the last thing we want.[404]

Churchill continued to demand results, asking Kingsley Wood: 'What has happened about our measures to make southern Ireland feel the weight of the war? Have you enforced all the steps decided upon by the cabinet? It does not seem to have produced any effect. Please let me have another report'.[405] A report was presented to the September meeting of the Chancellor's committee which concluded: 'Whilst it might be said that the policy has not made Éire surrender the ports, the policy has shown Éire how dependant she is on us'.[406] Nine months after the introduction of the sanctions policy there an acceptance began to dawn that the policy would not achieve its intended result.

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[403] TNA T161/1402, report of meeting, 28 Aug. 1941.
[404] TNA T161/1402, Cranborne to Kingsley Wood, 2 Sept. 1940.
[405] TNA T161/1402, Churchill to Wood and Dominions Secretary, 7 Sept. 1941.
[406] TNA T161/1402, Kingsley Wood to Churchill, 2 Sept. 1941.

It is difficult for governments to retreat gracefully from a policy impasse and shortages of coal in Ireland provided a highly visible retaliatory effect, becoming almost an end in themselves. The September committee meeting considered the report of Norman Smith, who in response to a request from Maffey visited Dublin on 29 and 30 August. Smith's brief was to explain the policy on coal, but not to make concessions. He reported a seemingly cordial meeting with Leydon, who stated that he appreciated the British difficulties but expressed the hope that

> We might see our way, if our supplies position improved, to release more and better coal for Éire', in particular 'Coal for public utility undertakings...(the Irish) very anxious about the winter months…He asked whether we would make it possible for them to build up stocks equal to two or three weeks consumption…their inability to maintain adequate supplies of suitable coal had created a very serious difficulty for the Great Southern Railway…delays of several hours to passenger trains were the rule rather than the exception.

On Saturday 30 August, Smith met Seán Lemass and reported that

> during the course of the conversation there was no attempt to press me for supplies, but it was abundantly clear that if we could see our way to improve…quality and…quantity our action would be highly appreciated.

In an addendum to his report Smith wrote:

> I learned from Sir John Maffey that the question of cutting down supplies of gas coal…had been discussed at the latest meeting of the Chancellor's committee and I was disturbed to hear that action in this sense was likely. My instructions on leaving London were to make no concessions: these I followed but I did say that it was our intention, subject to exceptional circumstances to keep the gas undertakings going, and I feel it would be most important and would create a painful impression if we were to restrict supplies.[407]

Smith outlined his discussion of supplies to industries such as creameries and dairies in which the Ministry of Food had a special interest. Leydon refused to countenance any special arrangements save in the context of an increased fuel allowance. Smith warned of the possibility that the Irish government would take over control of coal imports and institute a barter system of coal for dairy products.[408]

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[407] TNA T161/1402, minute of meeting 11 Sept. 1941 contains this report.
[408] TNA T161/1402, report of meeting, 11 Sept. 1941.

An illustration of the importance attached to secrecy can be seen in the August meeting of the committee, when the purchase of ships by the Irish was being discussed. Lord Leathers, the Minister for Shipping was recorded as saying 'he hoped to prevent any further purchases'. A civil servant asked the Treasury that the minute be re-drafted, as Leathers 'thinks it important that he was not suggesting any action which might in fact land us in stage two'.[409] Another report prepared for the meeting noted that

> Ministers decided that shipments of coal to Éire should not exceed about 25,000 tons a week but authority was subsequently given for an additional tonnage of such poor qualities as slurries and low volatile duffs unmarketable in this country to be exported...The only coal of any use to this country now being exported is coal for gas making amounting to some 3,000 tons per week of second grade quality which is being sent to Dublin gasworks to supplement the allowance of Durham gas coal (which is insufficient to meet requirements) and some low grade Welsh coal for the railways. The gas works have been kept on a hand to mouth basis and have not been allowed to accumulate stocks.

It was hoped that new restrictions might lead to a situation where 'Mr. De Valera came to us with a piteous appeal for more coal'.[410] Leydon's candour in dealing with Smith was probably used against Irish interests, as the Chancellor's committee decided to reduce further the gas coal allowance from 3,000 to 1,500 tons per week.[411] This severe cut in coal may have been a final attempt to secure concessions from the Irish side on the issue of the ports. At this point even Churchill seemed to question the efficacy of the policy when he annotated a memo on the Irish policy: 'Yes, but is the medicine working?'[412] Coal sanctions had become an end rather than a means.

From an Irish point of view summer 1941 was a milestone. Dr. Jim Ryan, Minister for Agriculture announced that the wheat crop was the biggest since 1847 and the general harvest was the best ever. On 31 August the *Irish Elm* arrived in Dublin from Halifax with

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[409] TNA T161/1402, Jenkins to Dunnett, 23 Aug. 1941.
[410] TNA T161/1402., report, 10 Sept. 1941.
[411] *Ibid.*
[412] TNA T161/1402, J. Colville to H Wilson-Smith Treasury, 14 Sept 1941.

6,000 tons of Canadian wheat, being the first Irish Shipping vessel to complete a commercial voyage.[413] Cereal supplies to Ireland were off the agenda as a pressure point for another year. Although this estimate of the harvest was later to prove to be over optimistic, the harvest of 1941 was a key psychological milestone in demonstrating that Ireland had the capacity to either grow or import its own cereals.[414]

Norman Smith visited Dublin on 10 October 1941 and met Leydon. He had just arrived from Belfast where he had been attempting to impress the need for economy in the use of coal on the Northern Ireland authorities, where he 'had the greatest difficulty in getting them to accept restrictions'.[415] As there was no screening plant in Northern Ireland Smith suggested that coal bound for there would be routed through Dublin where it would be screened before being railed to Belfast. The coal screenings would be retained for use in Dublin. Leydon declined this offer because of the adverse impression it would create. Some days later Leydon offered 200,000 tons of Donegal turf for Northern Ireland in exchange for 110,000 tons of coal delivered to Dublin. Smith declined saying that 'the attitude in Northern Ireland is that they cannot use anything but the best quality domestic coal'.[416]

The beginning of barter

Between the September and October 1941 meetings of the committee, British policy changed. In September Woolton stated that as the Irish had no option but to sell their agricultural produce to Britain he was not greatly moved to grant them any concessions. In October Leathers sought permission to export steel to the Liffey dockyard in Dublin for repairs to the *Irish Hazel*:

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[413] T. Grey, *The lost years* (Dublin, 1997), p. 143. Forde, *Long Watch*, p. 38.
[414] *Economist,* 19 Jan. 1942.
[415] NA DFA P23.1, note of meeting, 10 Oct. 1941.
[416] NA DFA P23.1, note of meeting 10 Oct. 1941, note of phone call, 22 Oct. 1941.

> While he was very reluctant to send steel for this, he nevertheless advocated the sending since the Éire facility had been very useful to us and had dealt with 34 ships…Lord Cranborne thought that this proposal did not raise political issues but should be treated on the footing that it was of benefit to ourselves. Lord Woolton would like to send steel since at the moment he wanted Éire goodwill more than they wanted his. The cattle situation had reached a turning point and he wanted to import a lot of fat cattle first and store cattle later.[417]

The cessation of the foot and mouth epidemic meant that Irish cattle were now again in demand and this increased the bargaining power of the Irish side.[418] When the October meeting declined an Irish request for slurry coal, Cranborne questioned whether it was right to refuse this request since he understood the material in question was available. Leathers opposed the request, and it was agreed that the refusal would be explained by the shortage of shipping. Churchill conveyed his gratitude to the Committee for its work, concluding with the note: 'I am sorry for all this but it is only necessary and just.'[419]

Canning writes 'After his defeat over extending conscription to Northern Ireland in May, Churchill, in June 1941 gave up trying to win his way over Ireland...Although he remained a strong opponent of concessions to Ireland, his heart was no longer in it'.[420] While Churchill's direct interest may have ended by June, his communications with Kingsley Wood in September showed that he fully supported the continuing Irish sanctions policy. The committee which oversaw trade policy on Ireland was still that small tight group which had 'plotted with him' in December of the previous year, when they concluded that a sanctions policy would 'bring de Valera to his knees in a short time.'[421] The sanctions policy had failed to secure concessions on the ports but an unintended consequence of the policy was the establishment of Irish Shipping, when the Irish state established a deep sea merchant fleet.

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[417] TNA T161/1402, report of meeting, 11 Oct 1941. See also Forde, *Long Watch,* p. 37.
[418] R.J. Hammond, *Food – The growth of policy* (London, 1951), pp. 175-178 for this issue.
[419] T161/1402, report of meeting, 11 Oct. 1941.
[420] Canning, *British policy,* p. 310.
[421] see footnote 12 above.

By October 1941 the political position of de Valera was, if anything strengthened. The cross party support for neutrality was underscored by the visit of Maurice Dockrell, Fine Gael T.D. to London on 5 November. Carrying a letter of introduction from Maffey, Dockrell was described as

> Pro- British in outlook and always friendly disposed towards the UK Trade Commissioners office…Mr. Dockrell was very careful…to display no partisan feelings of any sort. He did not criticise the policy of HMG in the UK, nor did he criticise Mr. de Valera… [but] pointed out that the transport capacity of the Éire railways was diminishing…some of the traffic must disappear. Mr. Dockrell said that he did not know what the Éire governments decision would be in a case of this sort but he could venture to guess that Mr. de Valera would feel bound to see that during the winter Éire did not go short of fuel, and that it seemed probable at any rate that a great part of the export trade would have to be delayed…He asked me to clearly understand that he was not using this in any way as a threat, because he came purely as a businessman and not as a member of parliament and he did not know what was in the mind of the government of Éire.[422]

While Grey of the Dublin Gas Company informed the Irish government of the situation in late January 1941, it was not until May that the Irish authorities took counter sanctions when they imposed a ban on the export of timber pit props - timber baulks essential for the mining industry, on the grounds that the timber was needed in Ireland as fuel. A further counter sanction followed in December 1941 when the export of cement to Northern Ireland was forbidden. When the Mines Department made representations on this issue Leydon told him that the Irish 'could not defend a decision to allow substantial quantities of coal to be used in maintaining an export trade in cement at a time when our coal consumers, including …the GSR and the gas companies are not getting their minimum requirements'.[423]

In tracing the Irish response to the British sanctions policy the historian is almost totally reliant upon material in the files of the Department of External Affairs. These

[422] TNA T161/1402, report of meeting with Dockrell.
[423] NA DFAP23.1, Note of phone conversation Leydon to Robson, 4 Dec. 1941.

include reports of meetings and conversations between John Leydon and British officials and notes of meetings between Dulanty and the British authorities.[424] What is lacking is a record of the deliberations of the Departments of Supplies or of Industry and Commerce. Coal Importers Limited was one of the companies established early in the war to control the imports of certain key commodities. However in contrast to the companies importing tea or grain the records of Coal Importers never reached the national archives. The absence of such significant records from the emergency period is as perplexing as it is frustrating for the historian, especially in view of the writing up of the emergency historical record series after the conclusion of hostilities. John Leydon was conscious of his historic role. In a letter to F.H Boland of External Affairs on the 1943 petrol allocation he wrote: 'I think it should not be left open to delving historians of the future to say that we accepted the terms of Attlee's letter'.[425] Delving historians are thus required to make use of British, External Affairs or company sources to compensate for the lack of records on coal imports from either of Leydon's two departments.

In March 1942, the oversight of British economic policy towards Ireland moved from the Chancellor's informal committee to a cabinet sub committee, chaired by Clement Attlee. The establishment of this committee represented the re establishment of Dominions Office predominance in dealings with Ireland. In contrast to the monthly meetings of Kingsley Wood's committee, the cabinet committee was less intense in its deliberations meeting six times in 1942, twice in 1943 and once in 1944. Again in contrast with its predecessor the cabinet sub committee functioned in a conventional manner, with an agenda and papers circulated in advance. Another change occurred in June 1942 when the

[424] NA DFA P23.1 passim.
[425] NA DFA P34, Leydon to Boland, 4 May 1943.

Ministry of Fuel and Power was established, centralising government control over fuel. This move reflected growing problems with fuel and in particular with coal supply.

American troop deployment and the Guinness deal

The most significant change in coal supply policy towards Ireland was arguably triggered by the arrival of American troops in Northern Ireland in January 1942. This deployment provoked strong protests from the Irish government,[426] but ironically opened the way for the Irish to secure additional supplies. Provisioning additional troops in Northern Ireland involved either importing supplies from Britain using scarce shipping or of importing from Ireland. These increased needs allowed the Irish side to bargain from a greater position of strength. In March 1942 the Irish threatened to embargo the export of Guinness, a matter which was on the agenda of the first meeting of the cabinet sub committee on Éire. The committee noted 'the serious problem which would arise especially in Northern Ireland if the Government of Éire placed a ban on beer exports'. While it was doubted that the Irish would maintain an export ban for long, the Ministry of Food was authorised to offer 30,000 tons of wheat in exchange for one million barrels of beer.[427] The agreement subsequently reached was described by Kingsley Wood as 'reassuring both from the point of view of revenue and morale. We have undertaken to arrange for Éire the purchase and shipment of 20,000 tons of American wheat on condition that their exports of beer to us are maintained at 650,000 standard barrels[428]. This is not seriously below the figure for the first two years of the war'.[429] David Grey, US Minister in Dublin was unenthusiastic and told Dulanty that 'He believes the transaction will have unfavourable repercussions in the US on the grounds that shipping is being sent to a

[426] Fisk, *In time of war,* p. 455.
[427] TNA CAB 72/25, minute of meeting, 5 Mar. 1942.
[428] The initial offer was for wheat delivered to Halifax. The final offer was for wheat delivered to Dublin.
[429] TNA T161/1402, Kingsley Wood to Arthur Greenwood, 7 May 1942.

country not contributing to war effort and that the commodity obtained in exchange is at best a luxury and at worst poison'.[430] However, the requirements of US troops continued to exercise the mind of the Ministry of Food. In July M.P Hand of the Ministry of Food wrote to a colleague that he was: 'negotiating for the production of more beer in Éire in connection with American troops'.[431]

At its first meeting the cabinet committee defused a potentially difficult situation while in addition considering a proposal from the Irish side which had the potential to put Anglo Irish wartime trade on a different footing. This proposal submitted by Dulanty had been drafted by Erskine Childers, secretary of the Federation of Irish Manufacturers. It involved certain Irish factories being allocated raw materials and in exchange exporting the majority of the goods manufactured to Britain. This saved on British labour and transport and was the antithesis of the retreat into self sufficiency feared by Maffey and Cranborne in 1941. In a sense it represented a partial retreat from neutrality. It was an unintended consequence of the British sanctions policy although it fell far short of the objective of access to the ports. The committee agreed that this matter had to be scrutinised with care as 'hitherto our policy had been to maintain economic pressure on Éire except when our own essential requirements were involved'. The Ministry of Agriculture and the Board of Trade were instructed to consider the matter further in discussions with Maffey.[432] This move signifies a movement towards what today would be described as integrative bargaining. Negotiations can be either adversarial or integrative. The former implies a winner and a loser, while the latter involves a collaborative approach with both sides identifying mutual wins. An example of adversarial bargaining can be ban on the export of pit props. The Irish proposal to put production capacity at the disposal of the British war economy was a

[430] TNA T161/1402, copy memo, 8 May 1942.
[431] TNA MAF 83/355, Hand to Browne, 17 July 1942.
[432] TNA MAF 83/355, minutes of meeting, 5 Mar. 1942.

move towards integrative bargaining. The earlier Irish countermeasures had been ineffective, as neither pit props nor cement were sufficiently important to the British authorities

Attitudes on both sides of the Anglo Irish trade divide changed in early 1942. At a meeting of 1 May 1942 the cabinet committee on Éire approved the release of steel to Pierces of Wexford for the manufacture of agricultural machinery, while declining a request for additional coal.[433] A Mines Department paper advised that of the possibility that 'The GSR and the Dublin Gas company would shut down…the greatest part of our present shipments to Éire were slurry and duff which were not capable of being consumed in this country without adaptation'.[434] Lord Leathers responded that he would continue to ship at present levels, but not large coal for railways. The action of a transport minister in deciding the nature of the goods to be transported seems strange, but can be understood by examining Leathers' background. A 'recognised authority on coal and shipping',[435] he had been an advisor to the Ministry of Shipping in the First World War.[436]

Attlee and the modification of the sanctions policy

At the cabinet sub committee meeting of 29 May the sanctions policy of December 1940 was abandoned. In accordance with the cabinet decision of December 1940 export levels were due for a further reduction to 33.3% of 1940 levels. The committee concluded

> If exports to Éire were reduced except on grounds of economic necessity it might provoke retaliation and we would revert to barter trade between the two countries…It was true that our exports of coal to Éire provided a powerful bargaining weapon. On the other hand we imported from Éire a considerable number of commodities.[437]

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[433] TNA CAB 72/25, minutes of meeting, 1 May 1942.
[434] TNA MAF 83/355, minutes of meeting, 29 May 1942.
[435] Obituary, *Times* 20 March 1965.
[436] http://www.oxforddnb.com/subscribed/ . Details are taken from this DNB entry.
[437] TNA CAB 72/25, minute of meeting. 29 May 1942.

The meeting decided that 'only such cuts to be made as could be justified on the basis of scarcity…there should be no general scaling down of exports by a fixed percentage'. The extent of the change can be seen in Attlee's remark that 'Any policy of putting economic pressure on Éire with a view to securing political concessions was most unlikely to succeed. Our policy in this matter should be dictated solely by our economic interests'. The committee then approved an extra supply of coal for Guinness' brewery on the basis of continuation of beer exports to Northern Ireland, although noting the 'risk of opening the door on a series of other transactions of this kind: cement, creameries etc…It was for this reason that we had rejected proposals of this kind [pit props] which had been made in the past'.[438]

These policy changes on the Irish and British sides undermine Brian Girvin's assertion that 'Éire could have provided manufacturing facilities without endangering its neutrality'.[439] Éire did provide manufacturing facilities, and offered to do so early in 1942 while remaining neutral but providing commodities and manufactured goods to the British war economy.[440] Given that by 1944 Éire was supplying: 'cement, beer, rubber manufacture, creamery products, cattle, cattle feed, agricultural machinery, flax and jute yarn, binder twine and cordage, talc, glycerine'[441] it is difficult to understand how Girvin can describe the trade policy of the Irish government as ' an absolutist version of neutrality'.[442] The fact that the British side expressed a concern as to the development of a barter trade should not obscure the importance of the trading relationships. This British aversion to barter did not apply only to Ireland. In July 1942 the Foreign Office expressed concern about the Argentines who had 'only recently and on several occasions expressed

[438] TNA CAB 72/25, http://www.oxforddnb.com/subscribed/ . Details are taken from this DNB entry.
[438] TNA CAB 72/25, minute of meeting, 29 May 1942.
[439] B. Girvin, *The Emergency* (London, 2006), p. 322.
[440] *Ibid.*
[441] NA DFA P33, Forsyth to Leydon, 17 May 1944.
[442] Girvin, *Emergency,* p. 323.

their concern at the reductions in exports of coal [and] might well be tempted to insist on coal as a quid pro quo for canned meat'.[443] From the point of view of belligerents supplying primary products to neutrals, the development of a barter culture was to be guarded against. In April 1944 the German industry commission based in Berne drew up a balance sheet of German – Swiss trade and analysed the likely effects of an all-out economic war between the two countries. The analysis concluded that 'The danger exists that Germany will require from Switzerland some urgent services or deliveries despite the economic war such as transit facilities or spare parts for Swiss manufactured machines. Inevitably a compensation culture would then develop in which the Swiss would demand coal or iron ore from Germany'.[444]

Britain's food needs

This Guinness / wheat exchange was the culmination of pressures placed on British Departments who had contracts with Irish suppliers. From as early as July 1941, the British Ministry of Food began to deal with increasingly frequent requests for coal from Irish food processing companies supplying British markets.[445] In a note of a phone call from October 1941, Leydon recorded that

> Norman Smith phoned me last evening and said he hoped to arrange a cargo of 3,500 tons of large low volatile coal and asked me to whom it should go…Smith told me that he thought it might be possible to send us 5,000 tons of large coal and two cargoes of very good coal all large…I told him that one should go to the GSR and the balance…could go to the merchants…Norman Smith asked me could I make coal available from these cargoes to creameries who are continually pressing him for coal. I told him that of course I would be glad to relieve him of any difficulties if he would let me have particulars.[446]

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[443] TNA MAF 83/1114, FO to Norman Smith, 27 July 1942.
[444] D. Bourgeois, 'Relations Economiques Germano Suisses: Un Bilan Economique de 1944' In *Business Helevetique et Troiseme Reich* (Zurich, 1998), p. 104.
[445] TNA MAF 83/355, 'Supplies of coal to Éire for maintenance of exports': Letter from Drinagh co op to Ministry of Food, July 1941.
[446] NA DFA P23.1, note of phone call, 31 Oct. 1941.

Smith's request was totally at variance with his warnings to colleagues in other ministries that the Irish government would take control of the coal trade if they discovered special imports of coal 'thus depriving the Mines department of the small amount of influence they have'.[447] It demonstrates the centrality of Norman Smith in the Anglo-Irish coal trade. A Ministry of Food internal memo of October 1941 recorded that

> Smith does his best to direct small consignments to food producing concerns in which we have an interest [and] should continue to further our interests surreptitiously and should not attempt to interfere in the question of coal distribution in Éire…any attempt to do this systematically would almost certainly result in the Éire Government taking over control of coal imports.[448]

It seems clear that Smith's surreptitiousness was not intended to mislead the Irish authorities but rather other departments seeking to maintain a hard line on Ireland, contrary to what he saw as the overall strategic objectives of the war effort.

In April 1942 the Mines Department reported to the Éire committee that the GSR was in severe difficulties: 'In recent weeks no large coal has been released…they are in imminent danger of having to suspend their service. It is not known whether it is desired that these utilities [GSR and Dublin Gas] should close down. With supply restrictions as at present it is difficult to see how they can continue to function.'[449] From an Irish point of view the challenge was to frame their requests for materials in a manner which appealed to British self-interest. This was not possible in the case of town gas which served an exclusively domestic market. In the case of electricity, the merits of an electricity interconnector had been raised informally by the ESB with their Northern Ireland counterparts from 1938.[450] This would allow the ESB to sell surplus current from Ardnacrusha, thus reducing Northern Ireland's dependence on a single generating plant in

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[447] TNA MAF 83/355, Norman Smith to Cheyne, 1 July 1941.
[448] TNA MAF 83/355, minute sheet, 30 Oct 1941.
[449] TNA CAB 72/25, position paper EPE 42/3, 27 Apr. 1942.
[450] M.J. Kennedy, *Division and consensus-the politics of cross border relations 1925-1969* (Dublin, 2000), pp. 78-87.

Belfast Harbour. The triangular nature of these discussions slowed progress on this venture, but the line was completed during 1942. From the time of the Dockrell visit in November 1941 the GSR sought to portray itself, not as a domestic utility, but as an essential conduit in the export of food to Britain. A key player in crafting this image was Charles Johnston, who had been appointed as the materials inspector of the GSR in January 1942. Johnston reported directly to Bredin, who had encouraged his aging predecessor to go on pension. Bredin urged Johnston that 'if you have not yet met Mr. Norman Smith of the British Ministry of Mines, you should endeavour as soon as possible to get the necessary introductions and thereafter keep in the closest possible touch with him'.[451]

An interdepartmental initiative and the Reynolds letter

In March 1942 the Ministry of Food proposed a joint initiative to the Mines Department aimed at improving the supply of coal to the GSR.[452] Norman Smith responded expressing a fear that when 'it will become known that these people have got a cargo of good coal and Éire authorities will ask how we found coal for them and not the Dublin Gas Company which is almost *in extremis* for supplies'. Smith warned again in June that 'we risk incurring curiosity (and possibly some action) on the part of the Éire authorities. However much we try and keep these things *sub rosa*, information always seems to leak out'.[453] However, by mid July the proposal gained the support of the Ministry of Fuel and Power. Denis Browne of the import plans division of the Ministry of Food recorded:

> I have had a series of telephone conversations with Mr. Norman Smith about the coal requirements of the Éire Southern [sic] Railway…[they] receive an allowance of 4,000 tons a week 75% of which is dust…They represent that the increase…in livestock traffic…will make it impossible for them to carry on without increased supplies of coal…the meat and livestock division…are anxious that sufficient

[451] GSRGM 50541, Bredin to Johnston, 26 Jan. 1942.
[452] This Ministry was established in June 1942 with Maj. G Lloyd George as minister.
[453] TNA MAF 83/355, Smith to Browne, 1 Apr., 1 June 1942.

> supplies of coal should be made available to enable this traffic to be handled…I suggested to Mr. Smith that it was probably undesirable that the railway company should be left without an indication of our views since they would then approach their own government who would probably take advantage of the situation to ask for considerably more coal than was needed…[Smith] will then notify the company to approach him in the first place, and will pass on to us their request with his opinion on its reasonableness. The matter might then be dealt with if the Minister thought fit by his writing to the Minister for Fuel and Power without the necessity of an approach to the Éire Cabinet Committee. [454]

On July 18, J.S. Townsend wrote to Denis Browne that

> The bulk of the supplies of livestock which we receive from Éire pass over the Southern (sic) railway at this time of year…In our view it would help us if the Ministry of Fuel could take a favourable line in regard to coal…Although we cannot vouch for the information we are told that the Southern railway is less favourably placed than the Northern railway. This may be due to the nearer position of the Northern railway to the coal supplies, however poor they may be, in Northern Ireland. At the same time there may be other reasons for this position of which we are not aware …I hope this will provide the information you want for Norman Smith'.[455]

This letter signifies the point when British policy makers accepted the proposition that Irish cattle exports were linked with coal supplies for the GSR. The other significant point is the reference to the superior coal available to the GNR in Éire and the indication that the information was intended for Norman Smith. Norman Smith was well aware of the superior coal available to the GNR in Éire as his report of October 1941 makes clear.[456] Who is the source feeding this information to the Ministry of Fuel and Power? The phrase 'although we cannot vouch for the information' indicates an Irish source, probably Charles Johnston whose role was moving from the technical to the political.

On 7 August Browne suggested that a blanket authority be granted to manage special requests for coal by Irish suppliers at official level as it would be preferable to recurrent representations at ministerial level. He described how the Mines Department was 'bound by a rigid cabinet ruling which not only limits the total quantity of coal which may

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[454] TNA MAF 83/355, minute sheet, 15 July 1942.
[455] TNA MAF 83/355, Townsend to Browne, 17 July 1942.
[456] Chapter two fn 37.

be sent to Éire, but also lays down that it must be of a quality which makes it unsuitable for use in this country'.[457] This was described as doubly inconvenient because ministerial sanction had to be sought for every derogation from the policy. Brown suggested that

> The ideal arrangement would be for the Mines department to be allowed a discretion to supply coal in such quantity or quantity as may be required to ensure that the Ministry of Food's essential requirements are met. For this arrangement to work without detriment to the effectiveness of the Government's policy towards Éire, it will be necessary for this Department to limit its demand strictly to essentials and for Mines Department to take precautions to ensure that what is done attracts the least possible attention from the Éire government. Objections to such a proposal will presumably be primarily political. The answer is that in respect of other commodities it is recognised that arbitrary restrictions should be relaxed when such a course is in our interest.[458]

This minute shows how the sanctions policy was being seen as self defeating and not in Britain's best interest by British administrators. The description of the possible objections as being 'primarily political' must be read having regard to the mind of the writer. All trade decisions are 'primarily political' but if this phrase is read as meaning 'administratively unsound and self defeating', subsequent developments will be more easily understandable. On 18 August 1942 Lord Woolton wrote to Gwyllim Lloyd George, Minister for Fuel and Power, indicating his concern at:

> The capacity of the Éire Southern (sic) Railway to carry the quantities of livestock which will be coming forward for shipment this autumn …officials of our departments …are agreed in thinking that the railway's present allowance of fuel will be insufficient... While I appreciate the political necessity for keeping our coal exports to Éire at a minimum the rigidity of the ruling now in force seems unnecessarily inconvenient…The absolute ban on sending any coal to Éire unless it is unfit for use here, may prove a false economy unless exceptions can be made where necessary.[459]

At the Éire policy committee of 19 August 1942 Lord Portal, Minister of Works and Planning, secured approval for export of low quality coal in exchange for a resumption of Irish cement exports to Northern Ireland. Such exports had been banned since September

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[457] TNA MAF 83/355, minute sheet, 7 Aug. 1942.
[458] TNA MAF 83/355, minute sheet, 7 Aug. 1942.
[459] TNA MAF 83/355, Woolton to Lloyd George, 18 Aug. 1942.

1941, but Britain needed cement for airfield construction in Northern Ireland.[460] Coincidental with the lifting of the export ban, supplies of cement in the Irish domestic market improved. In July, a shortage of cement was impeding employment relief schemes, and the matter was certified as urgent for the Irish cabinet meeting of 3 September. By December the situation had changed to such an extent that Industry and Commerce wrote to Maurice Moynihan: 'The position in regard to supplies of cement is reasonably good at the present time [and] there are no practical restrictions on the sale of cement'.[461] The additional coal imported by the Drogheda cement factory was used to alleviate a domestic shortage of cement in addition to providing for exports to Northern Ireland.

The Éire policy sub committee of 19 August was advised that a proposal on the GSR coal supply would issue from Food and Fuel and Power. The Ministry of Agriculture and Fisheries indicated their support for the proposal, stating that 'our interest in the maintenance of adequate rail transport in Éire fully coincides with yours'.[462] Lloyd George saw no difficulty in increasing the amount allocated to Éire, provided the quality was not increased.[463] In accordance with the strategy agreed between Smith and Brown in July, Charles Johnston forwarded a letter from Bredin to Norman Smith on the coal position. This letter highlighted the issue of coal quality pointing out that a decrease of sixty two per cent in passenger miles produced a decrease of forty four per cent in coal consumed, whereas an increase of fourteen per cent in freight mileage produced a sixty six increase of tons consumed. Johnston reported that this letter had been well received and reported to Bredin that he 'Now required a further letter to be written and would cross to Dublin next

[460] GNR working timetable 1943 shows two trains per day from Drogheda to Belfast.
[461] NA DT S12921, Seán Mc Entee to Taoiseach, 22 July 1942, Teastas práinneach form F1 2 Meán Fóir 1942, R. C. Ferguson to Maurice Moynihan 10 Dec. 1942.
[462] TNA MAF 83/355, Vanderpeer (Agriculture and Fisheries) to French (Food), 24 Aug. 1942.
[463] TNA MAF 83/355, Lloyd George to Woolton, 31 Aug. 1942.

week with a suggested draft of this letter'.[464] The letter which was drafted was signed by Reynolds. It was shorter than Bredin's letter, focussed more on the carrying capacity of the GSR for British food imports and concluded with the sentence: 'The present position appears to be as serious from your point of view as it undoubtedly is from ours'.[465] Norman Smith cannot have been surprised at the contents of the letter, as given the report of the phone conversation between Johnston and Bredin he probably had some part in drafting it. The GSR had succeeded in having their case placed on the agenda of the British cabinet sub committee.

Shall we tell the minister?

The proposal for additional coal for the GSR was circulated on 20 November. Attlee indicated that unless colleagues wanted a meeting he proposed that the matter would be taken as approved, subject to periodic reports on the situation by Fuel and Power.[466] In a move to prepare the political ground, a Unionist MP was told in the Commons on 3 December that when he asked why the rails from the closed Clogher Valley Railway were sold to a neutral state that 'The undertakings in Éire which are using these rails …indirectly assist the war effort'.[467] Nevertheless Attlee's proposition drew immediate opposition from the Ministries of War Transport and of Economic Warfare. Lord Selbourne considered that the cattle in Éire were a food reserve which could, if necessary, be walked across the border. The memo concluded, 'in relation to Éire, a policy of masterly inactivity seems appropriate',[468] A proposal to release an additional 500 tons a week of low-grade coal to the GSR to facilitate the flow of livestock exports to Britain was considered at the cabinet committee meeting of 9 December. The ministries of Food and of Fuel and Power were

[464] GSRGM 54811, 'Chairman's letter to Minister for Power and Fuel', Bredin to Johnston 23 July 1942, note of phone call 12 Aug. 1942.
[465] GSRGM 54811, Reynolds to N. Smith, 18 Aug. 1942.
[466] TNA CAB 72/25, EPE 42/21, 20 Nov. 1942.
[467] *RG,* Dec. 18/ 25 1942, p. 615.
[468] TNA MAF 83/355, Memorandum to economic committee on Éire, 24 Nov. 1942.

anxious that export of cattle remain unchecked. Fuel and Power noted that 'from the point of view of conserving supplies the present proposals were of little consequence. The greater part of the coal was in any case of a quality that would only be used here in the last resort'.[469] Lord Leathers stated that 'the proposals represented insuperable difficulties from the point of view of transport' and was supported by Selbourne from MEW.[470] In a defeat for Lord Woolton and for Lloyd George, the matter was deferred for three months.

The reasons for this outcome were both political and administrative. At a political level, opponents of concessions to Ireland such as Selbourne and Leathers remained influential. At an administrative level the powers sought by the ministries of Food and of Fuel and Power meant bypassing the cabinet committee, thus reducing the influence of the Ministry of War Shipping and rendering superfluous the role of the Ministry of Economic Warfare. This latter department saw itself as the keeper of the flame on Irish supplies, and seemed to regard the policy of January 1941 rather than that of May 1942 as being the guiding light on the issue of supplies to Ireland. In October 1943 Selbourne wrote to Cranborne: 'My Dear Bobbety…the committee has thrust on my department the duty that Éire does not get an undue share of the world's goods'.[471] The Ministry of War Shipping could also be expected to oppose a measure which would increase the demand for shipping.[472]

However the most significant feature of this episode was that the proposal for additional coal supplies for Ireland, rejected by the Cabinet committee, was implemented almost immediately by civil servants. On 17 December Denis Browne wrote to his superior 'In strictest confidence Smith proposes to ensure the Great Southern Railway does get

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[469] TNA MAF 83/355, Minute of economic committee on Éire, 3 Dec. 1942.
[470] TNA MAF 83/355, Minute sheet, 10 Oct. 1943.
[471] TNA MAF 83/355, Selbourne to Cranbourne, 12 Oct. 1943.
[472] see footnote 70 above TNA MAF 83/355 and DNB entry for Lord Leathers.

certain additional supplies by manipulating shipments within existing quotas…should we tell the minister?'[473] On 28 December the reply came: 'what a good man Norman Smith must be. I have mentioned the matter to the minister [Lloyd George] without showing him the papers and he seems well satisfied'.[474] It is impossible to conceive civil servants taking actions such as these, especially in wartime, without relying on the political support of their ministers. In the coalition government the Ministry of Fuel and Power and the Dominions Office were held by Liberal and Labour ministers. The civil servants could justify their actions as being fully in accordance with the position on Ireland adopted by the economic committee on Éire in March 1942. They had the previous August dismissed the objections to a change of policy on Irish supplies as 'primarily political. The answer is that …arbitrary restrictions should be relaxed when such a course is in our interest'.[475]

The urgency of the Irish coal supply position diminished after 1942, judging from the frequency of conversations between Leydon and Smith. On 19 March 1943, Robson, Norman Smith's deputy, wrote in an aside: 'insofar as the GSR is concerned, I think we are keeping them going fairly well'.[476] The success of this initiative is attested to in a letter from Bredin to Leydon on 31 March 1943: 'Representations made to the British Government in August 1942 resulted in an improvement in the allocation of coal to the company for the operation of the existing restricted services connected with the conveyance of goods and livestock for export'.[477] In the longer term however, the covert nature of the transaction limited its success. In 1943 the GSR was urgently seeking additional supplies of lubricating oil. On this occasion, the Ministry of Food was not prepared to take the lead on presenting a memo to the war cabinet. In a number of memoranda, Denis Brown

[473]TNA MAF 83/355, Browne to Knight, 17 Dec. 1942.
[474] TNA MAF 83/355, Knight to Browne, 28 Dec. 1942.
[475] TNA CAB 72/25, position paper EPE 42/3, 27 Apr. 1942.
[476] TNA CAB 72/25, Knight to Browne, 19 Mar. 1943.
[477] GSRGM 59480, 'Lubricating oil supplies', Bredin to Leydon, 31 Mar. 1943.

stressed that the coal initiative of 1942 had not been accepted and no additional supplies had been allocated. The vehemence with which this untruth was written into the file on a number of occasions suggests a desire by all concerned on the British side to cover their tracks. [478]

This strange episode highlights a number of issues. It demonstrates the capacity of the Guinness for wheat deal to trigger further demands from other ministries who dealt with Ireland. It also proves conclusively that for coal consumers the central issue was one of coal quality. Norman Smith was able to solve the coal problems of the GSR 'by manipulating existing quotas'. Given that the Ministry of War Transport controlled tonnages carried, it was only through directing higher quality coal that existing quotas could be manipulated. A hierarchy of ministries developed, with those like Economic Warfare and War Transport taking a secondary place to Ministries which had actual control of the commodities in demand. As can be seen from table 4, less cattle were transported in 1943 when better British coal became available than in 1942. During the peak livestock season (the last two quarters of the year), 1,906 special trains were programmed in 1943 compared to 1,795 trains in the same period of 1942, an increase of four trains per week. Based on a round trip of 300 miles and a consumption estimate of 80lbs per mile this gives a consumption of 42 tons of coal per week, a figure much less than the extra coal delivered.[479]

Table 4 cattle carried on GSR rail services.

1940	1941	1942	1943	1944
804,000	626,000	993,000	882,000	805,000

Source: GSR annual reports, 1941 -1945.

[478] TNA MAF 83/355, minute sheet references by Denis Browne, 23 Apr. and 14 June 1943.
[479] IRRS Library GSR Weekly Circular bound volumes 1941-1945.

The restriction of coal exports in January 1941 was approached with caution by the British side due to concerns with the economy of South Wales. These restrictions were unexpected in Ireland, and the Irish response was to seek priority for the GSR and the gas companies. By October 1941, it was clear that the return of the treaty ports which was the object of the sanctions policy would not be achieved. While the sanctions policy no longer had clearly defined objectives, it could not be abandoned without loss of face. The only tangible benefit of restrictions on coal deliveries was that it inflicted visible retribution on the Irish. Severe cutbacks in coal deliveries took place in September 1941 when the Irish had acquired ships, harvested a bumper grain crop, and landed their first cargo of Canadian wheat in an Irish vessel. Further cutbacks took place in spring of 1942, causing chaos in rail transport, yet these were effectively reversed by administrators in the British ministries responsible for food and for fuel.

As Irish administrators such as Leydon lost faith in their British counterparts and learned the skill of wartime trade diplomacy they placed successive embargos on exports of pit props, cement and Guinness. The first two initiatives were unsuccessful, but the threat of a Guinness embargo paid dividends in the form of 20,000 tons of American wheat. When the control of Irish trade policy was regularised in March 1942 with the establishment of a cabinet committee, British policy was re aligned to take account of the needs of the war economy. This resulted in the British side being drawn towards a system of barter. Despite Maffeys's fears of a retreat into self-sufficiency, the Irish side offered its industrial capacity to the British war effort. In a parallel development the increase of appeals for fuel by Irish food processing companies caused the Ministry of Food to promote a more pragmatic policy towards Ireland. This process was aided by the move of Gwyllim Lloyd George from the Ministry of Food to be the first Minister for Fuel and Power, the two ministries which jointly proposed a relaxation of policy on Ireland as it

applied to the GSR. Elements of these wartime transactions entered into the folklore of the Emergency as can be seen in James Meenan's 1969 Thomas Davis lecture which runs together a number of incidents in Anglo Irish trade: 'The good humour of British and American forces in the six counties depended on supplies of stout: and there was at least one occasion when an intimation that these supplies could not be guaranteed on account of lack of coal for the trains to convey them produced coal supplies with remarkable celerity'.[480] Meenan was writing when few of the records were open, so the linking together of incidents is understandable. We can, however, see the forces at work constructing myths in a process which could be described as an 'administrative glimmerman'.

The GSR was central to the functioning of the Irish economy. Whatever the desire of Churchill's immediate circle, the British Mines Departments and later the Ministry of Fuel and Power had no intention of allowing rail services to collapse. These departments had the capacity to prevent the granting of export licences for the briquette plants which the GSR imported, re assembled and commissioned in the first half of 1942. They did not do so, notwithstanding a ban on export licences for machinery. If the Mines Department had wanted to cripple the operation of the GSR they could have frustrated the export of the briquette machines or of duff. Instead as will be described in a later chapter, they seem to have facilitated a process whereby the GSR re-engineered their fuel operation in the image of a French or Spanish railway, using coal briquettes as fuel and thereby freed the GSR from an increasingly embarrassing dependence on turf.

Conclusion

In late 1942 the GSR successfully linked their coal supply with the needs of the British war economy by establishing a connection in the British official mind between Irish

[480] Nowlan and. Williams, *Ireland in the war years and after* p. 33.

trains and British cattle imports. Johnston, their resident representative in Britain, was central to this process, which involved securing an extra allowance of 500 tons of coal per week to assist in livestock exports. In addition, from June 1942 the GSR received regular deliveries of Phurnacite, a premium fuel, the significance of which is discussed more extensively in chapter eight.

The inter departmental conflicts on the British side arose from the failure of the sanctions policy to achieve its objective. The continuation of the policy was restricting the work of the Ministries charged with putting food on British tables. The Ministries in charge of commodities had difficult mandates with tangible objectives and were prepared to co-operate in the evasion of a cabinet decision in order to achieve these objectives. Continuity of supply was of prime importance to the Ministries of Food and of Agriculture and Fisheries. The Ministry of Fuel and Power continued the mandate of the old Mines Department to maximise British coal exports. They had in addition a mandate 'of inducing industry to burn more duffs and slurries, coke breeze and opencast coal. It was not an easy task'.[481] This explains why Ministry of Fuel and Power had a strong interest in 'Keeping the GSR going'.[482] This mandate would have suffered a setback if GSR services had collapsed due to a failure in the coal supply.

Caruana and Rockoff, in their analysis of the wartime trade sanctions imposed on Spain, draw three general conclusions. These are:

> 1. The outcomes of sanctions are hard to predict because the factors which influence the outcomes are so diverse.
> 2. The choice of goals that can be monitored effectively is an important determinant of whether goals can be achieved. And
> 3. Co operation among the countries imposing the sanctions is critical for success.[483]

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[481] Court, *Coal,* p. 374.
[482] See note 110 above.
[483] L. Caruana, H. Rockoff, H., 'An elephant in the garden: the allies, Spain and oil in World War II' National Bureau of Economic Research working paper 12228. Táim buioch do Chormac Ó Gráda, UCD as an tagairt seo.

The relevance of point one to the Irish situation can be seen in the way the Irish side partially counteracted the sanctions policy of December 1940 through the national turf campaign and the foundation of Irish Shipping. With regard to point two, it is clear that once the British side had acknowledged that the ports were unlikely to be returned, there was no alternative objective to the sanctions policy. A new policy emerged in March 1942, developed in response to two initiatives from the Irish side, the embargo on Guinness exports and the paper on Irish productive capacity drafted by Erskine Childers of the Federation of Irish Manufacturers. This initiative played on the fear expressed by Maffey and Cranborne of a further Irish retreat into self sufficiency. Taken together, these initiatives allowed the British side to quietly abandon Churchill's December 1940 policy without loss of face. The offer of manufacturing capacity saw the Irish side, whether consciously or not, seeking to move from an Iberian model of economic neutrality based on the supply of primary produce to an economic relationship with Britain equivalent to the economic relationship between Sweden, Switzerland and Germany where manufactured articles were supplied in addition to primary products.

Point three does not at first seem applicable to the Irish situation. However, the supply needs of the US army in Northern Ireland placed pressure on London's sanctions policy. In addition, if 'interests' is substituted for 'countries' it becomes much more applicable. A unity of purpose in the maintenance of sanctions is vital to success. In the case of the GSR a gap opened up between the ministries concerned with the administration of the British sanctions policy. This vacuum was filled by administrators in the food and fuel departments who applied their own view of the needs of the British war economy and in so doing subverted a cabinet decision. In so doing they reflected the needs of 1942 rather than harking back to the events of 1922.

Chapter five

Turf

Ireland had long been dependent on British coal imports as the main source of domestic fuel in urban areas. This chapter deals with how Ireland responded to British cutbacks on domestic coal exports. Rationing of coal to households took place and turf became crucial to survival. The opportunity to substitute turf for coal on the massive scale undertaken during the war would have been inconceivable in peacetime. This chapter deals with the driving forces behind these efforts – C. S. Andrews director of the TDB and Hugo Flinn TD, Parliamentary Secretary to the Minister of Finance. For the duration of the Emergency sod turf was the mainstay of the national fuel supply and the railways were crucial to the turf distribution system. During this period turf changed from being a predominantly smallholder crop largely harvested in the western countries to one produced on an industrial basis in the midlands by an imported labour force.

The size of turf harvest and the long distances to be covered meant that capacity problems quickly arose for the GSR as turf had to compete with other harvests such as grain and sugar beet for railway resources. The Government set priorities through an Emergency Powers Order which set out which traffic would have first claim on railway wagons. The setting of such priorities was common in wartime and the chapter also compares the transport of turf in Ireland with the transport of coal in Britain and of wood in Sweden and the common problems of a sufficiency of wagons. The chapter will also describe the tensions which arose between larger and smaller producers in getting their turf to the consumer, and will argue that the emergency experience proved that while the potential use of turf had been much overrated there was the basis of a viable solid fuel

industry. Set against the hardships suffered by Holland in the winter of 1944 when access to the Limburg coalfields was cut off, the Emergency turf campaign must be considered a success given the difficulties faced.

Shortage of coal caused widespread experimentation with alternative fuel sources, ranging from the burning of maize by Argentina's railways to the use of so-called autarkic fuels in Italian lorries.[484] Even Switzerland with its abundant hydro-electricity restricted the use of domestic hot water to one day per week.[485] Railway companies throughout Europe were under pressure to transport large amounts of fuel to urban consumers. Ollson makes the point regarding Sweden that 'From a technical point of view it was possible to replace imported fuel by domestic fuel [timber]...In practice however, this was impossible because of the fact that such a transition would create impossible demands for increased transport, more labour and greater storage space'.[486] This could be stated with equal validity about the use of turf in Ireland during the Emergency years. Solid fuel is a bulky commodity, generally produced in locations remote from urban areas, and efficient transport is vital in keeping the urban consumer supplied. Domestic fuel also had a central role in maintaining civilian morale. Norman Smith remarked following a visit to Dublin in August 1941: 'The pinch has not really been acutely felt yet but it needs little imagination to realise what the situation will be when cold weather sets in and houses with no alternative means of heating or cooking (as in those of the poorer classes) are unable to obtain coal'.[487]

In finding substitutes for imported coal, the Irish were faced with more weaknesses than strengths. The country was almost self-sufficient in electricity with Ardnacrusha's

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[484] *RG,* 28 Nov. 1941, p. 566.
[485] NA INDCOM ES 225, 'Emergency measures in Switzerland', DFA to Supplies, 10 Eanair 1941.
[486] Ollson, *German coal*, pp. 301-307.
[487] BNA T161/1402, minute of meeting 11 Sept. 1941 contains this report by Norman Smith.

output sufficient to meet demand for most of the year. The fledgling Turf Development Board (TDB), established in 1935, had laid the basis of a modern peat extraction industry. The weakness of the Irish position lay with the dependence of utilities such as railways and gas companies on high-quality British coal. Even the ESB was dependant on imported coal to maintain supplies when Shannon water levels were low. Delays in the completion of the Poulaphouca hydro-electric scheme and in the delivery of harvesting equipment for Clonsast bog delayed Ireland's moves towards self-sufficiency in fuel. While neutral countries such as Switzerland, Sweden or Argentina made extensive use of timber, Ireland had been a relatively under forested country since the early eighteenth century as the first two lines of the poem *Cill Cais* indicates[488]

'Cad a dhéanfaimid feasta gan adhmad,

tá deireadh na gcoillte ar lár?'

Under the 1928 Forestry Act planting was encouraged and the felling of trees restricted. Planting increased from 1934 onwards, but the stock of mature timber in the country [489]was insufficient for timber fuel to play the role that it did in Sweden when Germany restricted coal exports.[490] The London *Times* of October 7 1939 wrote of Ireland that 'The only commodity of which a real shortage is possible is timber. Native supplies are scanty'.[491] By 1942 this scarcity was such that it was considered that: 'For military reasons it is essential to prohibit indiscriminate felling of trees [where] cover would be of value in the event of hostilities', and a prohibition was imposed on felling within 30 feet of a road.[492]

Turf was burned as domestic fuel in the vicinity of bogland. More widespread use had been a matter for discussions in the transactions of the Royal Dublin Society, the

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[488] N. O' Carroll, *Forestry in Ireland – a concise history* (Dublin, 2004), p. 13.
[489] *Ibid.*, p. 7. The stock was 25,000 acres, mainly planted in the late 18th century.
[490] *Ibid.*, p. 30.
[491] *Times,* 7 Oct. 1939, 'Eire and the War'.
[492] NA Taoiseach S12792, Dept. of Defence Memo for Government, 13 Apr. 1942.

Proceedings of the Institute of Civil Engineers of Ireland and official publications of the Dáil and Castle administrations.[493] However, by 1921 there were no large-scale examples of the industrial use of turf: 'All the experiments had failed and...the bogs were being used then as a fuel source only when coal was unavailable'.[494] The TDB was the first serious state backed effort to develop turf as an industrial fuel, and its early days are described by C.S. Andrews in *Man of No Property*. Andrews wrote that 'Broadly there are two types of bog in Ireland –blanket bog and high bog. The blanket bogs are confined to the west [and] are relatively shallow...The high bog which is deeper and more variable in quality...is to be found in the Bog of Allen and the central Plain'.[495] The problems of exploiting the high bog were later described as 'a problem of shortage—first, a shortage of labour; secondly, a shortage of existing face banks, and thirdly, there are large virgin bogs of deep turf which are undrained'.[496] From a logistics viewpoint the contradiction was that the best available turf was farthest from the East coast, where potential demand was greatest, often in bogs of smaller area, while the turf nearest the east coast was difficult to harvest.

Before the establishment of the TDB, Andrews had worked towards the establishment of a national distribution network for turf, securing a preferential rate from the railway companies. In the year ending October 1935 the GSR carried 10,686 tons of turf.[497] The TDB put increased emphasis on high-quality turf, and by September 1939 had acquired the experimental bog at Turraun Co. Offaly and was developing bogs in Lyracrompane, Co. Kerry and at Clonsast, near Portarlington. In 1939, the TDB re-opened a turf briquette factory in Lullymore, Co. Kildare, in 1939. This factory used a patented

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[493] C.S. Andrews, 'Some precursors of Bórd na Móna', *JSSISI,* 24.2 (1952) pp. 132-155. C Ó Gráda, *Ireland a new economic history* (Oxford, 1995), pp. 321-324 and fn 30, p. 511 for a list of publications.
[494] Ó Gráda, *Economic history,* p. 323.
[495] Andrews, *Man of no property*, p. 159.
[496] Dáil Debates, vol. 85 col. 2097, 4 Mar. 1942.
[497] *Irish Times,* 15 Jan. 1936.

process to manufacture briquettes from machine harvested turf dust and had operated briefly during the late nineteen thirties, before the venture ran out of cash.[498]

This was the state of the turf industry in June 1940 when Britain restricted the export of coal, causing the Irish government to introduce coal rationing at half a ton per household per month.[499] This predated by some months the British sanctions of 1941 which when implemented resulted in the domestic coal ration being eliminated entirely from June 1941.[500] The coal shortages turned the use of turf from an issue of politics to an issue of survival. For turf enthusiasts such as Frank Aiken, Minister for Defence, this was an opportunity to substitute turf for coal on a scale inconceivable in peacetime conditions. The driving forces behind these efforts were C.S. Andrews and Hugo Flinn, the Parliamentary Secretary to the Minister for Finance. Flinn was an electrical engineer with a business background and was, according to C.S Andrews, 'an improbable Fianna Fáil supporter [and] the man in the gap', despite his 'irascibility, rudeness and indifference to the feelings of his subordinates'.[501] The reluctance of firms such as railway and gas undertakings to successfully adopt turf led to accusations of technological conservatism. In October 1942 the Emergency Scientific Research Bureau suggested that 'the possibility of damage to retorts should not deter the [Dublin Gas] company from using turf for the manufacture of gas'.[502] This view continued in a post-war context where 'The government and especially Sean Lemass, overrated the potential and especially the short term potential of turf, and dismissed the often valid objections of the ESB as bureaucratic obstructionism.'[503]

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[498] Andrews, *Man of no property,* pp. 166-67.
[499] *Irish Press,* 4 June 1940 'coal rationing starts today'.
[500] *Irish Independent,* 26 June 1941.
[501] Andrews, *Man of no property*, p. 180.
[502] C.J. Gallagher, *The gasmakers* (Dublin, 1985), p. 169.
[503] M. Manning, M. McDowell, *Electricity supply in Ireland: The history of the ESB* (Dublin, 1985) p. 101.

The main task facing the TDB was to construct *de novo* a system of harvesting and distribution, while combating the prejudice against turf due to its association with poverty and backwardness.[504] Sir John Purser Griffith, long time advocate of turf and developer of Turraun bog, told C.S. Andrews: 'The future of the bogs rested in the production of macerated turf to be burned in power stations sited on the bogs'.[505] It was decided to build a turf fired power station in Portarlington, but the project was suspended due to wartime materials shortages, being revived in 1945 and expanded to a network of turf stations in the midlands.[506] However, for the duration of the Emergency sod turf was the mainstay of the national fuel supply, and the GSR rail system was the mainstay of the turf distribution system.

Establishment of Turf Executive and the 1941 season

In April 1941, three months before the first cuts in coal deliveries, the 'Turf Development Board scheme for increasing turf production' was launched under the direction of Hugo Flinn and a multi-agency turf executive was appointed. Its function was to oversee a scheme which used the county councils to produce what was termed 'National' turf, which was carried to urban centres on the east coast and to Cork and Limerick. Fuel Importers Limited, originally established to procure coal imports, broadened its remit and distributed turf in the cities. Initially it was assumed that

> The turf producing counties would work for the winter on turf and that coal coming into the country through the eastern and southern ports would be reserved for the use of the non turf counties…the problem resolved itself down to the distribution of turf within the turf counties and as the hauls involved would seldom exceed 20 to 25 miles the job was largely one to be done by road transport…In July 1941 the Turf executive was informed that the prospect of coal arriving in quantities sufficient to meet the requirements of the non turf areas were not likely to be realised…As the largest surplus was produced on the extreme western seaboard and as long distance

[504] Andrews, *Man of no property*, p. 128.
[505] *Ibid.*, p. 134.
[506] *Ibid.*, p. 202.

transport would be required, the railway companies were at once called in to deal with this new aspect of the problem.[507]

This was a parallel of the situation on the Swedish railway system where 'The task of supplying Stockholm with fuel hitherto met by shipping imported coal has now fallen heavily on the railways'.[508]

Transport costs were a large element of the final cost of turf in the cities. In summer 1941, turf delivered to the bog roadside in Mayo at a cost of 12/ per ton retailed at 44/ per ton in Dublin if delivered by rail and up to 66/ per ton if delivered by road.[509] Another factor against road transport was the need to conserve petrol. The nearest turf to the eastern seaboard was in the midland bogs.[510] The opening up of these bogs during the Emergency is described elsewhere,[511] but for the seasons of 1941 and 1942 Mayo, Kerry and Donegal were particularly important sources of supply and the railway network was vital in ensuring supplies to the cities.

The Turf Executive told the GSR, the GNR and the Grand Canal Company of their requirements at a meeting on 9 April 1941.[512] C.S Andrews indicated that the amount to be moved by rail would be at least 500,000 tons. A short season was envisaged, beginning in June with as much as possible to be moved before the grain harvest in September. An extensive programme of rail, road and later of canal transport was developed. This key role was allocated to the GSR before the severity of the cuts in coal quality of summer 1941. On 10 April 1941 the Government used the Emergency Powers Act to suspend part of the Road Transport Act 1933 and allow unrestricted haulage of turf. Although this went

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[507] NA DT S12417B, report on transport of turf to non-turf areas, 28 Samhain 1941.
[508] *RG,* 6 Mar. 1941, p. 345.
[509] ICEI *Emergency Fuel,* (Dublin, 1942), p. 115.
[510] *Dáil Debates,* vol.85, col. 2097, 4 Mar. 1942.
[511] See M.M. Field, 'The politics of turf, 1939-45' unpublished MA Thesis, UCD, 1990.
[512] GSRGM 49103, Restrictions on movement of turf, Minute of meeting, 16 Apr. 1941.

against a policy of restricting private road transport the railway companies did not protest. The GSR road freight manager wrote to Bredin: 'If matters develop on the lines...anticipated the demand for transport would be very much greater than the company could possibly meet...relaxation would, to my mind, be imperative sooner or later'. [513]

The TDB promoted and coordinated harvesting, guaranteed a price to producers, and used the county councils as the turf harvesting apparatus. Turf production was promoted by a network of parish councils. The Mayo County Surveyor T.P. Flanagan described how after Hugo Flinn addressed a conference of parish council delegates in Castlebar, he 'Immediately followed up this meeting with a circular to all clergy and to all Parish councils...I next arranged a series of meetings in the principal turf producing parishes'.[514] A setback threatened when 'Dublin merchants and local speculators got busy...they confined their activity to the better bog areas within a reasonable distance from a railway station...They ascertained the county council prices and contracts and in all cases offered higher prices'.[515] Such speculative acquisition of turf would drive prices up and could not be tolerated.[516] In a response, the country was divided into turf and non-turf areas. It became an offence to move turf by rail, canal or lorry out of a turf county without a licence. Three successive orders under the Emergency Powers Act delineated increased areas until the turf areas comprised all of Connaught, together with Clare, Kerry, the midland counties and parts of Limerick, Waterford and Cork. This meant for example, that it was illegal to consign turf without a licence to either of the Cork City stations or to any station in Waterford east of Dungarvan. Flanagan welcomed this order, realising 'it was the

[513] GSRGM 49103, Stewart to Bredin, 15 Apr. 1941.
[514] ICEI, *Emergency fuel,* p. 115.
[515] *Ibid.*, p. 117.
[516] Andrews, *Man of no property,* p. 175.

master stroke which saved the situation for the outlying districts and gave some hope of turf at reasonable price to the poor'.[517]

The GSR was accustomed to handling seasonal traffics. Livestock peaked in the autumn and coal peaked during the summer stocking season. Grain was carried from late August, while the four sugar factories were served by the beet campaign which ran from October to January, absorbing fifty per cent of the GSR's open trucks.[518] The movement of such traffic is best visualised as a single logistical system, involving a balanced flow of loaded and empty vehicles. 'Each process is a link in the chain closely related to the others'.[519] Applied to turf transport, it meant that empty lorries had to be on the bog on time to lift the production and these, in turn, had to meet empty wagons in the stations, before they could make their return trips to the bog. The supply of empty wagons was in turn determined by the speed of unloading on the East coast.[520] The GSR owned approximately 4,000 open trucks, of which 800 had been built from 1938 onwards to cater for the beet traffic.[521] Wagon shortages were beginning to emerge in 1938 and it was inevitable that these would worsen when the turf season overlapped with the beet and the grain season. In late 1939 an attempt was made to procure steel to build new wagons, but without success. The only way of resolving the capacity problem was to increase the load of existing vehicles or to adapt non-freight carrying vehicles. A programme to fit creels to existing open wagons, almost doubling their capacity began in May 1941 and continued until 850 wagons were converted.[522] During the foot and mouth outbreak of 1941 it was proposed to convert 700 cattle wagons for turf use and 378 vehicles were converted before

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[517] ICEI, *Emergency fuel,* p. 118.
[518] GSRGM 50802, 'Fitting of creels to 50 railway wagons for turf', Bredin to Candy, 9 Jan. 1942.
[519] C.I. Savage, *Inland transport* (London, 1957), p. 203.
[520] R.H. Walters, *The economic and business history of the South Wales steam coal Industry* (New York, 1977), p. 338.
[521] GSR Sec. 15413/1, 'Transport Supplies Limited', memorandum of agreement with Bank of Ireland, 16 March 1938.
[522] GSRGM 50802, Morton to Bredin, 22 May 1941.

the programme was stopped at the insistence of the Department of Agriculture.[523] In October 1941 a similar programme was started involving removing the roofs of old passenger coaches, enabling them to carry turf, with 66 coaches being converted. The coaches had a passenger train brake and were formed into six block trains of eleven coaches each, thus allowing a higher speed and a quicker turn around. A coach train took six hours 45 minutes from Galway, compared to nine hours by traditional goods train.

Special turf trains commenced running in the summer of 1941 with three trains per day from Mayo.[524] In addition to wagons of turf hauled on the scheduled goods services, special turf trains were operated from Donegal, Mayo, Roscommon, Longford, Kerry and Offaly to Dundalk, Drogheda, Dublin, Wexford, Waterford and Cork. From August 1941, supplies were arriving by the GNR in Dundalk daily, mainly from Donegal, and by the end of the month five turf specials were arriving in Dublin daily from the west and four special trains were operating daily to Cork, Waterford and Limerick and Wexford.[525] Cork was served from Glenbeigh, Co. Kerry and Limerick from Athlone, while Drogheda was served through Claremorris and Enniskillen.[526] From Flinn's point of view turf was the most important traffic on the railway. In September, he reported to de Valera: 'From Laois, Offaly and Westmeath are now coming in about 300 tons per day. It is hoped to double this amount within the week. We will drive this to the limit both of transport and of available supplies, and in the process we will learn the limits'.[527] At this point it seemed that the transport campaign was going well as on 20 September the GSR was informed that Flinn "very much appreciates what you have done and the promptitude with which you have

[523] GSRGM 50802, Secretary Department of Agriculture to Bredin, 30 Apr. 1942.
[524] GSRGM 50938, 'Daily return of working of turf specials', Circulars 17 and 29 Oct. 1941.
[525] NA DT S12417B, Report by Flinn to an Taoiseach, 28 Samhain, 1941.
[526] GSRGM 50938, Floyd to Bredin, 29 Oct. 1941.
[527] NA DT S12417B, Flinn to Taoiseach, 15 Sept. 1941.

attended to the matters raised'.[528] This marked the high point in the relationship but by 16 October a serious deterioration had taken place as reported by Flinn to De Valera:

> The present position is definitely unsatisfactory. Improvement was being made up to the third week in September when deterioration set in largely due to inferior fuel on the railways. This became both short in quantity and thoroughly bad in quality, culminating in practical suspension of traffic about 10 October…Some 1,500 tons of coal were obtained…for turf transport. At the same time we received intimation from the railway company that due to the imminence of the beet traffic they were withdrawing the lorries which had been used by us for transport to railhead…Yesterday we received an intimation from the Great Southern Railways that owing to the fact that they had received 14,000 tons of coal from England they had withdrawn the whole of the wagons previously used for turf transport for the purpose of distributing this coal.[529]

Lemass defended this reallocation of wagons on the grounds that the coal concerned came from windfall cargoes carried in ships bound for Spain and Portugal which had missed convoys and which needed to be turned around quickly.[530] This incident highlights the interdepartmental tension caused by the shortage of railway wagons. Flinn wrote to the Taoiseach that '[The] lack of direction on this matter was prejudicing transport of turf…On 19 September this matter was again raised and a meeting was held…attended by representatives of the Turf controller, Agriculture and Supplies…The general tenor of this meeting was unsatisfactory from the point of view of priority for turf'. Flinn concluded by requesting a meeting between the various departments to assign priorities.[531] Turf deliveries by rail slowed due to declining coal quality, and in October Flinn secured 1,000 tons of coal from army reserves for the GSR for turf transport.[532] This did not however, solve the long-term problem, which was an insufficiency of wagons to meet peak seasonal demands. On 27 October T.P. Flynn, Assistant Secretary in the Department of Industry and Commerce, wrote to J.P. Candy that 'There are many objections to a directive, but I think

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[528] GSRGM 50802, Hourican to Bredin, 20 Sept. 1941.
[529] NA DT S12417B, Flinn to Taoiseach, 16 Oct. 1941.
[530] NA DFA P23.1, Note of meeting, 6 Nov. 1941.
[531] NA DT S12641, Flinn to Taoiseach, 30 Oct. 1941.
[532] NA D FIN S008/007/42, Defence to Finance, 19 Jan. 1943.

we shall have to face something of this kind'. He went on to speculate as to what might be priority traffic: 'Livestock is first because trains must have priority in running. The scheduled programme of beet can scarcely be interfered with. Grain and flour, being food for the people, must I think, precede fuel. Coal comes before turf because the rapid turnaround of the few steamers available is dependent on the immediate removal of the coal by railway wagons'.[533]

On 29 October Flinn told the Dáil that there were 2,000 lorries engaged on turf transport in the turf areas, but that they were only usable in the inner belt which was rapidly being exhausted. He continued: 'The only place where there is a large quantity of turf to be tapped is the distant areas and over rail, and if the position is to be made secure in the non turf areas over the winter it depends upon adequate rail traffic...the point has now been reached where priorities will have to be set'. Noting that it took a gallon of petrol to move a ton of turf twenty miles, Flinn stressed to the Dáil how important it was that 'The largest possible use should be made of the railway system and that the largest amount of its stock as possible shall be rendered available for this purpose'.[534] Flinn's performance in the Dáil was impressive and he seemed fully in control of his brief. However, two weeks later he was privately much less sanguine in a memo to de Valera: 'The collapse which we envisaged is now complete...the only turf which we found it possible to arrange...on this day consisted of a train which by special permission of the Archbishop of Tuam was to be loaded at Cloonaskeragh, Co. Galway. Owing to very bad weather conditions it was impossible to unload this train'.[535]

Flinn's demand for prioritisation of turf received a setback on 3 November when an interdepartmental meeting concluded that 'The majority of departments were opposed to a

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[533] NA DT S12641, T.P. Flynn to J.V. Candy, 17 Oct. 1941.
[534] *Dáil Debates,* vol.85, col. 97-98, 29 Oct. 1941.
[535] NA DT S12641, Flinn to Taoiseach, 14 Nov. 1941.

definite number of wagons being allocated'.[536] This defeat was compounded on 5 November when the GSR advised Candy that they were again suspending turf haulage in order to facilitate the distribution of coal from boats which had arrived in Dublin. Flinn wrote to Lemass immediately asking for details of recent coal shipments in order to allow him to make a judgement on the chaotic state of turf deliveries.[537] He followed this on 6 November with a memo to the Taoiseach seeking a definite wagon allocation and concluding that 'the justification or otherwise of the help given in the past and proposed to be given in the future must be judged by the actual effective service which [the GSR] shall in fact show itself capable of giving to the State during this emergency.[538] Flinn went on to suggest the appointment of a controller of railways. This is the first suggestion of Governmental control of the GSR. The covering note is annotated 'feicithe ag an dTaoiseach'.

The problems being faced by the TDB and the GSR were not unique. In Britain a major constraint on railway coal carrying capacity was the supply of empty wagons.[539] In winter 1941 'a general priority to coal such as had been given the previous winter was not again granted'.[540] There was a need to strike a balance between the demand for coal (or turf) transport with the demand for transport for other commodities. The official wartime history of British railways describes how:

> If the nature and volume of traffic on a given line undergoes a change…line capacity will not only alter, but will become more difficult to determine until practical experience indicates the extent of the changed condition.[541]

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[536] NA DT S12641, Departments of Agriculture, Defence, Industry and Commerce, Supplies, Lands and the OPW attended.
[537] NA DT S12641, Flinn to Lemass, 6 Nov. 1941.
[538] S12641, Flinn to Taoiseach, 7 Nov. 1941.
[539] Savage, *Transport,* p. 626.
[540] *Ibid.*, p. 231.
[541] *Ibid.*, pp. 192-93.

In fact the carriage of seasonal traffic posed capacity difficulties in peace and in wartime. In the case of Welsh coal 'Every September throughout the nineteenth and well into the twentieth century shipments to Italy and parts of France were well nigh stopped as all the wagons normally used for carrying coal were required for fruit harvesting operations'.[542]

The debate on priorities was resolved on 10 November when an Emergency Powers Order was approved by cabinet setting out the commodities that would have first claim on the company's freight services and on their stock of wagons. Priority was accorded to livestock, beet, grain, coal and turf in that order.[543] However, livestock and grain did not compete with turf for open wagons. This meant that in the allocation of open wagons, turf had a priority behind coal and behind beet and coal as long as the four beet factories were in operation. Flinn lost the battle for a number of wagons to be exclusively allocated to turf. A similar situation occurred on Britain's railways in 1943 when 'The threat to the movement of coal through a shortage of wagons was so serious that the Railway Executive Committee suggested a ban on the use of mineral wagons for general traffic…the Central Transport Committee rejected this on the grounds that it would give overriding priority to coal traffic'.[544] Flinn grudgingly informed the Taoiseach on 14 November that he had decided to accept the priority order, advising that the Department of Industry and Commerce were now responsible for a sufficiency of empty wagons at loading stations.[545]

The lessons of the 1941 season

The experience of the first turf season reflects that of Britain where 'The Ministry of Transport had learned a good deal about coal movement in the first winter of the war'.[546] In November 1941 a conference of County Surveyors was convened to analyse the 1941

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[542] Walters, *South Wales steam coal,* p. 338.
[543] Unnumbered File 'Priority Order 1941', Containing SI 504, 1941.
[544] Court, *Coal,* p. 365.
[545] NA DT S12641, Flinn to Taoiseach, 14 Nov. 1941.
[546] Savage, *Transport,* p. 231.

season and to plan for 1942.[547] The most significant lesson learned was the need to match production to available transport capacity. The meeting noted that in Donegal 'Transport facilities were incapable of moving the present surplus before July 1943,' while in Kerry 'Transport facilities limit the quantity which can be delivered to Cork city to 10,000 tons per month'. In Clare it was anticipated that 'serious transport difficulties would be in the north west and the County Surveyor should concentrate on the remainder of the county'. It was decided to abandon harvesting in Donegal and to suspend county council cutting in west Galway in the hope that the labour released would go to the new bogs being developed in Kildare and Offaly.[548]

Donegal had the largest backlog of untransported turf at the end of 1941, yet it was serviced by the GNR who were relatively untroubled by coal problems. In September 1941 the GNR chemist, Bratt, reported on the difficulties being encountered in Donegal:[549] 'I have been unofficially told that next year's programme for Donegal is in the melting pot... suggestions are being made that instead of cutting turf next year the turf –cutting population should be transplanted en masse to the midlands'.[550] In November the Chief Mechanical Engineer stated that '**all** (my emphasis) our special turf trains can always be coaled at Derry without interfering in any way with the coal stocks in Éire'.[551] The logistical problems with Donegal turf occurred between the bog and the railhead and the GNR experience in Donegal shows what the GSR might have achieved with reasonable coal. In late 1941 an unexpected lack of demand for turf in the urban areas led to a review of turf transport.[552] In mid January an interdepartmental meeting decided to suspend all road transport except

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[547] NA DT S12641, decisions of conference of County Surveyors 1942 production proposals.
[548] DT S12641, decisions of conference of County Surveyors 1942 production proposals.
[549] GNRGM 124/2, Bratt to Howden, 2 Sept. 1941.
[550] GNRGM 124/2, Bratt to McIntosh, 9 Nov. 1941.
[551] GNRGM 124/2, McIntosh to Howden, 11 Nov. 1941.
[552] NA DT S12417B, Flinn to Taoiseach, 25 Nov. 1941.

from Clonsast, to re allocate wagons from turf to timber traffic.[553] It was then decided to suspend all rail haulage of turf for six weeks and then to resume and to continue it on a year round basis.[554] These moves were a belated recognition of the constraints which the Irish climate imposed on turf harvesting. The transport of the 1941 turf harvest can be compared with the transport of timber in Sweden. Ollson observes: 'Heavy use was made of the Swedish transport network...more wood...[was] cut mainly in Northern Sweden...but in that event far more wagons and engines would have been required than were available to transport the wood to the consumers in southern Sweden'.[555]

The 1942 season

One million tons of turf had been harvested in 1941 but according to Andrews 'much was lost due to the misguided policy of late cutting and the inadequacy of the transport system.[556] By March 1942 Flinn's thinking had altered as is indicated in this memo to the Taoiseach:[557]

> One of the principal lessons learned from the turf campaign of 1941 is that of transport conditions and limitations; and the main conclusions are:
> 1. Under existing conditions of transport there is a period- say from November to February ... in which long distance transport of turf by rail or road is undesirable.
> 2. That transport should be continuous throughout the year except for that intermission.
> 3. That really large provision for any winter must be the transport in the spring, summer and autumn of the previous year's harvest.
> 4. That any large dependence on a current harvest must include heavy rail transport during the wheat and beet seasons.
> 5. That the maximum capacity of the transport system is relatively small.

Turf competed with other harvests such as grain and sugar beet for locomotives, wagons and track space on the GSR during the Emergency. In addition a number of strategic raw materials needed railway facilities. Coal traffic from Irish mines was much

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[553] NA DT S12417B, Williams to Flinn, 17 Jan. 1942.
[554] NA DT S12417B, Flinn to Lemass, 22 Jan. 1942.
[555] Ollson, *German Coal,* p. 288.
[556] Andrews, *Man of no property,* p. 174.
[557] NA DT S12417B, Memo from Flinn to Taoiseach, 2 Mar. 1942.

higher than before the war, while export livestock was particularly important. On 13 February 1942 Candy informed the transport companies of the plan for the coming season which involved moving a million tons of turf between March and September. The GSR estimated that this would take 800 wagons per day. Some revision was necessary as the unloading capacity at the five main unloading points was 350 wagons per day, and the maximum loading capacity of the twenty-eight designated stations was 400 wagons per day. On 4 March a lower target of 800,000 tons was set, of which 200,000 tons was allocated to the GSR, 50,000 to the GNR and 10,000 to the Grand Canal Company, who received thirty new horse drawn barges to serve the expanding midland bogs. [558]

The programme commenced in March and intensified in May with a programme of 230 wagons a day plus a twelve-coach train. The circular to staff illustrates that the GSR management conceived of the task as logistical chain:

> The operation of the programme will entail the use of approximately half of the stock of coal trucks, and the success of the scheme depends on each station loading only its own quota daily. If the quota for any point is exceeded it will result in overloads at some points and shortages at others. There is little margin available for turf for consignees other than Fuel Importers'.[559]

This circular illustrates two other important underlying issues, the high proportion of the wagon fleet dedicated to turf, and the balance between public and private turf.

The percentage of wagons under or awaiting repair seems to have lessened during the emergency. The availability rate for covered wagons stood at ninety-four per cent for the last six months of 1944.[560] The rate for open wagons, the most crucial vehicle in the turf harvest, must have been higher, given that open wagons did not need roof repairs and were therefore less repair intensive. Given the intensive emergency use and the shortage of materials for repairs the availability rate compares well with that of 93.3% in November

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[558] GSRGM 55802, 'Calibration of barges for the Grand Canal Company'.
[559] GSRGM 53300/1, 'Wagons for turf haulage', Traffic Manager's Circular, 1 May 1942.
[560] GSRGM 62759, 'Wagons under or awaiting repair', memo to Bredin, 5 Dec.1944.

1938,[561] or an availability rate of ninety-six per cent in Britain during 1944.[562] The British wagon fleet was subject to bombing and requisition by the military. However, British railways had access to materials for repair, maintenance and new construction which were unavailable to the GSR. The record of the GSR in the area of wartime wagon availability stands up well, especially given the shortages of materials and lubricants and the need to use native timber.[563] The Milne report of 1948 noted that seven per cent of the wagon stock was under or awaiting repair and described this as satisfactory having regard to the materials shortages.[564] The British railway system, under direct government control since September 1939, faced similar problems in moving coal out of the coalfields. Prior to the war a significant amount of Britain's coal needs were transported by small coasters.[565] From the outbreak of war most of the coastwise coal traffic for London from the north east was transferred to rail. The official history describes 1940-41 as 'the critical year', observing that 'the transport crisis was primarily a railway crisis'.[566]

Contemporary reports show the severity of the difficulties faced by the GSR:'8.0 pm special Limerick to Waterford of 14/5/42 left at 1.25am 15/5/42, arrived Clonmel [50 miles] 11.00 am where engine failed and crew took rest'. On the same date a serious disruption of traffic was reported 'due to the inability of engines to function. Five Kerry and nine midland specials did not run, no engines being available'. In June 1942 harvesting was suspended for three days in Kerry due the widespread failure of locomotives. The head office investigation concluded that 'this closedown might have been avoided had there been more vigorous endeavour and closer co-operation on the part of the locomotive and traffic

[561] GSRGM 33685 'Wagon Supply', Minutes of Chief Officers' Conference, 12 Nov. 1938.
[562] Savage, *Inland Transport*, p. 626.
[563] GSR Foreman's book Waterford notice June 1944 extending oiling frequency of wagons.
[564] Report on Transport in Ireland (P9201) 1948, p. 65.
[565] H.C. Brookfield, 'A study in the economic geography of the pre war coastwise coal trade' *Transactions and papers of the British Institute of Geographers,* 19 (1953), pp. 81-94.
[566] Savage, *Transport,* p. 191, p. 215

departments'.[567] Examples of such lack of co-operation were detailed: 'when working a turf special Farranfore to Mallow, I had a load equal to 32 wagons. I informed inspector Crowe that I would take 25 wagons to Mallow. He informed me that I should take 32. The engine failed at 31.5 milepost. J Hayes driver'. These problems were not unique to Ireland. In February 1941, a British administrator wrote: 'Droitwich gas were in a most serious problem and Mines Department arranged for 14 wagons to leave on 13 February and 12 to leave on 18. It is now 25 February and no one in the kingdom can tell me where those wagons are'.[568]

On 11 June 1942, Industry and Commerce conveyed their dissatisfaction with the working of the turf programme and with breach of the directives issued to the company on wagon allocation. Bredin replied:

> I learn with amazement that the discharge of wagons ceases on Friday evening and does not commence until the following Monday morning [...] on arrival of turf wagons at North Wall, varying numbers of wagons are marked off for shunting into the different merchants' yards. Furthermore that these merchants are permitted to select their wagons and if the contents of a particular wagon are not suitable [it is handed] back to Fuel Importers for discharge at the dump… it is impossible to ensure a regular flow of empties...unless the wagons are discharged promptly at North Wall.

Bredin was alluding to the use of a scarce public resource for the private business needs of fuel merchants. Candy replied to Bredin:

> North Wall has always been a troublesome spot for us. The labour there is difficult and Strikes are of frequent occurrence. A half day on Saturdays must be paid as a full day and a full day as double time and we find Saturday afternoon working is most unsatisfactory…These difficulties will be solved when we open Liffey Junction discharge sidings…meanwhile we are putting Up with an admittedly unsatisfactory organisation at North Wall.[569]

This exchange illustrates the disruptive effect of peaks or surges on any logistical system. Thus between 21 July 1941 and 27 October 1941 deliveries to Dublin peaked on

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[567] GSRGM 53300/12, 'Emergency turf transport Kerry area', report of J. Byrne, 10 June 1942.
[568] BNA POWE 26/410, report week ending 26 Feb. 1941.
[569] GSRGM 53300/1 for this correspondence.

seventeen occasions. These were concentrated towards the beginning of the week, being Monday on four occasions, Tuesday and Wednesday on three occasions each. This pattern of imbalance was self-sustaining as empty wagons arrived back in the turf counties late in the week. Systemic inefficiencies were built into the system as long as harvesting worked on a five-or six-day basis while the rail transport part worked on a six-or seven-day basis.[570]

Agents and middlemen

Empty wagons were scarce, with the majority being allocated to turf destined for Fuel Importers Limited. Allocation of wagons was sensitive as they were crucial to smallholders trying to sell turf to the non-turf counties. In September 1942, two Kerry TDs, Fionán Lynch and Fred Crowley made representations on behalf of constituents. In his reply to Hugo Flinn, Bredin observed that in the twenty-one weeks ending 26 September 235,635 tons of turf had been moved, of which 176,000 was for Fuel Importers Ltd. He went on:

> Suppliers are made up of producers and middlemen. The volume of traffic railed by the former is small. The great bulk of it is purchased by speculators…and it is this group which is most clamant in its demand for wagons. These demands are invariably accompanied by complaints of preferential treatment ...Misrepresentation not infrequently plays a part in the endeavour to secure as large a proportion as possible of the wagon supply…It can be appreciated...with demand so much in excess of supply that it is not possible to satisfy all parties.[571]

Allegations of irregularity in the supply of wagons caused the demotion and transfer of a GSR employee on the West Clare section in 1942.[572] When a similar complaint was made in 1943 a head office team was sent to investigate. They reported:

> Most of the 400 producers in the area marketed their turf through agents…the turf is…purchased and consigned in the name of the agent, all of whom are local people and some of whom produce small quantities of turf. The present system is that wagons are allocated only to producers of turf, who record their name with the stationmaster, and are then given wagons strictly in accordance with their order on

[570] Graph of deliveries contained in S12417B, 28 Samhain 1941.
[571] GM53300/1, Fionán Lynch T.D and Fred Crowley T.D to GSR, 18 and 29 Oct. 1942.
[572] GSRGM 53300/19, 'Allocation of wagons- W Clare section', Bredin to O' Brien, 8 Apr. 1943.

> the list. The advantage of this …is that it precludes agents from gaining control of the wagon supply and using such advantage to depress the purchase price to the producer. We recommend the continuance of this system, and are strongly of the opinion that no allocation of wagons should be made to agents, except insofar as they are also producers'.[573]

These reports show the tensions between producers and agents during the period of Emergency turf production, and how the GSR tried to favour the producers. The two incidents also demonstrate the necessity for, and the effectiveness of, the restrictions on the movement of turf. By late 1942 the railway system was transporting turf effectively as there would have been no point in making such representations such as these in the chaos of late 1941 and early 1942.

The 1942 turf season worked to an established rhythm. The GSR assisted in clearing the backlog of Donegal turf, committing forty four lorries to the county in response to a special request from Candy.[574] In May the GSR allocated two inspectors to expedite the turf traffic who were instructed to liaise directly with Candy.[575] The run down of the 1942 season started as the beet season of 1942/1943 commenced. The converted carriages which could not carry beet were allocated to the runs from Cahirciveen to Wexford and that from Portarlington to Dublin. The former would have been impossible to run without the higher speeds of the carriages while the latter run benefited from higher speeds and shorter journey times thus ensuring a consistent flow to the capital.

Following the sudden death of Hugo Flinn in January 1943,[576] responsibility for all turf matters passed to the Department of Supplies. C.S Andrews was appointed Turf director and the turf executive was stood down. A Finance memo observed that 'it seemed to be the accepted view of those members of the executive [...] that the body did not

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[573] GSRGM 53300/19, Kirwan to Bredin, 19 Aug. 1943.
[574] GSRGM 54075, 'Turf haulage Donegal area'.
[575] GSRGM 53206, 'Special investigation by Mr. C.F. Tyndall'.
[576] *Irish Times,* 29 Jan. 1943

progress very satisfactorily'.[577] With the reallocation of responsibility the volume of correspondence on the transport of turf specials dwindles almost to nothing in the GSR files. This may indicate Andrew's different management style and the fact that the national turf campaign had reached equilibrium.[578] Bredin wrote a valedictory note to Candy which may be taken as a tactful coded reference to Flinn: 'I would like to say the efforts made by you personally and by your staff to simplify our many difficulties have been a great satisfaction to me'.[579]

Turf transport in 1943 and after

In April 1943 John O'Brien described the coming season as 'Much the same as in 1942, and having regard to the improvement in operation since last year, and the experience which been gained it is assumed that the facilities ... provided for other traffics will at least equal those provided last year'.[580] It was anticipated that the GSR would move 398,600 tons of turf by rail in addition to moving 12,000 tons by road from Laois and Offaly to Dublin and a similar amount of the Cork / Kerry /Clare quota to Cork City. The season commenced in April with 8 trains per day, rising to 16 per day between June and September, when the beet season commenced. The GSR was able to give an estimate of the wagons needed for other traffic which would be jeopardised by the full implementation of the turf programmes (see appendix 2).[581] From 1942 the centre of gravity shifted eastwards as the midland bogs were opened up. In 1942, Portarlington, Moate and Inny Junction were the only stations east of the Shannon loading turf. By 1944 almost twenty two of the fifty stations supplying Dublin were east of the Shannon.[582]

Most complaints that survive in the GSR files relate to deliveries to Dublin which

[577] NA DT S12417 A, minutes of interdepartmental meeting, 19 Feb. 1943.
[578] GSRGM 53300/9, 'Turf transport miscellaneous correspondence', for reduced volume of correspondence.
[579] GSRGM 53300/9, Bredin to Candy, 22 Mar. 1942.
[580] GSRGM 53300/18, 'Turf transport arrangements for 1943 season', O Brien to Bredin, 7 Apr. 1943.
[581] GSRGM 53300/18, Minute of meeting, 12 May 1943.
[582] GSRGM Traffic manager's circular 1 May 1942; 53300/21, 'Proposed turf containers', (1944).

received its turf from the midlands and the Mayo line. Kerry, the largest turf producing county supplied Cork and Wexford but generated few complaints. The distances from Kerry to Wexford were greater than from Mayo to Dublin and the higher level of complaints may be explained by the fact that Mayo turf was unloaded under the noses of Candy and Andrews. The Mayo programme was a source of constant contention between the GSR and the County Surveyor who had released 400 tons of coal to the GSR in the darkest days of 1941 did feel particularly aggrieved by failures to move turf from the county. The failure of the GSR to deliver sufficient empty wagons to Mayo was a source of constant rancour. However, there is no trace of these tensions in the paper Flanagan delivered to the Institute of Engineers of Ireland in December 1942. With the exception of the ignominious collapse of Whit 1942,[583] the Kerry operation was generally uneventful. This was a creditable record, given that the run from Cahirciveen to Enniscorthy was 202 miles or 35 miles longer than the mileage from Ballina to North Wall.

Conclusion

The turf transport operation tested the GSR system to the limit. From a standing start in July 1941 a logistical system was created which satisfied the fuel needs of the cities. The confusion and chaos of the 1941 season lessened in 1942, and the situation had normalised by the beginning of the 1943 season. During this period turf changed from being a crop produced by smallholders in the western counties to one which would be produced on an industrial basis in the midlands by an imported labour force. The difficulties with wagon supply were broadly similar to the problems which affected Swedish timber transport or British coal transport, although those in charge of the programme in Ireland were obviously not to know this.

[583] GSRGM 53300/12 for details of this episode.

In 1941 and 1942 the inability of the GSR to burn turf in its locomotives or to move the turf harvest were two symbols of its inefficiency. In fact, the weaknesses in the rail transport campaign concealed the inefficiencies in the 1941 turf campaign. This is illustrated by the case of Donegal. This county had the greatest amount of turf left on the bog at the end of 1941 despite an efficient transport campaign by the GNR using their British coal allowance. The turf transport system became more efficient during 1942 as seen in the correspondence about the working of North Wall depot, where the GSR shifted blame back to the merchants. While such a system was in place by the end of 1942 it was not until 1944 that Bord na Móna adopted a policy of completing the harvest in the early summer. Their quarterly report of September 1944 makes the telling point: 'The factor which has mainly contributed to the improved supply position…is that stock building commenced at a much earlier date, which allowed railway facilities, then more freely available, to be used to capacity'.[584] By September 1945, Bord na Móna explained the necessity of 'starting the stock building much earlier to allow the full programme to be completed by the end of September when transport services were absorbed… in beet and other priority traffic'.[585] It took four seasons to assimilate the lesson that the turf could not be effectively transported at the same time as the beet and cereals harvests. The management of the GSR had been making this point since 1942. However, the GSR management was the most politically naive players in the turf logistics chain. Bog extraction was managed either by County Surveyors or by the Turf Development Board, both closely attached to political institutions at local or national level. Distribution in the urban centres was controlled by Fuel Importers Ltd., whose chairman John Reihill made 'generous subscriptions to Fianna Fáil party funds [which] had brought him to the attention

[584] NA DF S/99/11/44, 'Turf Development Board reports of operations and activities', Report for quarter ending Sept. 1944 (These quarterly reports run from 1944 to 1947).
[585] NA DF S/99/11/44, Report for quarter ending Sept. 1945.

of Sean Lemass'.[586] The GSR was not the only weak point in the 1941 turf season, but at the time it seemed to attract a disproportionate amount of blame.

Strategic Emergency traffic competed for scarce railway resources in a manner unknown in peacetime. On the West Clare railway which served Ireland's sole source of phosphates; 'Practically the entire stock of open wagons is engaged on the transport of phosphate rock between Ennistymon and Ennis'.[587] Electric lighting was installed in Ennistymon station to facilitate loading during hours of darkness.[588] To the extent that particular commodities had identical seasonality they increased the problems associated with handling them. The successful movement of a harvest cannot be taken for granted. The German potato harvest of 1916 was partially lost due to a shortage of transport.[589] Similarly, the 1941 beet harvest in Germany was partially lost due to demands made on the railway system by Operation Barbarossa.[590] In France in 1945: 'Sugar beets were rotting in French fields because there was no coal to transport the beets to refineries'.[591] A national distribution network for turf was established during the Emergency and the railway system was the backbone of this system. The return of peace saw turf from the newly developed midland bogs established as an urban fuel and delivered by road. Rail transport of turf was an Emergency measure and declined after 1945 until the last rail loading point for domestic turf at Cahirciveen ceased to function in 1949.[592]

Prior to 1939, turf enthusiasts foresaw a wide range of non-fuel uses with 'Turf as fertiliser, turf as animal litter, turf as brown paper, turf as hardboard'.[593] The Emergency

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[586] Andrews, *Man of no property,* p. 171.
[587] GSRGM 53300/19, Kirwan to Bredin, 7 Apr. 1943.
[588] GSRGM 56273, 'Lighting of Ennistymon loading bank', Bredin to Ginnety, 22 Dec. 1942.
[589] Offer, *Agrarian interpretation,* p. 29.
[590] Mierzejewski, *Hitler's railways*, p. 114.
[591] C.J. Potter, 'Europe's coal problem' *Proceedings of the academy of political science,* 21 (Jan.1946) pp. 28-40, p. 32.
[592] GSRGM 50802, Secretary, Bord na Móna to F. Lemass, 4 June 1949.
[593] Ó Gráda, *Economic history* p. 323.

years saw the launching of a range of experiments with varying degrees of success. Perhaps the most costly failure was the attempt to manufacture charcoal from high quality Turraun turf. By August 1943, the exchequer was faced with a loss of between £150 and £350 per week on the operation.[594] A proposal to transfer the operation to the T.D.B. which was opposed by the Department of Supplies on the grounds that such a transfer would put the Department:

> In a position of trying to transfer embarrassments which are ours as well as the Bureaus to other people who are in no way responsible for the lamentable position in which we find ourselves…The analogy with the Department of Defence and Phosphorous is quite false. Defence wants phosphorous…At present nobody has any use for turf charcoal.[595]

The desperate conditions during the Emergency created a climate of forgiveness for failure and the misallocation of resources provided the supply objectives were met. Similar failures occurring in peacetime would have caused the Department of Finance to call a halt and to hold up the failed trials as an example of the danger of enthusiastic experimentation. The sum of these Emergency experiences allowed Bord na Móna to eliminate the arcane and the uneconomic from its post-war plans and concentrate on machine harvested turf, converted to either briquettes or electricity on the bog. By the late 1950s this was refined into a new production system harvesting the top few millimeters which were then transported by rail to nearby power stations or briquette factories. The Bord na Móna rail network is the second largest rail network on the island of Ireland. This is the long term legacy of the emergency on turf exploitation and transportation.

The short-term success of the Emergency turf campaign was that the non-turf counties and in particular the cities were kept supplied with fuel, much of it rail transported. The 'what might have been' can be seen in the Dutch 'Hungry Winter' of 1944-45, where

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[594] S12912, 'ESRB Turf charcoal', Dept of Supplies minute, 7 Aug. 1943.
[595] *Ibid.*

the shortage of food was exacerbated by the cutting off of occupied Holland from the Limburg coalfields. 'It is impossible', wrote the Swiss Red Cross, 'to describe the radical and dire consequences the lack of coal is having for the Netherlands and how incredibly primitive life has become'.[596] Despite the disappearance of British coal from Ireland, households throughout the country received an adequate fuel ration throughout the Emergency. The turf concerned was mainly remote from the consumers, and the railway functioned as the national grid on this occasion. When compared with the experience of Holland in 1944, this was no mean achievement and justifies C.S. Andrews' claim that 'no one died of cold during the Emergency or had to eat uncooked food'.[597]

[596] H. Van der Zee, *The Hunger winter* (London, 1982), p. 189.
[597] Andrews, *Man of no property,* p. 180.

Chapter six

Road Transport

Shortages of petrol caused the virtual disappearance of private motoring for the duration of the Emergency. This placed increased pressure on public transport providers. The GSR operated a significant portion of bus and lorry transport throughout most of the country which coped, albeit with difficulty, with the massively increased demand. The GSR experimented with alternative fuel and later led a radical reorganisation of the industry. The chapter will consider how the GSR., as the largest fleet operator, adapted to petrol shortages by attempts to convert lorries to producer gas. It will consider the differing responses of governments and of fleet operators in Ireland and in Britain to this fuel. The chapter will go on to consider how the road services of the GSR. became an arm of government policy through the scheduled areas scheme, which spread westwards from Mayo until it reached within thirty miles of Dublin. This scheme provided a minimum level of scheduled goods transport which could be tailored to meet fluctuating supplies of fuel, lubricating oil, or tyres. This scheme was controversial and shows the sometimes conflicting demands of a peacetime transport policy with the transport demands of a war economy.

The number of licensed motor vehicles on Irish roads fell from 73,813 to 26,188 between 1939 and 1943.[598] In these circumstances, the transport of goods by lorry was increasingly restricted and the lorry services of the GSR assumed a critical role in ensuring the nationwide distribution of goods and in collecting the key harvests of grain, turf and sugar beet. This is not dealt with in historical treatments of the period. Brian Girvin writes that 'Virtually all petrol driven vehicles disappeared and coal for railway engines was in

[598] Daly, *Buffer state,* p. 393.

short supply. Electric trams in Dublin replaced buses while the rail system ran on briquettes manufactured on turf. Horse and cart, pony and trap and bicycles became the main forms of transport'.[599] As will be demonstrated in this chapter, this depiction of transport in Emergency Ireland underlines the tendency for the popular memory of the Emergency to be uncritically incorporated into the historical narrative.[600] The GSR was by far the largest road transport operator and it continued to meet the country's road transport needs throughout the Emergency, long after petrol rationing had all but eliminated private motoring. The GSR owned 450 lorries and was the largest single lorry operator in the state.[601] The company also operated the majority of bus services south and west of a line from Dublin to Sligo. The road sections of the business are central to understanding the company's response to the Emergency.

Increased military demand for oil and constraints on shipping space meant that petrol rationing schemes had been prepared in many countries before the war. [602] The British rationing scheme was announced in January 1939[603] and implemented from 23 September of that year.[604] Fuel rationing was introduced in Ireland a week later.[605] No petrol was on sale in Germany except for military purposes from 27 August 1939.[606] Petrol fuelled engines were then commonly used in heavy vehicles and in preference to the more economic diesel engines which were relatively new and expensive. The GNR and the Dublin United Transport Company bus fleets were respectively sixty five per cent and eighty eight per cent diesel powered compared to the less prosperous GSR whose fleet was

[599] Girvin, *Emergency,* p. 227.
[600] B. Grob Fitzgibbon, *The Irish experience during the second World War* (Dublin, 2004), pp. 53-54. T. Grey, *The lost years emergency Ireland 1939 –45* (London, 1997), p. 188.
[601] NA EHR 3 vol.2 p. 270 gives a figure of 450 while the ESRB estimated a figure of 700in a memo on gas producers for road transport and farm tractors, 11 Feb. 1943, contained in NA DT S13126.
[602] *Times,* 25 Oct. 1939, 'The fighting forces must have first call on supplies of petrol'.
[603] *Ibid.,* 18 Jan. 1939.
[604] *Ibid.*, 23 Sept. 1939.
[605] *Ibid.*, 7 Oct. 1939.
[606] *Ibid.*, 28 Aug. 1939.

ten per cent diesel powered.[607] In February 1941 the Department of Industry and Commerce indicated that while it had not been necessary to place any restriction on deliveries of diesel there was no guarantee that this would remain the case.[608] Table 5 shows the decline in imports, with a critical shortage of petrol and a less severe shortage one of diesel fuel.

Table 5 Oil fuel imports 1939 to 1944

Year	Petrol m galls.	Index 1939	Diesel m galls.	Index 1940
1939	43	100	n/a	n/a
1940	32	74	11.5	100
1941	18	41	8.75	76
1942	13	30	7	59
1943	9	21	5.5	47
1944	n/a	n/a	6.5	55

Source NA EHR 2/3, which contains the figures on which this table is based.

Petrol became increasingly scarce with the introduction of the British sanctions policy in January 1941. A severe reduction in the petrol ration caused the virtual suppression of private motoring. As further cuts became necessary the allocation for commercial vehicles was again reduced. Efforts were made to stretch a diminished supply by experimenting with alternative fuels and later, when these experiments did not live up to expectation, by introducing traffic management measures. These three measures of petrol rationing, experimentation with alternative fuels and traffic management were adopted both in Britain and in Ireland. Shortages of petrol on the outbreak of war had been expected since Munich and on 5 September 1939 the Department of Industry and Commerce met the

[607] GSR F509 report of meeting, GSR, GNR and Dept of Industry and Commerce, 5 Sept 1939.
[608] GNRGM 267/7, 'Curtailment of lorry services due to shortage of petrol supplies', memo, 7 Jan. 1941.

two railway companies and the DUTC to consider 'an agreed proposal for the restriction of petrol supplies to omnibuses'.[609] The GSR expressed a concern that 'the smaller operators throughout the country with their small horsepower vehicles and irregular service would probably obtain excessive supplies'.[610] Railway company representatives 'endeavoured to discuss the advantageous position of the Railway system proper for carrying a large proportion of traffic … without very much more expense, but Mr. Ferguson on two occasions waived [sic] this matter aside, saying the matter of coal supplies was another day's work'.[611] How much this view was driven by concern for the public good as opposed to a desire to disadvantage competitors is open to conjecture. Two of Ferguson's subordinates remained after the meeting proper to hear the company representatives plead their case. Griffiths, the road passenger manager of the GSR said that 'coal supplies could be obtained more easily than petrol supplies, the latter coming across the ocean …while the Welsh coal is less than 150 miles from our ports'.[612]

Producer gas – alternative road fuel

At the beginning of the war great faith was placed in producer gas as an alternative motor fuel using wood charcoal or anthracite as raw material. In Ireland the TDB hoped that turf charcoal could be used as raw material for gas producer units. Petrol substitutes became common in most European countries from 1939 onwards. A Dutch observer described 'German cars and trucks …propelled by enormous gas balloons on their roofs or by odd looking stoves on wheels'.[613] The cars described used either town gas or producer gas. The producer gas process involved fitting a retort and drawing air through a bed of incandescent carbon, either anthracite or wood charcoal. The reaction produced a gas

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[609] GSR F509 report of meeting, 5 Sept 1939.
[610] *Ibid.*
[611] GSR F509 report of meeting, 5 Sept 1939..
[612] *Ibid.*
[613] Van der Zee, *Hunger winter*, p. 17.

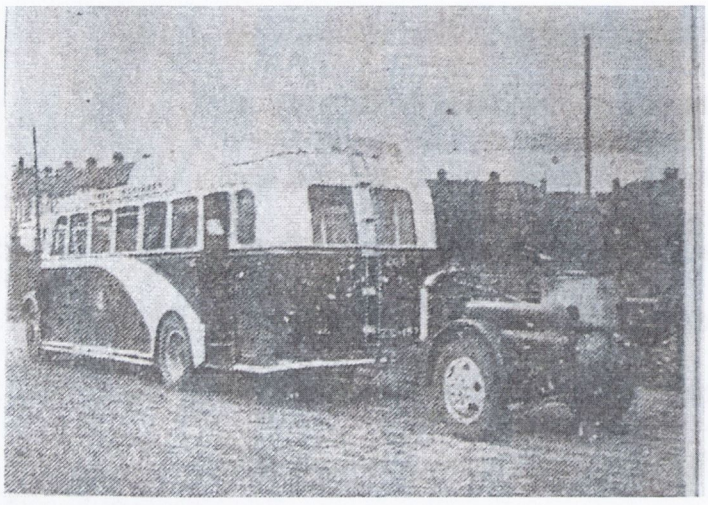
which could be used as fuel together with carbon monoxide which posed obvious dangers.[614] The development of gas producers for vehicles began in France and was later taken up in Germany, Sweden, Russia, Australia and South Africa.[615] In 1937 the British government established a committee to consider alternative road fuel, while the Mines Department established another committee at the outbreak of the war.[616] On 8 November 1939, a standard design suitable for mass production was announced by Geoffrey Lloyd MP, Minister for Mines [617] who two days later inspected a London bus fitted with a gas producer unit, described by the London *Times* as ' a curious contraption ... a cross between a field kitchen and a mobile tar burner'.[618]

On 25 August 1939 an enterprising manufacturer sent a brochure on producer gas to the Irish authorities, who forwarded it to the general manager of the GNR. Howden replied that he considered the claims in the catalogue to be quite unreliable.[619] On 17 October 1939 Bredin reported that some work had been undertaken on the design of a producer gas unit which would shortly be manufactured and tested. [620] The GNR commenced experiments in October 1939 when an obsolete bus was chosen for conversion but experiments were put in abeyance in December 1939 pending the results of the GSR experiments.[621] In July 1940 Howden instructed that the trials be resumed: 'I am very anxious to reach a convincing result on this controversial subject without delay'.[622] A number of well publicised test runs were made with the bus early August.[623] Both railway companies secured up to date information about producer gas technology and co-ordinated

[614] *RG,* 16 Jan. 1940 the formula is C + ½ 02 + 2N2 = C0+2N2 + 52950 BTU.
[615] M.A. Hogan, *Producer gas for internal combustion engines* (Dublin, 1943), p. 2.
[616] C.I. Savage, *Inland transport* (London, 1957), p. 435.
[617] *Times,* 9 Nov. 1939.
[618] *Ibid.*, 10 Nov. 1939.
[619] GSRGM 48414/4, 'Bellay gas producers', Howden to Morton, 27 Sept. 1939, Flynn (Industry and Commerce) to Morton, 2 Sept. 1939.
[620] GSRGM 48414/4, Bredin to Morton, 17 Oct 1939.
[621] GNRGM 39/1507, Mc Intosh to Howden, 14 Dec 1939.
[622] GNRGM 39/1507, Howden to Mc Intosh, 27 July 1940.
[623] GNRGM 39/1507, Mc Intosh to Howden, 7 Aug. 1940.

their experiments. However the experiments were inconclusive and no further gas producers were fitted until early 1941.

Figure 4 A GNR bus fitted with a gas producer unit



Source Irish Press.

In late December 1940 Irish petrol pumps ran dry. A notice in the newspapers of 28 December mentioned 'unforeseen circumstances' while announcing fresh restrictions.[624] On 10 January 1941, as the effects of the British sanctions intensified, the *Irish Times* announced a further reduction in the ration from eighteen to three gallons per month.[625] As a result, all forms of private motoring came to a standstill.[626] On 7 January 1941 the Department of Supplies asked the railway companies to prepare proposals for a twenty five per cent and fifty per cent cuts in road service levels, advising them that 'Very drastic reductions are being made for lorry owners operated by concerns other than railway companies … greater than that made in the case of the railway companies'.[627] On 1 February the GSR announced the end of all services undertaken directly by road and not

[624] *Irish Times,* 28 Dec. 1940.
[625] *Irish Times,* 10 Jan. 1941.
[626] *Times,* 14 Jan. 1941.
[627] GNRGM 267/7, Williams to Howden, 4 Feb. 1941.

feeding into the rail network while on 6 February, they curtailed bus services.[628] The *Irish Press* of 3 February 1941 announced that going by train to the races was 'Just like old times'. The racing correspondent of the *Irish Times* wrote on 4 February about 'getting to meetings without the aid of motor cars'. In the same issue the motoring columnist wrote that the uptake of gas producer plants had been less than anticipated due to the drawbacks of a loss of power of thirty to forty per cent, and increased engine wear. One response to the shortage of petrol was for owners to export their lorries illegally to Northern Ireland where lorries were scarce and petrol was available. This practice was taken so seriously that at one stage the confiscation of the vehicles and the prosecution of the owners before a military tribunal was contemplated.[629] It was eventually decided to deal with the matter by controlling the sale of lorries under the emergency powers act, the use of the military tribunal being considered excessive. Mc Elligot considered that 'if non political offenders are to be brought before that body I would suggest those who infringe foot and mouth regulations as far more worthy of attention'.[630]

In February 1941, C.S. Andrews approached the GSR stating that 'we have been in a very small way trying to manufacture a suitable grade of turf charcoal but quite frankly we haven't any experience and we are only learning as we go'.[631] The GSR sent their report to Andrews and warned that inferior charcoal would lead to disastrous results 'whereas if the turf is properly selected and thoroughly carbonised …the results obtained equal or exceed those obtained from the best anthracite'.[632] Thus at the same time as Bratt of the GNR was expressing the need for high quality turf to fuel locomotives a competing

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[628] *Irish Times,* 31 Jan. 1940; *Cork Examiner,* 6 Feb.1941.
[629] NADT S11903, 'Cabinet committee on emergency problems', note of outstanding problems, 11 Aug. 1941.
[630] NADT S12338, Mc Elligot to O Cinnéide, 24 Apr. 1941.
[631] GSRGM 48414/2, 'Turf Charcoal', Andrews to Morton, 15 Feb. 1941.
[632] GSRGM 48414/2, Morton to Andrews, 4 Mar. 1941.

demand was being made for high quality turf to make charcoal for road vehicle gas producers.

The Emergency Scientific Research Bureau (ESRB) was established in order apply scientific knowledge to bear on Emergency related shortages. It comprised scientists and engineers, mainly from the universities[633] and met for the first time on 23 February 1941 when it was informed that the Taoiseach had instructed them to prioritise the development of substitutes for imported fuel.[634] In fact, the ESRB played a minor role in the development of substitute fuels compared to that played by the railway companies who employed chemists (Burnell on the GSR and Bratt of the GNR) and possessed scientific resources on a scale generally unknown in Irish industry. They were therefore donors to, rather than recipients of, bureau expertise. The ESRB concentrated on an expensive and ultimately unsuccessful attempt to produce turf charcoal on Turraun bog, County Offaly.[635] It was estimated that 8,000 tons of turf charcoal could be produced which was reckoned as being equivalent to 1.12m gallons of petrol, or about eight point five per cent of the petrol imported during the year 1942.[636] This project was plagued by major cost overruns and technical difficulties. The railway companies had offered to design, construct and operate carbonising plants at Turraun and Lyracrompane bogs in exchange for financial assistance with construction costs and a rebate on road tax for the vehicles concerned.[637] While yet another request for support from the railway companies would not have been welcomed by government, the railway company proposal probably had a greater potential for success as

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[633] GSRGM 48414/3, 'Correspondence with ESRB', lists the bureau membership as: J.J. Dowling, Professor of technical physics UCD, J.J. Drumm of Drumm battery fame, M.A. Hogan, Professor of mechanical engineering UCD, J.H Pole, Professor of Physics TCD, T. S. Wheeler, State Chemist. J.J. Lennon secretary of the industrial research council was secretary.

[634] R.J. Bradley 'The Emergency Scientific Research Bureau- an analysis and evaluation of the scientific and technical impact of the ESRB' unpublished PhD thesis, TCD, 1992, p. 128.

[635] NA DT S12912 details these experiments.

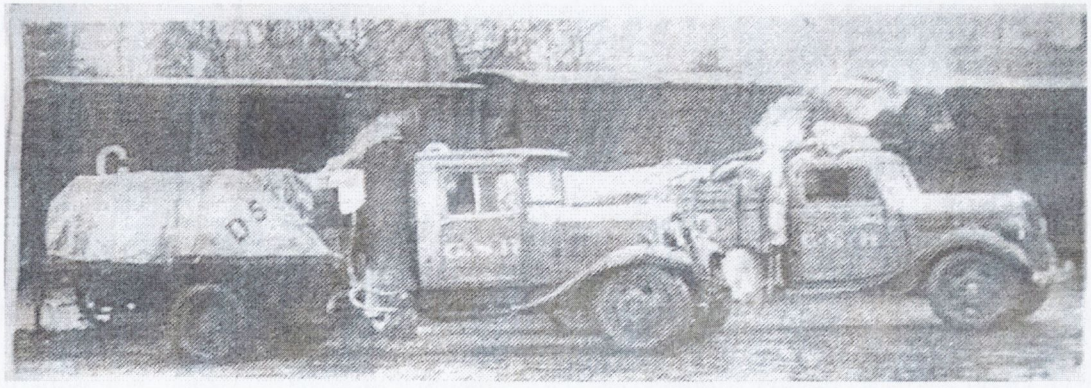
[636] GSRGM 48414/2, Bredin to Morton, 27 Mar. 1941.

[637] GSRGM 48414/2, Morton to Lennon, 29 Mar. 1941.

the staff involved would have had experience of the commercial application of science, unlike the ESRB directorate whose background was mainly academic.

The trials of gas producer units by the railway companies between 1940 and 1941 were sufficient to develop and to experiment with prototypes. In January 1941 Bredin reported that an experimental gas producer plant had been constructed in Inchicore, freeing the GSR from patent related payments. Bredin urged the purchase of two test units as ' if numbers of this unit are now available for export to this country ... we as a public transport undertaking should procure them rather than they get into the hands of our competitors'.[638] Two lorries were fitted with units from different manufacturers and were displayed to the press in February 1941.[639] In March Bredin reported to the board that the lorries (illustrated in figure 4) were satisfactory and that the company was now capable of designing and constructing its own gas producer plants.[640] Bredin described the 'almost feverish activity ... on the part of sheetmetal shops' in fitting producer units and urged that speedy contact be made with the ESRB to secure the maximum amount of raw material for the GSR as 'the more material obtained the less will be available for our competitors'.[641]

Figure 5 **Two lorries with producer gas units fitted behind the cab**



Source: Irish Press 14 Feb. 1941.

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[638] GSRGM 48414/6, 'Gas producers used in lorries', Bredin to Morton, 10 Jan. 1941.
[639] *Irish Press, Irish Times,* 15 Feb. 1941 for description and photographs.
[640] GSRGM 48414/6, Report by Bredin to Board meeting, March 1941.
[641] GSRGM 48414/3, Bredin to Morton, 11 Mar. 1941.

This shows how commercial rather than strategic concerns were uppermost in the mind of the GSR which was happy to minimise their use of gas producer units while petrol was available. Government policy was to encourage the maximum use of gas producer units as quickly as possible in order to guard against a sudden worsening of petrol supplies. The ESRB convened a meeting for 7 March 1941 attended by the two major railway companies and the Department of Defence which decided to concentrate on the production of turf charcoal. This project was driven by a sub committee consisting of chief chemists of the railway companies and Warner of the T.D.B. The urgency in the project arose from the calculation that, while material existed to construct 3,000 units, there was only sufficient fuel for 400 units, as anthracite could not be made available for gas producer fuel in sufficient quantities. On 10 March the Castlecomer colliery company advised that they could meet less than a quarter of their requirements. The following day Bredin advised the ESRB that in the absence of anthracite it would be useless to proceed with the expansion of the conversion programme. [642] This caused the virtual cessation of this phase of gas producer development. The construction of two gas producers for buses slowed considerably. One of the bus units was substantially completed by July 1941 but it did not enter revenue-earning service until October 1942. [643] The other unit was never fitted to a bus, being allocated to the laboratory at Inchicore in August 1942 as an alternative gas source when restrictions on town gas were threatening to interfere with the vital work of locomotive fuel testing.[644]

By early 1942 it was clear that that gas producer units were not fulfilling the hopes of 1939. A manufacturers' list of Irish customers showed that the main users of gas producer units were small concerns. Of the 117 concerns listed, seventy nine percent

[642] GSRGM 48414/3, Agent, Castlecomer to Bredin, 10 Mar. 1941, Bredin to Lennon, 11 Mar. 1941.
[643] GSRGM 48414/1, 'Gas producer plants Trailer units', Morton to Coyle Insurance, 15 May 1941.
[644] GSRGM 48414/1, Ginnety to Bredin, 19 Nov. 1942.

operated two units or less. Guinness, Jameson's, Gilbey's and Odlum's had each only one gas producer fitted unit. The ESB and the Dairy Disposal Board with 26 and 32 gas producer units were untypical of large companies in their use of gas producer units.[645] In contrast the *Railway Gazette* reported in January 1942 that there were 160,000 gas producer vehicles in Germany and in German occupied Europe.[646] A figure of 46,000 vehicles operating in Sweden was quoted in a House of Lords debate in April 1942.[647] Following on the Japanese advances in the Far East, Britain introduced a voluntary conversion programme in April 1942 under the new directorate of alternative motor fuels. Fleet owners were asked to convert ten per cent of their vehicles. Despite prominent examples such as the conversion of twenty London buses the programme did not succeed[648] and an order for 6,500 units was cut back to 2,250 in September 1943[649]as: 'Both passenger and goods operators showed considerable reluctance to take part in the experiment'.[650] Southdown Motors reported to its shareholders that 'we have met with a fair amount of technical success, but even on the flat routes we have selected …it is difficult to maintain the schedule'.[651] This reflects the experience of the GSR whose sole gas producer bus ran in the flat land between Dublin and Garristown where it was reported that 'the plant has given no trouble, but the crew are experiencing difficulties keeping the schedule'.[652] In Britain only 725 of the original target of 6,000 vehicles had been converted by June 1944[653] and the following September the programme was abandoned.[654]

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[645] GSRGM 48414/4, Bellay technical manual, 7 Nov.1942
[646] *RG,* 16 Jan. 1942.
[647] House of Lords Debates, vol. 122, col. 723, Apr. 28 1942.
[648] *Times,* 3 June 1942.
[649] BNA MT 84 55 'Producer gas'; graph of production mk.vi and mk.vii units.
[650] Savage, *Transport* p. 436.
[651] *Times,* 26 June 1943.
[652] GSRGM 48414/1, Ginnety to Bredin, 10 Nov. 1942.
[653] BNA MT 84 55, Graph of production of units by Briggs ltd.
[654] *Times,* 14 Sept. 1944.

The general aversion to gas producer units meant that in Ireland only 611 non state owned vehicles had been converted by 30 May 1942.[655] The low conversion rate was raised with the GSR by the Department of Industry and Commerce in July 1942. Ferguson wrote to Bredin enquiring as to progress, optimistically informing them of the 'success' encountered by the ESB and of the greatly expanded use of gas producer units in Britain.[656] On enquiry the GSR found that 'The ESB are in no way enthusiastic about the matter. They purchased forty plants and only fitted fourteen, twelve of which have been very unsatisfactory'.[657] This aversion to gas producers is confirmed by a report on small operators in Mayo prepared by the local GSR district superintendent which concluded that 'almost all the twenty or so users were…most dissatisfied with their performance…cylinders and pistons can be extensively damaged, sometimes with a mileage as low as 7,000 miles'.[658] The difficulty in replacing such parts would have been significant for a small operator but less so for the GSR whose Broadstone and Inchicore workshops had the capacity to manufacture spare parts such as pistons and piston rings which normally came from the manufacturer. In 1943 Bredin ordered that 'Nothing should be allowed to interfere with the fullest possible production of motor parts at Inchicore works'.[659]

On 14 April 1943 Seán Lemass told the Dáil that the Irish government had been notified to expect a considerable reduction in fuel deliveries for 1943. Voluntary effort alone would be insufficient to promote gas producers at a level satisfactory to the government. An interdepartmental conference held on 8 March considered the extent to which Departmental lorry fleets should be fitted in order to avoid drastic worsening of the

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[655] *Dáil Debates,* vol.87, col. 867, 3 June 1942.
[656] GSRGM 48414/6, Ferguson to Bredin, 15 July 1942.
[657] GSRGM 48414/6, Mc Nally to Bredin, 8 July 1942.
[658] GSRGM 54842/3, Costello (Dist. Supt.) to Bredin, 26 Mar., 7 Apr. 1943.
[659] GSRGM 48414/12, 'Fuel for gas producer units', Minute of meeting, 1 Nov. 1943.

public services in the event of total cessation of petrol supplies.[660] The meeting concluded that all departments should convert one third of their fleet to gas producer operation.[661] On 4 May the *Irish Independent* reported the introduction of a scheme under emergency powers legislation to compulsorily extend the use of gas producer units on privately owned lorries. Owners of more than three goods vehicles would be compelled to convert one vehicle in every three.[662] The order was enforced by withdrawing petrol allocations from the unconverted vehicles. On 12 October John Leydon warned the Post Office that 'The minister cannot continue to exempt P&T from the penalty imposed on private owners...unless a definite assurance of the completion of the programme is received'.[663]

This mandatory conversion arrangement had implications for the GSR as the largest fleet operator. In early May 1943 it was reported that the manufacture of 100 units was in hand, but in November Bredin expressed his disappointment at the slow rate of conversion – four per week.[664] The project was hastened by allocating some of the conversion to provincial garages – a move which provided us with rare photographic evidence of the conversion process.[665] By 1943 the fuel used for gas producer units was anthracite instead of the turf charcoal envisaged in 1941. The GSR sought supplies of Irish anthracite as will be seen in chapter eight and secured an additional allocation of anthracite from the British Fuel controller.[666] This shows the change in British attitude compared to that of 1941 when all attempts to secure alternatives to petrol (such as by distilling creosote) were blocked by the refusal of import licences.[667] The Irish compulsory conversion scheme was more

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[660] NA FIN/ S/041/0006/43, Post and Telegraphs to Finance, 6 Iúil 1943.
[661] *Ibid.*
[662] *Irish Independent,* 4 May 1943.
[663] NA FIN/S/ 041/0006/43, Leydon to Posts and Telegraphs, 10 Oct. 1943.
[664] GSRGM 48414/12, Bredin to Ginnety, 4 May 1943, Minutes of meeting 1 Nov. 1943
[665] GSRGM 61304, 'Publication of photographs of staff fitting gas producers – Galway'.
[666] GSRGM 48414/12, Johnston to Bredin, 25 May 1943.
[667] GSRGM 50713, 'Proposed distillation of hydrocarbon oil from creosote', Burnell to Bredin, 24 Sept.1941. Irish Tar distillers to Meadows, 8 May 1942.

radical than the British scheme, which demanded the conversion of ten and later five per cent of vehicles. This is an indication of the greater severity of fuel shortages in Ireland. The Irish scheme remained in place until the end of hostilities while the British scheme ended in September 1944. There was however a public perception that some conversions were cosmetic and that the vehicles although fitted with a producer in fact ran on petrol.[668]

The shortcomings of peat charcoal had become apparent by 1944 when a report on the Turraun experiment from Industry and Commerce stated that 'County surveyors were finding it difficult to dispose of the stocks as several lorry owners have reported that they did not find the peat charcoal satisfactory. Professor Hogan said: 'The tests carried out by the bureau had given satisfactory results although it could not be claimed that peat charcoal was an ideal fuel … two other difficulties …were mentioned …, viz. that it cannot be stored in the open and that it does not stand up well to long transport'.[669] Yet as late as January 1945 the virtues of turf charcoal as a fuel were being promoted by the motor trade in advertisements for gas producer units with the slogan 'believe it or not, Dublin to Kildare and back on a bag of raw turf'.[670]

The end of gas producers

The attempts to secure acceptance of gas producer units were unpopular both in Ireland and in Britain. The development and fitting of four experimental gas producer units was the extent of the GSR commitment to gas producers until the introduction of the mandatory conversion programme in 1943. All attempts by government to cajole or persuade the largest fleet operators in the state to convert more of its vehicles failed. This shows the unpopularity of producer gas units due to higher operating costs, lower power output and possible engine damage. In October 1943 the *Irish Independent* reported that

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[668] O' Nolan, ed., *The best of Myles,* p. 300.
[669] NA DT S13474, Industry and Commerce to Taoiseach, 1 May 1944.
[670] *The Leader,* 25 Jan. 1945.

only 2,000 or about half the total number of working had been fitted, and that this slow progress 'had caused dissatisfaction in official quarters'.[671] A typical case was that of Gallagher's of Killybegs who in 1944 sought a petrol allowance to facilitate fish exports to Britain as their vehicles 'would not be able to work a service between Killybegs and Teelin with producer gas due to the hilly road'.[672] The failure of the Turraun experiment meant that gas producer users had to rely on anthracite or wood charcoal which was almost as scarce as petrol. There was no incentive for vehicle operators to convert and compulsion became necessary.

By summer 1944 gas producer vehicles were losing their attraction even in mainland Europe. Autotransit was a Swiss company based in Spain which operated seven vehicles between Bilbao and the Franco Spanish frontier. While 'le penurie du carburant et le rationnment des pneumatiques compliquaient singulierment les operations',[673] in July 1944 the *Railway Gazette* reported that the producer gas vehicles had been gradually eliminated due to the numerous breakdowns associated with them.[674] In March 1945 the Irish post office chief inspector noted that 'the programme would not long survive the return of peacetime conditions'.[675] The unpopularity of gas producer lorries is shown by the records of the GSR fleet in the controlled areas developed from late 1942. Of the 423 owned and hired vehicles used by the GSR in the controlled areas in January 1944 only seven were gas producer vehicles, compared to eighteen horse drawn units. Of all the units used by the GSR in the controlled areas seventeen per cent of the directly owned and twenty two per cent of the hired units were horse powered.[676] In practice horsepower was the most widely used substitute for lorries. The GNR had eliminated horses by 1939 but

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[671] *Irish Independent,* 26 Oct. 1943.
[672] GNRGM 200/217, 'Fish from Ballyshannon', C.D.R. to Dept. of Supplies, 1 Mar. 1944.
[673] G. Kreis, *La Suisse pendant la Deuxieme Guerre Mondiale* (Zurich, 2000), p. 52.
[674] *RG,* 11 July 1942.
[675] NA FIN S/41/0006/43, report by chief inspector, 11 Márta 1945.
[676] GSRGM 55183, 'Provision of extended road transport', Dooley to Dept. Supplies, 14 Feb. 1944.

owned ten horses in 1940.[677] When horses and drays were reintroduced for local deliveries in March 1942 'there was a very brisk demand for horses...with a result that prices rose and we were faced with considerable difficulty in securing the necessary equipment'.[678] The renewed popularity of the horse and dray is perhaps the most telling testimony to the shortcomings of the gas producer system.

Tyre shortages – the new challenge

The Japanese victories from December 1941 onwards made the fuel situation more acute and led to a shortage of rubber for tyres. The transport supplies position deteriorated in 1942. On 28 February the *Connacht Tribune* described how:

> On top of the transport difficulties caused by the shortage of coal and petrol we now have the shortage of rubber caused by the extension of the war in the Pacific....it is little use evacuating people from the cities into rural areas where essential food supplies are almost non existent for lack of transport. ... Business delivery vans could be reduced by compulsory pooling arrangements and a restriction on the number of deliveries.[679]

Private motoring had been eliminated and gas producer units had not lived up to the promises of manufacturers. A more radical approach was necessary, involving the curtailment the rights of lorry owners to carry goods in their own vehicles. This was a politically sensitive step inviting the opposition of traders and merchants who had invested in lorries. This laid the government open to charges of acceding to the demands made by the railway companies at the transport tribunal that private road transport should be restricted. This policy was nevertheless adopted as an emergency expedient. Despite assurances that these measures were for the duration of the Emergency, lorry owners and some opposition politicians professed to disbelieve such assurances. The GSR would not have been entrusted with a peacetime monopoly on road freight transport. In a similar vein,

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[677] GNRGM 267/7, Memo, 7 Jan. 1941.
[678] GNRGM 244/2, 'Horse Lorry services Dundalk', Foley to Lockhart, 11 Mar. 1942.
[679] *Connacht Tribune,* Sat. 26 Feb. 1942.

the British war cabinet considered that the railway companies should be kept away from the air industry, concluding that 'Introduction of rlys into operating co. is a disaster. They will treat it as they did the canals'.[680] Neither government underestimated the capacity of the railway companies to restrict competing technologies.

The Mayo experiment

In spring 1942, the paramount need to conserve oil supplies meant eliminating most empty lorry mileage which was only achievable through some form of centralised control. This policy was stated in a British context by Lord Leathers on 6 September 1942 when he said that 'road transport must under present conditions be regarded as a supplement to the other forms of transport'.[681] In an Irish setting, this meant restricting the miles run by lorries owned by firms such as builders, wholesalers and retailers. From 1 August 1942 the Department of Supplies curtailed petrol supplies to approximately 3,000 [682] trader-operated commercial vehicles.[683] Shortly thereafter an Emergency Powers order was prepared with the aim of severely restricting the use of private lorries–initially in one area. A memorandum from the Department of the Taoiseach described how the order:

> Provides that all private lorry owners must cease operating with the exception of GSR lorries, licensed hauliers and exempt area hauliers. The GSR will be obliged to initiate scheduled road goods services and set up depots for the collection and distribution of goods. It is believed that most if not all of the lorries put off the roads will be [hired] by the GSR and the drivers retained to drive.[684]

Scheduled road services operated by the GSR would radiate from railheads replacing lorries owned by traders. The scheme was initiated in north Mayo - an area remote from the railway system where turf harvesting created a strong demand for lorries. The Mayo County Surveyor had hired most of the available private lorries in the county for turf

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[680] BNA CAB 195/3, War cabinet secretary's notebook, 8 Mar. 1945.
[681] GNRGM 61/6a, 'Northern Ireland petrol and rubber supplies', Traffic officers' report, 22 Feb.1943.
[682] GSRGM 55183, Minute of meeting, 7 Sept. 1942.
[683] *Irish Independent,* 30 Aug. 1942 for text of notice.
[684] NA DT S12958, memo for government, 1 Meán fomhar 1942.

transport, and had supplied petrol vouchers for the work.[685] Road transport in this county was already highly regulated. The proposal became public in late August 1942, when the *Irish Press* reported 'GSR to replace private carriers in Mayo'.[686] In early September the Department of Supplies informed the GSR that they would withdraw petrol from heavier vehicles from 1 October 1942 and expected the GSR to 'undertake at once the building up of a substitute transport organisation…the extension of the…scheme over the whole country was the ultimate aim of the minister'.[687]

The legislative basis of this scheme was the Emergency Powers Act. A Dáil debate on the introduction of the order was requested by Fine Gael.[688] The request was acceded to, despite the opposition of Seán Lemass, but the opposition was advised that 'The reorganisation [of road transport] will take a considerable time to complete and it is important that some experience of the problems which will arise should be acquired as soon as possible'.[689] It was clear from this reply that the North Mayo scheme was a pilot project for a national initiative. The Fine Gael motion to have the order revoked was debated by the Dáil on 15 October.[690] Richard Mulcahy led the debate for Fine Gael, the main thrust of his argument being that the government had erred in not discussing this measure with the House and in not consulting with the National Lorry Owners' Association which had been making representations to the Department of Supplies about petrol allocation since April 1941. Mulcahy's contribution was followed by one from Mayo Fine Gael deputy Patrick Brown who was also a prominent member of the North Mayo Carriers' association.[691] Lemass outlined the dilemma faced by the government. If the government waited for a

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[685] ICEI, *Emergency Fuel* , p.138.
[686] *Irish Press,* 28 Aug. 1942. On same date *Irish Times* " Road transport of Goods- experimental scheme"; *Irish Independent* "Lorry Pool to save Petrol, Tyres"
[687] GSRGM 55183, Minute of meeting, 7 Sept. 1942.
[688] *Irish Times,* 15 Sept. 1942.
[689] NA DT S12958, Smith to Mulcahy, 22 Meán Fomhar 1942.
[690] *Irish Press,* 2 Oct. 1942.
[691] *Dáil Debates,* vol. 88, cols. 1298-1303, 15 Oct.1942.

problem to emerge they would be accused of lack of preparedness while if they took action in anticipation of problems they would be accused of unnecessary interference in private enterprise.[692] As to the choice of the road services of the GSR, Lemass said: 'It might be that in times past that the organisation might have proved itself not as efficient as they would have liked to see, but there was no other organisation we could use'.[693] In an attempt to deal with the concerns of private lorry owner, he said that 'the scheduled area scheme has been devised to cope with circumstances created by the emergency and does not represent any decision in the matter of post-war transport policy'.[694] The lacklustre debate was marked by clashes on conditions of employment in lorry owning firms between Labour's Bill Davin and Fine Gael's Browne.[695] The motion was put and defeated. An *Irish Times* editorial commented: 'There is no apparent reason why the new system should be a failure. It will mean hardship to private lorry owners and it may be less convenient than the competitive services of today: but it certainly will save petrol and if efficiently handled ought to create little discomfort'.[696] This attitude was mirrored in the provincial press when on 24 October the *Connacht Tribune* editorial stated:

> For more than a year we have been drawing attention to the seriousness of the transport problem in the west ... we suggested a compulsory pooling arrangement among business firms ... It should have been obvious from the first that the scheme was a necessity throughout the west and not just in one particular county. ... Objection may be taken to entrusting this task to a firm which has a virtual monopoly of rail and road transport in the twenty six counties, but it must be admitted that it is much more likely to make a success of it than any government could do. [697]

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[692] *Dáil Debates*, vol. 88, col.1307, 15 Oct. 1942.
[693] *Dáil Debates*, vol. 88, col. 1319, 15 Oct. 1942.
[694] *Dáil Debates*, vol. 88, col. 1319, 15 Oct. 1942.
[695] *Dáil Debates*, vol. 88, cols. 1322, 1330. 15 Oct. 1942.
[696] *Irish Times,* 15 Sept. 1942.
[697] *Connacht Tribune,* 24 Oct. 1942.

On 19 November it was announced that the order covering North Mayo would come into effect on 7 December.[698] The *Irish Times* reported that the government had asked the traders to work out their own co ordinated scheme, but that they had a strong objection to their customers being serviced by competitors. The editorial summarised the situation as one where :'Before the war there were more services than were necessary...the people who had goods for transport ...enjoyed the benefit of frequent services and of "competitive" rates...If the country's imports of petrol decreases by one half, the number of services weekly will be reduced by one half '.[699] The controlled areas scheme allowed the Department of Supplies to plan for variations in the supply of petrol in the knowledge that there would be a basic distribution service for goods. In January the *Irish Times* reported that monthly consumption of petrol in Mayo had been reduced by ten per cent from 3,100 to 2,664 gallons. The number of vehicles operating in the county had decreased by fifty five per cent from 117 to 65, of which 17 were GSR vehicles.[700] The scheme did not go unnoticed in Britain where a *Railway Gazette* editorial observed that 'there seems to be no doubt that the general public is better served by the new arrangements'.[701]

Extension of control

The Department of Supplies was anxious that the extension of the scheme be kept secret and on 8 February 1943 told the GSR of the need for confidentiality as:

> It was the desire of the government that further restrictions in the operation of trader operated vehicles be carried out without publicity, ... It was finally agreed that the new areas to be so dealt with would be the balance of county Mayo and that part of county Galway to the east of a line from Galway city to the east shore of Lough Corrib.[702]

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[698] *Irish Independent,* 19 Nov. 1942.
[699] *Irish Times,* 8 Dec. 1942.
[700] *Irish Times,* 26 Jan. 1943.
[701] *RG,* 22 Jan. 1943.
[702] GSRGM 54842/3 Reorganisation of road transport Galway, Minute of meeting, 8 Feb 1943.

A concession was made to lorry owners in the areas affected by allowing the use of gas producer fitted lorries in the controlled areas.[703] In February 1943, Patrick Flynn, principal officer in the Department of Supplies stated that 'the GSR should control all road transport required for the turf traffic as the majority of vehicles employed thereon were those owned by the traders which had or would cease to operate through the fuel restrictions; and unless such control was exercised the traders would recommence carting their own goods thus defeating the ... scheme'.[704]

A transport system based exclusively on scheduled movements could be regulated by altering the service schedules. This allowed the authorities to deal with a sudden decline in petrol supplies such as occurred in spring 1943 when last bus times in Dublin and Cork was altered from 10.00pm to 9.30pm.[705] In early May bus services were cut in half[706] but restored a fortnight later when fuel supplies improved.[707] This episode demonstrates both the volatile nature of the petrol supply and the effectiveness of the scheme in managing supply fluctuations even in the very short term. On 18 May 1943 the GSR and the Department of Supplies discussed the extension of coverage to all counties west of the Shannon.[708]

The extension of the scheme can be seen in figure 6. It was extended beyond north Mayo in April 1943 to south Mayo and west Galway; in September 1943 to east Galway, Roscommon, portions of Longford, Westmeath Offaly, Laois and Tipperary; in October 1943 to Sligo and Leitrim; in February 1944 to Clare, Limerick and Kerry and in July 1944 to the remainder of Longford and Westmeath.[709]

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[703] GSRGM 54842/3, Minute meeting, 8 Feb. 1943. GSRGM 55183/1 minute meeting, 23 July 1943
[704] GSRGM 54842/3, Minute of meeting, 8 Feb. 1943.
[705] *Cork Examiner,* 24 Feb. 1943.
[706] *Irish Press,* 3 May 1943.
[707] *Irish Independent,* 13 May 1943.
[708] GSRGM 55183, Bredin to O Brien, 30 June 1943.
[709] NA EHR 2 memo 'Internal transport' from Industry and Commerce to Dept. Taoiseach, Oct 1945.

Each expansion of the scheme was preceded by a Department of Supplies investigation. The designation of a scheduled area generally provoked strong local opposition, led by the National Association of Private Lorry Owners, whose secretary, Michael J. O' Connor BA was assiduous lobbyist

Figure 6 The extension of the controlled areas.

Source: Irish Times 17 January 1944.

Opposition generally took the form of public meetings, and lobbying of public bodies and TDs with the support of chambers of commerce. On 12 December 1942 the *Connacht Tribune* advertised a public meeting and urged lorry owners, van owners and garage employees to 'come in your thousands'.[710] A strike of lorry owners was suggested in Tipperary, while Westmeath County Council protested against the 'monopoly of transport given to the railway company'.[711]

These protests seldom outlived the introduction of the scheme. Many of the lorry owners affected were hired by the GSR to carry commodities such as turf and sugar beet. In 1941 a proposal to contract all turf haulage was considered but rejected due to

[710] *Connacht Tribune,* 12 Dec. 1942.
[711] *Irish Times,* 15 Sept. 1943.

difficulties in hiring enough lorries.[712] In July 1943 Bredin advised that private vehicles would be hired to a much greater extent to haul turf, and ordered that 68 lorries from the fleet of 568 should be withdrawn as a source of spare parts.[713] On 27 July the road freight manager reported that 'There are 27 vehicles of the company working in Mayo, it is envisaged that the majority (if not all) of these will be replaced in the future by private lorries'.[714] Thus the GSR withdrew their lorries from turf haulage in counties where the controlled road areas was introduced. In doing so they withdrew their vehicles from rough, untarred roads, leaving turf haulage with its high maintenance costs to private hauliers. The GSR also withdrew the proportion of their fleet which was most expensive to maintain, and created a reserve of spare parts.[715] The GSR gained financially as they retained six per cent of the payments to hauliers as an administrative charge. The hauliers secured constant work and an assured petrol supply. This process also allowed the national lorry fleet to be managed as a unit, despite the multiplicity of owners.

The balance between hired and GSR vehicles in the three highest mileage counties can bee seen on table 6, which shows the GSR fleet being used mainly for general merchandise haulage leaving the hired sector to do turf and beet haulage. The G.S.R. reported that it had 'Organised in each area a panel of auxiliary hired vehicles…Special attention has in accordance with your instructions, been paid to the selection of vehicles and the extent to which the owners are depending on same for a livelihood'.[716] By 1944, the GSR had hired in 500 privately owned lorries.[717]

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[712] GSRGM 55183/1, Stewart to road freight manager, 15 June 1941.
[713] GSRGM 55183/1, Bredin to rolling stock engineer, 14 July 1943.
[714] GSRGM 55183/1, Stewart to Bredin, 27 July 1943.
[715] GSRGM 55183/1, Bredin to rolling stock engineer, 14 July 1943.
[716] GSRGM 55183, Dooley to Dept. Supplies, 14 Feb. 1944.
[717] NA EHR 3 vol.2, p. 270.

Table 6 Hired versus direct lorry fleet, January 1944.

	Vehicles	Gen goods tons	Beet tons	Turf tons
Limerick	35	1884	1445	270
Limerick hire	8	0	0	204
Mayo G.S.R.	36	4285	501	36
Mayo hire	20	0	1056	356
Galway G.S.R.	71	7681	2086	328
Galway hire	102	29	14016	566

Source: GSRGM 55183, Dooley to Dept. Supplies, 14 Feb. 1944

In October 1943 the Department of Industry and Commerce asked the GSR to prepare contingency plans based on ten per cent and twenty five per cent cuts in the petrol ration. A plan was submitted within three weeks, involving a ten per cent cut by confining all services to one lorry per day, or a twenty five per cent cut by lessening the frequency of selected services. The speed with which a plan could be submitted demonstrates the success of the controlled areas scheme in matching lorry miles to available petrol. Such an approach (unacceptable in peacetime) was possible only if empty mileage was minimised and all road movements in the affected areas were under central control.

The GSR weekly circular of 22 August 1944 describes the effects of the scheme on the economy of rural Ireland. While the description is for internal consumption and uncritical it is a useful summary of the effects of the controlled areas experiment. The scheme was described as an impartial, steady and relatively cheap which was:'

> Widely appreciated, especially in the Western hinterland where large areas formerly served by the travelling shop, with its double profits basis of barter, are no longer dependent on the factors which make private distribution largely a matter of chance…the travelling shop, as such, has virtually entirely disappeared, and is replaced by an organised system of supplies depots.[718]

[718] GSR Weekly circular 2928, 22 Aug. 1944.

The report concluded that the 'barter system which imposed unnecessary costs on rural communities has largely been destroyed by the flexibility and cheapness of the new services'.[719] The process described here is both a political and a transport process entailing a reorganisation in commercial and social relations by curtailing of barter and the elimination of travelling shops. These objectives would have been popular with consumers especially in remoter areas concerned as keeping down prices and were tune with the needs of the Fianna Fáil support base in these areas. The motivation for publishing this report may well have been to put arguments in favour of the scheme and for government policy, in the mouths of thousands of GSR employees.

However, the scheduled areas scheme was primarily conceived as a means of dealing with the challenges of moving the turf harvest which overlapped with the grain and beet harvests. The scheme was piloted in Mayo and spread throughout the turf producing areas with the exception of Donegal whose transport situation was unique. It was anticipated that the scheme would be extended eastwards and the *Connacht Tribune* wrote in August 1943 that; 'with the continuance of abnormal conditions, the principle of control is likely to be extended gradually to other parts of the country until eventually it will cover the twenty six counties as a purely emergency plan'.[720] Thus, although Meath was never a scheduled county the local branch of the merchant lorry owners association took out an advertisement in the *Meath Chronicle* of 11 December 1943 opposing moves to give the railways a monopoly of road transport.[721]

Conclusion

Ireland adopted a dual strategy to manage oil shortages. An engineering solution sought to convert lorries to gas producers and this approach was championed by the

[719] GSR Weekly circular 2928, 22 Aug. 1944.
[720] *Connacht Tribune,* 14 Aug. 1943.
[721] *Meath Chronicle,* 11 Dec. 1943.

Department of Industry and Commerce, the TDB and the ESRB. An administrative approach involved designating counties as controlled areas, a strategy championed by the Department of Supplies. While these measures had parallels in Britain, the Irish measures were more stringent, reflecting the more severe oil shortages in Ireland. The scheduled areas programme dealt with the shortage which existed, while the gas producer conversion programme dealt with the shortages which were feared. The controlled areas scheme proved to be a more useful initiative for managing a severe petrol shortage than the gas producer conversion programme.

At the beginning of the war great faith was placed in producer gas as an alternative to petrol. The raw material for these units was wood charcoal in Germany or anthracite in Britain. In Ireland the TDB hoped that turf charcoal would provide a suitable fuel for gas producer units. Gas producers, were however, highly unpopular with lorry operators and widespread adoption could only be secured by compulsion. However any blame for the failure to adopt turf fuel was diffused across lorry owners in general as opposed to being focussed on the GSR as it was in the case of the use of turf as locomotive fuel. The GSR pioneered the development of gas producers units, but their motive was to anticipate demand for materials on the part of their competitors. Their capacity for technical innovation demonstrates the strength of their engineering knowledge and contrasts with the ESRB, whose attempts to produce quality turf charcoal at Turraun was a costly failure. This failure did not deter the government from driving forward a programme which secured the conversion of approximately one third of the country's commercial freight vehicles. In May 1944 a memorandum to the Taoiseach noted that 'owing to the fitting of producer gas plants the time is approaching when the critical factor in road transport will be supplies of

lubricating oil rather than petrol'.[722] The Irish gas conversion programme was mandatory and set more exacting targets on fleet operators than the voluntary programme in operation in Britain. This reflected the more severe petrol shortage in Ireland.

From North Mayo the Controlled Areas scheme spread eastwards and southwards, reaching to within thirty miles of Dublin and gave the GSR quasi monopoly powers in the designated counties. The scheme was described in the Emergency Historical Record as having 'achieved its main purpose and secured (with the minimum use of petrol tyres and vehicles) an equitable distribution of merchandise even in remote areas'.[723] This programme allowed the Department of Supplies to plan for any eventuality as outlined by Seán Lemass when he stated 'that organisation which operates throughout the country is capable of being expanded to meet the minimum transport requirements in every district'.[724] As in the case of gas producers the measures in Britain were less exacting, involving the creation of sectoral lorry pools and the Ministry of War Transport taking control of a number of well-established road haulage firms to provide the operational experience and maintenance facilities for directly running a large road transport operation.[725]

The differing experiences of the road freight and road passenger sections of the GSR during the Emergency is worthy of note. The maladroit handling of the increase in bus fares in 1941 worsened relationships between the company and the government and led partially to the restructuring of the company management in March 1942. In contrast the road freight services were used as an agent of government policy and received the grudging support of Lemass in the Dáil when he described them, despite past inefficiencies, as the

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[722] NA DT S13474, Unsigned memo to leas rúnai, 5 May 1944.
[723] NA EHR. 2, Memo 'Internal transport' Industry and Commerce to Dept. Taoiseach, Oct. 1945, p. 7.
[724] *Irish Times,* 16 Oct. 1942.
[725] Savage, *Transport,* p. 541.

only organisation which the government could use.[726] The contrast between the rail and the road sections of the business is also worthy of note. This contrast underlines the extent to which the failures on the rail side were failures of quality rather than quantity of coal. The petrol delivered in 1943 could do the same work as the petrol delivered in 1939, allowing fuel shortages to be managed by cuts in miles run. The challenge to road transport operators to eke out scarce supplies intensified after the Japanese successes of 1942. Although severely restricted, GSR services continued to provide basic public passenger transport. There were no examples of buses drawn by horses as in Denmark and Holland or buses running on tram lines due to lack of tyres, as in Budapest.[727] The road freight services of the GSR were the backbone of a nationwide goods distribution system created from scratch in 1942 and maintained throughout the Emergency. The successful coping strategy was based on the development of a nationwide logistical system rather than on the success of any 'miracle cures' in the form of native alternatives to petrol fuel.

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[726] See footnote 97.

[727] *Irish Independent,* 23 Jan. 1941, (Denmark), *RG,* 7 Apr.1944, p. 369 (Amsterdam), 12 June 1942, p. 658 (Budapest).

Chapter seven

Mobilisation

This chapter deals with the strategic role played by the railway companies and in particular by the GSR during the Emergency. It analyses the mobilization of the GSR in response to the Air Raid Protection Act of 1939, which obliged transport companies to prepare a plan to ensure the continuation of their services in the event of an air attack. The arrangements to be followed in the event of invasion are discussed in detail including the plans to destroy railway installations. The chapter discusses plans for the southward deployment of British troops with the cooperation of the Irish government in the event of an invasion. The carrying out of engineering work for the Irish defence forces will be considered, as will be certain work projected or carried out by the railway companies for the British authorities which sailed close to the wind in terms of neutrality. The chapter also deals with staff enlistment in both the British and Irish forces, company policy on desertions and reinstatements and the establishment of railway sections of the Local Security Force (LSF) and the Local Defence Force (LDF). The chapter also deals with the plans for evacuation of civilians from Dublin in the event of air raids.

While no longer playing the predominant role they did during the First World War, railways played a central role in the defence efforts of combatants and neutrals alike. Railway timetables shaped the 1914 mobilisation,[728] but the period after the First World War witnessed such a rapid development of reliable motor transport that in 1940 'most of the logistical support for the Wehrmacht was handled by road.'[729]

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[728] A.J.P. Taylor, *War by timetable* (London, 1969).
[729] A. Mierzejewski, *The most valued asset of the Reich* (Chapel Hill, 2000), p. 82.

Air Raid Precautions

The earliest mobilization of the GSR was in accordance with the Air Raid Protection Act of 1939. The GSR had advance knowledge of the government's intentions as in August 1937 two representatives of the Irish Department of Defence visited the London Midland and Scottish Railway in London and said that 'They were getting on with the general question of air raid precautions but they had not…reached the stage where they were ready to communicate with public bodies on the matter'.[730] The LMSR reported this immediately to the GSR, forwarding the material which had been given to them by their Irish visitors. The Act (which applied to the cities and to the boroughs of Dun Laoghaire Drogheda, Dundalk and Wexford) operated through local authorities but placed special obligations on essential undertakers (gas, water electricity and transport companies) to prepare a plan to keep their undertaking going in the event of air attack. The Act also obliged transport undertakings to co-operate with measures to evacuate the civilian population.

In July 1939 Morton reported that five members of staff had attended the civilian anti gas school in Griffith Barracks, of whom two had qualified as instructors.[731] In August 1939 the GSR sought volunteers to be trained as additional ARP instructors.[732] On 19 August 1939[733] an ARP scheme was submitted by the company; consisting of an overall master plan for all GSR activities, together with a sub plan for each location. The overall plan was coordinated by an active ARP committee which was established in August 1939 and had met six times by the time war had broken out. An active network of ARP squads was quickly established and the Secretary of Dr. Steeven's Hospital asked the Kingsbridge

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[730] GSRGM 38403/2, 'Air raid precautions ARP', Irwin (LMS) to Morton, 18 Aug. 1939.
[731] GSRGM 38403/8, memo, 31 July 1939.
[732] GSRGM 38403/8, Circular GSRGM 147, 'Air raid precautions', 25 Aug. 1939.
[733] GSRGM 38403/8, Egan (Defence) to Morton, 31 July 1939, Copy of scheme, IRRS archives.

ARP organisation to provide cover for the hospital as 'the male staff of the hospital is totally inadequate to provide fire fighting and decontamination duties'.[734]

Following the fall of France the Irish army hastily put together 'General Defence Plan number one' involving the creation of three mobile columns with a reserve battalion in the Curragh. This plan has been described as 'A hasty reaction to a rapidly developing situation and does not reflect the more professional plans drafted ...in October 1940'.[735] Part of these preparations involved devising instructions for railway staff in the event of invasion. On 28 June 1940 T. J. Flynn, Assistant Secretary of the Department of Industry and Commerce, wrote to the GSR requesting that they prepare as a matter of greatest urgency instructions for staff 'in the event of hostilities breaking out in this country'. Flynn attached instructions that had been prepared by the GNR for its staff in Éire and asked the two companies to ensure the two sets of instructions were as uniform as possible.[736] Draft instructions were submitted to the department on 1 July and issued to staff on 4 July. This circular outlined the arrangements in the event of enemy action by land, sea or air and applied to drivers, guards, stationmasters and in particular to signalmen, who, in addition to regulating traffic, constituted a widely scattered chain of observers in communication with each other by phone or by telegraph.[737] This emphasised the role of signalmen in conveying information. They were given a special telegraph code to carry the air raid warning within a twenty-five mile radius. Trains were to be stopped coming into danger areas, and hurried in leaving if they could get clear within a reasonable time. In the event of an air raid, passengers were to be evacuated from stationary trains and conducted to a shelter, and if no shelter was available they were to be advised to scatter. Trains containing

[734] GSRGM 38403/8, memo, 31 July 1939.
[735] C. Mangan, 'Plans and operations' *Irish Sword,* 19 (1993-1994), p. 49.
[736] GSRGM 45841, 'Emergency preparation', Flynn to Morton 29 June 1941.
[737] GSRGM 48541, Circular 156.

passengers were to be shunted into tunnels at Phoenix Park, Dalkey, Dun Laoghaire and Cork.[738]

Invasion preparations

Having established procedures for railway staff in the event of invasion, the next question to be addressed was what to do with railway equipment. In early July 1940 local military staff visited railway installations throughout the country. On 2 July the signal inspector in Waterford was approached by the military for advice and assistance in disabling the bridges over the Barrow (linking Waterford to Rosslare) and the Suir (linking Waterford to Mallow) should the need arise. On the same day the military authorities visited the Waterford locomotive superintendent seeking information on 'engine power, staff and facilities available in the event of evacuation…and discussed ways of destroying engines, rolling stock and cranes which could not be removed'.[739] The preparations were put to the test a week later when an Irish air corps plane was struck by lightning and three occupants baled out with two landing near Geashill, Co. Offaly. Unaware of the origin of the plane, the Tullamore stationmaster kept signalmen on duty (to relay information) until the Gardai gave the all clear and held a bus in readiness 'to convey armed forces if necessary to the area confirmed'.[740]

During July 1940 plans were drawn up for the destruction of key rail bridges in the event of invasion.[741] These preparations involved the cutting of holes in masonry bridges and the attachment of wooden boxes to steel bridges into which demolition charges could be fitted. The speed of the preparations undertaken by the military ran ahead of the capacity of the Department of Defence to consult with the railway companies. On 23 July

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[738] GSRGM 38403, 'ARP scheme key copy', circulars 157, 158, 159, 160
[739] GSRGM 48541, Bredin to Morton, 1 July 1940.
[740] GSRGM 48541, B. Cantwell to Floyd, 11 July 1940.
[741] GSRGM 45841, Egan to Morton, 29 July 1940.

1940 GNR traffic at Ballybay was held up for some hours when a Lieut. Kelly informed the stationmaster that a bridge was mined and that traffic would have to be stopped. Howden raised the matter with Department of Defence Headquarters the following day to be told that 'the whole matter arose out of the over zeal of a junior officer who has been put right in the meantime'.[742] He was assured that the bridges to be mined would be discussed with GNR engineering staff and that the same programme applied to the GSR. Egan of Defence wrote to Morton on 29 July 1940 advising him that 'in certain contingencies the destruction of bridges…may become necessary as a military measure…It is regretted that your company was not approached…at an earlier stage but that the minister understands that…your local officials have been approached by the military officers in the district'.[743] This letter also outlined the arrangements proposed for making the Barrow and Suir viaducts unusable and for: 'the removal of rolling stock from Waterford…Rosslare and Wexford to points further north'.[744]

This focus on the South East reflected the anticipated location of a German landing. On 3 August the Waterford locomotive superintendent reported that military representatives had previously called on him to discuss invasion preparations but that two officers had recently called and indicated that 'a serious view is being taken of the possibility of such an invasion and to ask that all engine power, 15 ton travelling crane and breakdown vans be moved in the direction of Kilkenny and Bagenalstown at very short notice…they request that one engine be always in steam on each road leading out of the shed so as to be available to haul other engines…in the direction mentioned above'.[745] The placing of locomotives in the manner requested would save about an hour in shunting. This letter

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[742] GNRGM 1023/53, 'Mining of bridges by military authorities', Foley to Howden 23 July 1940 memo by Howden, 24 July 1940.
[743] GSRGM 45841, Egan to Morton, 29 July 1940.
[744] GSRGM 45841, Egan to Morton, 29 July 1940.
[745] GSRGM 45841, Tyndall to Bredin, 3 Aug. 1940.

indicates not only the imminence with which a German invasion was expected but the hurried nature of the evacuation envisaged. These hurried preparations had a tragic and inevitable result on 22 August when Private William Larkin was killed by the morning passenger train from Wexford near Glenealy, Co Wicklow when preparing a bridge for demolition. Giving evidence at the inquest, the driver stated that the train was travelling at 55 mph at the time.[746] Arrangements were then made for GSR look out men to accompany soldiers on bridge duties.[747] The programme for preparation of bridges for destruction continued in less vulnerable areas during 1940 with for example bridges in Westmeath and Galway being tackled in November.[748]

The process of defence planning intensified during 1940 and the role of the railway system was clarified.[749] On 30 December 1940 the Cork District Superintendent reported that arrangements had been completed for evacuation of rolling stock, activated by code words which would be changed monthly. Code one meant: 'there is a possibility that scheme for evacuation of rolling stock including travelling cranes be put into effect at an early date'. Code two signified that 'It appears necessary that execution of evacuation scheme will become necessary', while code three signified: 'The evacuation scheme will be put into effect at once'. The receipt of code one was to trigger the movement of all surplus rolling stock northwards from Cork. Code two would trigger the evacuation of remaining goods wagons and the mobilisation of parties of men to disable fixed cranes and the lifting bridges over the Lee. Code three would trigger the commencement of the evacuation of all remaining vehicles. The Goold's Cross to Cashel branch was earmarked for storage of rolling stock from the Cork area. A similar scheme was prepared for the Kerry area which

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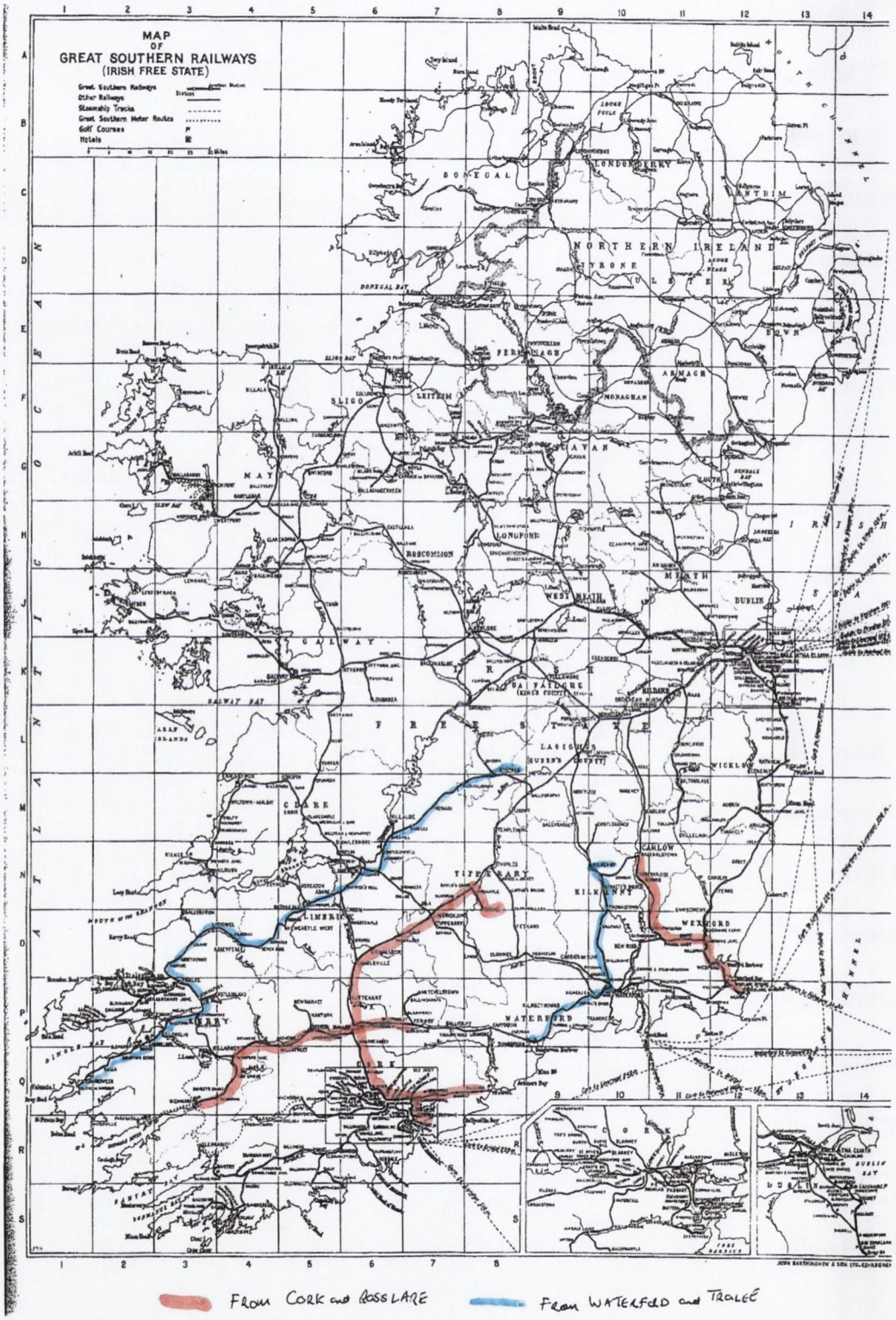
[746] *Irish Times,* 24 Aug. 1940.
[747] GSRGM 45841, Morton to Grand Canal Company, 6 Sept. 1940.
[748] GSRGM 45841, Capt. J. Kennedy Athlone to Morton, 6 Nov. 1940.
[749] GSRGM 45841, Walsh to Morton, 30 Dec. 1940.

was to be activated in the event of a landing between Bantry Bay and the River Shannon. Engines and rolling stock in north Kerry would move through Limerick to Roscrea, while those in South Kerry would go to Mallow and wait there until it could go north to the Cashel branch without conflicting with movements from Cork.[750] The preparation of a similar plan for the Limerick area was completed by the end of March, 1941 with rolling stock to be concentrated in Roscrea. The authorities suggested that the GSR should develop its own LDF sections to evacuate locomotives and stock and render Limerick works unusable. One of these sections was to be armed in order to cover the operations of men arranging evacuation and demolition.[751]

The main role of the GSR was to deny its equipment to an invading force. This process is illustrated in figure 7 below. A priority was given to evacuating locomotives. Without locomotives, the rest of the railway system was useless, as the Irish track gauge of five foot three was wider than the rest of Europe meaning that replacement locomotives would need significant alteration.

[750] GSRGM 45841, Walsh to Floyd, 30 Dec. 1940.
[751] GSRGM 45841, Report of meeting, 21 Mar. 1941.

Figure 7 Evacuation routes for locomotives and rolling stock



Source GSRGM 45841.

Planning began in the summer of 1940 in Waterford, the most vulnerable area. The vaguer plans of the two more northerly command areas reflected military and political uncertainties over who an invader might be. This contradiction was sharpest in the Eastern command, where Commdt. Grey reported that 'Certain arrangements for LDF action at Dundalk have been made'.[752] When asked to expand on this laconic observation Grey explained: 'The places from which we require rolling stock to be removed will differ according to the situation. In the case of an advance across the border we should be anxious that Dundalk and Clones traffic should be cleared to Dublin…If we were confronted with landing of airborne troops near Dublin it would not be desirable that railway traffic should converge on the city. In that case movement should be outwards to Dundalk, Clones, Mullingar and Arklow'.[753] The decision to work through the LDF in Dundalk rather than the GNR itself was an indication of the delicate circumstances facing a company which straddled the border.[754]

On 21 June 1940 the GNR was approached by Maj. Lillis about the use of its facilities in the deployment of troops. The company responded setting out a number of options.

> Assuming the troops and equipment to which you referred arrived by train in Dundalk it would be possible without detraining to continue their journey westwards by rail as far as Cavan…As an alternative the rail journey could be continued to Enniskillen and thence…to Collooney where a direct connection is made with the GSR leading northwards to Sligo or southwards to the west of Ireland. If [it] is decided that the troops are to be detrained at Dundalk, it would be possible within two and a half hours or three at the most, to concentrate 98 buses and 80 lorries belonging to the company and these could convey 4,540 troops…It will be appreciated that under certain circumstances there might be some refusals to drive troops not belonging to Éire…but such numbers would…be small.[755]

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[752] MA EDP 66, Immobilisation of rolling stock, Grey to GHQ, 5 May 1941.
[753] MA EDP 66, Grey to GHQ, 13 May 1941.
[754] MA EDP 66. Memo –Railway rolling stock removal and immobilisation, 5 Mar. 1942.
[755] GNRGM 204/1, 'Information supplied to Éire Military', Howden to Lillis 22 June 1940.

Both options involved an agreed southwards deployment of troops. The rail route described involved multiple border crossings, while the road option involved troops detraining in Dundalk for onward deployment. This could only be in a southerly direction. It is clear that Lillis' discussions with the GNR concerned a southward deployment of British troops with the co operation of the Irish government.

The Irish authorities took certain risks in making this approach to the GNR as news of such an approach to the GNR would have quickly made its way to the political or military authorities in Northern Ireland. Perhaps this was one of the reasons why de Valera stressed to Army Commanders Dan McKenna, Hugo Mc Neill and Garda Deputy Commissioner W. R .E. Murphy that 'any request to an outside power for aid in resisting an invasion could (and should)[756] be made by the government only and in no circumstances should any such request be made by our forces'.[757] At a tactical level the significance of this approach was that road as opposed to rail facilities were sought. While special trains were run in connection with exercises[758], the deployment of troops in the event of invasion was to be road based.

Staff enlistment

The war presented the GSR with questions about how to treat members of staff who enlisted. On 4 September 1939 Carthy of the civil engineer's office reported that 'a labourer named Radcliffe…had asked for a privilege ticket to London to enable him to join the British Army'.[759] The ticket was issued 'without any comment'. As reservists were called up questions were posed by staff and their unions about conditions attaching to enlistment in the Irish and British forces and about the use their free travel entitlement to

[756] Text within brackets scored through in original.
[757] NA DT S11903, Minute of conference, 15 July 1941.
[758] GSRGM 45819/19, 'LDF miscellaneous', Kirwan to Bredin, 4 Aug. 1943.
[759] GSRGM 41819/2, 'Staff joining the forces miscellaneous correspondence', Memo 4 Sept. 1939.

travel to Britain to report to their units or to enlist. Unlike their counterparts in belligerent countries, the Irish railway companies did not face the prospect of their workforces being denuded by conscription and mass recruitment. The pattern of redundancy and restrictions on recruitment in force since the nineteen twenties meant that in most departments there were fewer men of military age in the railway labour force than in 1914. On 5 September 1939 Cecil Watters, the Irish Officer of the NUR raised the position of reservists, presuming that similar arrangements to those made on previous occasions would operate.[760] The arrangements applied from 1914 by the GS&WR involved the holding of jobs, the retention of seniority, the maintenance of pension contributions and the payment of an allowance topping up military pay.[761] A memorandum for finance transfer and stores committee of the board recommended the application of the 1914 arrangements, with the question of an allowance being deferred until cases actually arose. The board deferred a decision and decided to consult the government. A draft reply to the union was forwarded to the company by John Leydon which stated: 'The international relations of this country render present circumstances much different from those obtaining in 1914-1918 and I regret, therefore, that the GSR cannot give any guarantee'. Leydon was assured that 'men called up by our own government might be regarded as on a different footing'. In adopting this cautious approach at odds with their own sentiments the GSR was protecting their relationship with the government. Leydon replied: 'you may take it definitely that our position in respect to neutrality would not be prejudiced if you decide to reinstate employees who, being reservists of the British Forces, rejoin their units during the war. If therefore you are not prepared to grant the concession...it is clearly most desirable that your refusal should be based on some other ground than that indicated in the draft reply

[760] GSRGM 41819/1, 'Members of Staff joining armed forces', C.D. Watters to Morton, 5 Sept. 1939.
[761] P. Rigney, 'Military Service and GS&WR staff 1914-1923' *JIRRS,* (161) 2006, p. 532.

which you sent to me.'[762] On 5 October the GSR board approved a proposal keeping jobs open for all volunteers in the Irish forces and for British reservists.[763] In practice the arrangements also applied to those seeking to enlist in the British forces.

This left the question of a top up of army pay in abeyance. However other large employers such as the Civil Service and Dublin Corporation decided to augment the military pay to their staff, [764] and on 23 October the Railway Clerks' Association sought a pay supplement for a member who had been mobilised in the Irish forces, citing the approach of the British Companies. The GNR advised that they had received a similar request from the NUR. The request was declined by the GSR and the low level of Irish army pay rapidly became an issue for GSR staff especially those serving as privates or NCOs. [765] As in 1918 those returning who were, once examined by the company doctor, returned to the equivalent of their former job. This anticipated by some months the general duty placed on employers in the Defence Forces (Temporary Provisions) (No.2) Bill of 1940. However there was no mass rush to enlist. In comparison with the estimated eight hundred who enlisted from the GS&WR in the previous war[766], approximately 300 GSR. employees enlisted in both armies between 1939 and 1945.[767]

Those who joined the various forces had different motivations at different times. One early motivation was compulsion with reservists being called up in September 1939. Patriotism also played a part for those volunteering for the Irish army, although low pay severely tested the patriotism of breadwinners who enlisted. The search for adventure must have motivated those who joined the British forces especially the RAF, but a sense of duty

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[762] GSRGM 41891/1, Morton to Leydon, 9 Sept. 1939; Leydon to Morton, 13 Sept. 1939.
[763] GSR General Board minute, 4571, 5 Oct. 1940.
[764] GSRGM 41891/1, note of civil service arrangements undated, LMSR circular Sept. 1939. *Irish Independent,* 9 July 1940 re Dublin Corporation.
[765] GSRGM 41891/1, J.T. O' Farrell to Morton, 23 Oct. 1940. Memo referred to is 3 Oct.
[766] Rigney, 'GS&WR staff'', p. 540 estimates a figure of 755.
[767] This is based on a database constructed from file GSRGM 41819 and its 14 sub files.

was also important. In September, Porter Bird from Kingsbridge obtained special leave to visit a sick relative in England and wrote directly to Morton from the YMCA in Swansea that he had enlisted 'owing to the fact that me being an ex British serviceman from the Great War it was only my duty to do so'. In October two permanent way workers in the Claremorris area wrote

> Having received recently a letter from the War Office London as regards our position as ex servicemen...we would gladly accept this invitation provided we get permission and would be assured of our jobs from the company when the war is over. We also wish to ask would the company permit our two sons to work temporary in our places till we return.

In June 1940 Porter Stack from Tralee wrote to a director seeking information on release terms. 'I am a British ex serviceman and my reason for writing to you personally is to keep my business private'. In December 1942 Major Tynan of the British Legion wrote to an ex army colleague in the GSR seeking information on release terms on behalf of a company employee who had been a prisoner of war during the previous war and had learned to speak German . These letters illustrate the pull of duty, but they also illustrate how the arrangements on release for the services were not widely known among the staff. The arrangements agreed by the board were not, for example, published in the weekly circular.[768]

Many Irish reservists were released at the end of 1939, only to be called up again after the fall of France in mid 1940. Irish Army pay was low, especially for those with families. Porter Greene described how even after moving to cheaper accommodation ' By being called up in the defence of the state I am losing about £1-6 per week which is rather a big sacrifice for a working man'. Helper Murphy wrote that his wages had dropped from 58/4 to 19/10 per week. Similar letters pointed out that other employers supplemented the

[768] GSRGM 41819/2, Bird to Morton, 25 Sept. 1939, Eagleton and Brennan to Ffolliot, 31 Oct.1939, Stack to Nugent, 10 June 1940, Tynan to Henry, 22 Dec., 1942.

pay of those serving. Fireman Hartnett wrote that he lost about 65/0 per week as a result of enlisting. He enclosed a letter from his wife which read: 'I cried last Saturday night when I had to give the kids dry bread going to bed. It is all right for you. You get your grub and a few bob. But to hear them crying for grub and you haven't it or no way of getting it'. Fireman Hartnett applied 'for immediate discharge from the army...so that I may safeguard my family from further ill treatment'.[769]

Table seven shows that eighty five per cent of those enlisting in the Irish army did so in 1939 and 1940, after which enlistment in the Irish army practically ceased. The table also shows a more consistent pattern of enlistment in the British forces in the early years of the war combined with a sharp increase in enlistment to the British Forces in 1943. The diverging pattern between different departments is shown in table 8. The predominance of the locomotive department reflects the large numbers of apprentices and boy labourers in this department. These workers had a contract of definite duration with a high likelihood of dismissal on the expiry of their apprenticeship contract or when they reached 21.[770] Thirty six per cent of all those enlisting came from Inchicore works, of whom fifty four per cent enlisted in the British forces.

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[769]GSRGM 41819/13, Staff called up for military service contains these cases.
[770] GSRGM 41891/2, Staff joining post 27.6.42.

Table 7 GSR employees enlisting in Irish and British forces.

Year	Irish	British
1939	87	18
1940	71	12
1941	9	18
1942	6	7
1943	6	65
1944	5	7
1945	1	1

Source: GM 41819.

Table 8 total enlisting and percentage joining British Forces.

Department	**Number enlisting**	**Percentage British forces**
Locomotive	159	54.%
Traffic	46	28.2%
Bus	40 (two served in both)	34%
Permanent Way	39	25.6%

Source: GSRGM 41819.

The pattern of enlistment among clerical staff is more balanced between the Irish and British armies. Eighteen staff joined the Irish Army up to December 1943, while fourteen (including one woman) joined the British forces in the same period. Clerks had a greater tendency to secure commissions but the officer experience did not necessarily fit them for mundane clerical tasks on their return.[771] In the case of one ex-commandant, the traffic manager wrote: 'The real problem is that [this individual] appears to have enjoyed a substantial salary in the army and resents having to accept the moderate salary appropriate

[771] GSRGM 41891, 'List of salaried enlisting since 1939', 20 Dec. 1943.

to the position he now holds'. [772] This was in marked contrast enlisted men who took a pay cut.

The treatment of servicemen seeking to leave differed between the two armies. From late 1940 the Irish army received many requests for discharge from soldiers unable to support a family on army pay. Returns from the British forces were much rarer and were generally cases of desertion or in rare instances on medical or fitness grounds. A mechanical inspector who served for a few months as a pilot officer (technical) in the RAF received a medical discharge on the basis of being 'run down'. A boilermaker failed the hearing test for flying and was rejected by the RAF but was denied discharge papers as the British authorities wanted him to go to the merchant navy where his skills were particularly scarce. He returned to Ireland in 1944 and was re-employed as a new hand, losing several years seniority.

Desertion

The issue of desertion arose especially among boy labourers and apprentices. A spate of desertions occurred from late 1943, with one boy writing 'I am home on leave from the RAF and have no desire of going back'. Military pay books were not accepted as evidence of service, and those seeking reinstatement who had no discharge papers had their cases referred to Bredin. On 17 February 1944 Ginnety wrote to Bredin that '[This] apprentice moulder is unable to produce his discharge papers…the man's father is employed as a fitter's helper …and has made representations that his boy be allowed to resume. The circumstances under which this application is made is that the boy's mother insists on his remaining at home'. In another case Ginnety wrote: 'the works manager received a deputation yesterday asking for this boy to be allowed to complete his apprenticeship…I attach a copy of application received from the lad's mother'. In yet

[772] GSRGM 41819/13, Stewart to Lemass, 6 Nov. 1946.

another case the Inchicore branch of the St. Vincent de Paul Society made representations on behalf of an RAF deserter 'whose father, an employee of the company had served as an artillery man during the Great War'. Of the nine cases of desertion eight arose among apprentices or boy labourers; reinstatement was granted in six cases and refused in two. The successful cases all had the support of parents, union delegations or the St. Vincent de Paul. Adults were treated differently, and a labourer and a bus driver who were contemplating desertion and who enquired about overstaying leave were told that discharge papers were necessary to secure re employment, as was a bus driver who sought to remain at home as his sick wife 'prevailed upon him not to return as he is due to go to Burma'.[773] Of the 34 staff recorded as joining the RAF, over a quarter deserted. The decisions taken strengthened the internal hierarchy of the railway company – sons would be looked after provided they played by the rules. This is shown by the case of an apprentice painter who had enlisted without permission and who was refused reinstatement despite having a medical discharge from the RAF. Desertion remained a live issue until January 1945 when Bredin sought the advice of the Department of External Affairs. He wrote that 'It was clear that the men in question had simply deserted…the mere absence of a proper discharge was not a difficulty. The characters of the men were already known to the company. The real problem was that if they refused to take the men back CIÉ would appear to be trying to coerce the men to re-join their units whereas if they accepted them they would appear to be conniving with if not encouraging desertion.' F.H. Boland of External Affairs replied that 'anything that looked like penalising the men for deserting from the armed forces of another country which they had originally joined as volunteers would be hard to justify in principle'.[774]

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[773] GSRGM 41819/13 Contains these cases. Names are omitted for confidentially reasons.
[774] NA DFA 241/83, Leathan miontuairisc, 30 Eanair 1945.

In January 1944 the board decided that each application for leave to enlist would be subject to Board approval.[775] Reinstatement after military service in the Irish forces was a legal entitlement, so the decision was aimed at stopping the flow of recruits to the British forces. Only sixteen requests to enlist in either army were subsequently made. Most of those seeking to join the Irish forces were facilitated, as was one request to join the British forces. Some of those refused joined the British forces without permission and were regarded as having dismissed themselves. Those joining the Irish army without permission were told that their case would be considered when the time arose. The flow of GSR staff to the RAF in 1943 might have been a political embarrassment but it also had the potential to increase staff numbers if returning servicemen, who in the interim had been replaced, reclaimed their jobs. In March 1945 an apprentice fitter applied for permission to enlist in the Royal Navy as an engine room artificer. Bredin wrote 'as consent to release might impose a liability to re-employ him consent should not be given in this case'.[776] Forty per cent of those serving in the Irish army are recorded as returning compared to twenty seven per cent of those who served in the British forces. This is a tentative judgement as it is uncertain whether returns were recorded as scrupulously as departures. A single fatality can be traced among those serving in the war, that of Patrick Coombes, a boiler washer from Inchicore and a reservist who was lost on HMS *Hood*. This contrasts with the 150 or so names recorded as having died on the First World War memorial plaques in Heuston and Broadstone stations.

Organisation of railway section Local Security Force

The most numerically significant enlistment of GSR staff was in the local security force established in June 1940. The force was organised and controlled by the Gardai and

[775] GSR Board minute 5978, 12 Jan. 1944.
[776] GSRGM 41819/13, Campbell to Bredin, 4 Apr. 1945, Bredin to Ginnety 9 Mar. 1945.

was divided into Group A which was armed and uniformed, and group B which was unarmed and intended to assist the Gardai. In early July railwaymen began to enlist in local groups and their unions sought clarification on time off for parades and lectures.[777] On July 6, G.J. Murphy the chief engineer wrote to Morton that 'I think it would be in the best interests of the country if members of this department (and possibly the members of other departments also) were not accepted for service in the Local Defence Force, group A. If hostilities should break out the railway would very probably suffer and the members of this department should be available for railway service...According to a recent number of the "Railway Gazette" it would appear that the English railway companies have been forming their own local defence volunteer units and I think it would be of benefit to the country and the company if the same idea was adopted'.[778] On 31 July 1940 the Garda authorities approached the railway companies and asked them to form a Railway branch of the Local Security Force drawn exclusively from railwaymen.[779] A precedent for this body was the Railway Protection and Maintenance Corps which recruited railwaymen to protect railway installations during the civil war.

This was the closest to mass recruitment that Irish railway companies had experienced, and the approach of the GSR and the GNR was similar to the approach of the British companies in 1914 where they secured an agreement that railwaymen could only enlist with permission of their superiors. A circular was issued by Morton on 12 August asking railway workers to enlist in the LSF and explaining that men deemed essential to the working of the railway (locomotive crew, bus and lorry drivers, signalmen guards and

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[777] GSRGM 45819/1, 'LSF, FIRRW and NUR re facilities for employees joining', FIRRW to Morton 2 July 1940, NUR to Morton, 22 July 1940.
[778] GSRGM 45819/2, Local defence force –possible dislocation of railway system through employees joining, Murphy to Morton, 6 July, 1940.
[779] GSRGM 45819, Local Security Force Railway section, memorandum, 27 Nov. 1940.

stationmasters) would not be allowed to join group A.[780] In an enthusiastic response, approximately 4,000 GSR staff responded to the appeal. A typical reaction came from the staff at Mallow who met and submitted a list of 53 volunteers. Of these, thirty-five volunteered for Group A, of whom eight had served with the IRA or the Free State army and one with the British Army.[781] The company considered the applications of 910 volunteers for group A and refused permission to enlist to about 600, due to their status as essential workers or as ARP volunteers. The majority were reallocated to group B.[782]

Although the GNR established successful groups in Dublin and Dundalk, there was a dissipation of initial enthusiasm among GSR staff. One factor may have been that completing the application form did not constitute enlisting in the LSF - it merely caused the applicant to be sent an application form to be completed at the local Garda barracks. The initial enthusiasm for enlistment might by then have been lost. Another factor was the likelihood that LSF members be engaged in general patrolling rather than on railway premises. W.R.E Murphy, the Deputy Commissioner, indicated that the railway would not be patrolled unless an emergency was declared.[783] The result was a disappointing response especially in the Dublin area where considerable difficulty was encountered in getting the hundred or so volunteers needed to form an Inchicore / Kingsbridge LSF section, despite the fact that Broadstone had an active and effective section.

Group A was taken over by the military authorities on 1 January 1941 to become the LDF.[784] In September 1942 the O/C of the Kingsbridge company of the 44th rifle battalion LDF wrote to Bredin that 'All our men are in the company's employment and are

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[780] GSRGM 45819, Circular 159, 12 Aug. 1940, GNR circular 784, 31 July. Circulars are identical.
[781] GSRGM 45819/1, 'Local Security Force - return of enlistment', list of those enlisting Mallow station.
[782] GSRGM 45819/1 Global return of enlistment.
[783] GSRGM 45819, Murphy to Morton, 3 Jan. 1941.
[784] GSRGM 45819, memo 28 Dec 1940. This move was 'announced in today's press'.

officered by responsible members of the clerical staff'.[785] The practice in the regular army where clerks secured commissions was carried over into the LDF. The rank and file were mainly workshop staff. Of the 49 men whose grade can be identified requesting for leave for LDF summer camps between 1942 and 1944, 39 were either workshop or clerical staff. The railway operating grades are represented by a solitary train guard. Some railwaymen in the southern command area joined LDF bridge demolition squads attached to viaducts over the Blackwater, Lee and Bandon rivers, but attempts to form LDF units in Limerick to protect and assist with withdrawal of stock and demolition in time of invasion shows how the grand scheme of August 1940 failed to materialise.

The potential pool of staff available for LSF service was reduced by the number in ARP squads estimated at ten per cent of staff and by operating and maintenance staff needed to run the service. In the Dublin area nearly 1,700 men were issued with passes in connection with the evacuation scheme. This pool was narrowed further by the establishment of the track warden service in February 1941. The establishment of this service reflected the misgivings expressed by the Chief Engineer G .J. Murphy about railwaymen joining an LSF group not under railway control. It was established on foot of a suggestion from the ARP committee in December 1940 that there should be a group who would respond rapidly in the event of air raids. The suggestion technically exceeded the terms of reference of the ARP committee, as the scope of the track warden service was nationwide while the ARP service was confined to certain urban areas. However, the chairman and two other members of this seven-man committee were subordinates of Murphy's. Morton approved the proposal on 6 February, subject to sufficient emphasis being placed on the voluntary nature of the commitment. The following day Murphy wrote to his divisional engineers outlining the scheme. When an air-raid warning was given each

[785]GSRGM 45819/14, Goodman to Bredin, 28 Sept. 1942.

track warden would go to a predetermined vantage point and in the event of a bomb being dropped would warn approaching trains before making themselves available for repairs. The scheme was based on the fact that the job of all of these workers was to patrol their allotted length of track each day. While stressing the voluntary nature of the commitment, Murphy left his divisional engineers in no doubt that 'It will be necessary for you…to get as many of the permanent way staff as possible to volunteer'.[786] The persuasive powers of the divisional engineers were effective, as by September 1941 it was stated that all 'Permanent way inspectors and most gangers and milesmen have volunteered to act as track wardens'.[787]

The overlapping demands of the ARP, LSF and LDF made some rationalisation necessary.[788] The acceptance of a revised company ARP plan in January 1943 was followed by an effort to combine LSF and ARP functions in one organisation. The GSR studied the efforts of the GNR who had built up an effective combined LSF / ARP organisation in Dublin with over two hundred members,[789] and used the GNR organisation as a model to relaunch their ARP and LSF units in the first quarter of 1943. An assurance was given that railwaymen members of the LSF would be confined to railway service. In allowing the GNR to use its LSF unit to provide station security, the Gardai learned from the difficulties encountered in Kingsbridge and Inchicore in 1940. The relaunched GSR LSF unit[790] carried out night patrolling of railway installations until the end of the war.[791] The attitude of railway management to the various voluntary initiatives was one of co-operation but strictly on their terms. The action of Murphy in converting the LSF in his

[786] GSRGM 38403/63, 'Track warden service', circular 7 Feb. 1941.
[787] GSRGM 38403/63, Chief Engineers' circular 12 Sept. 1941.
[788] GSRGM 38403, Memo for Board, 9 Jan. 1943.
[789] GSRGM 56258, 'Proposed co ordination of all auxiliary defence forces', Report by W. Plumer, 19 Jan.1943.
[790] GSRGM 56258, Chief Supt. Casserly to Bredin, 24 Feb. 1943.
[791] GSRGM 45819/22, Ginnety to Bredin 12 Jan. 1945 re supply of torches for LSF patrols, Inchicore.

department to the track warden service was perhaps an extreme example, but it shows the primacy of train running in the minds of railway managers. This was the approach adopted by the GNR in Northern Ireland where drivers, firemen or guards were not allowed to volunteer for the Local Defence Volunteers established under RUC auspices in June 1941.[792] The Northern railway companies fought a running battle with the Ministry of Labour and National service to have railways declared a reserved occupation. Howden of the GNR was advised to back off by his colleague Maj. Pope of the NCC who wrote that 'we have not a very strong case to put to the minister of Labour'.[793] As in the previous world war, railway management prioritised the running of trains and any initiative which threatened to strip manpower from that activity was resisted, both in the neutral and the belligerent parts of Ireland.

Manufacture and loan of equipment for defence purposes

Another aspect of the mobilisation of railway companies was through their extensive engineering workshops, where defence work had been carried out during the First World War. In October 1938 Leydon summoned Morton to a meeting and informed him that 'The Irish Government had told the British Government that they would raise no objection to contracts for airplane parts or munitions being placed in this country, and particularly with the railway companies'.[794] Morton met Ernest Lemon, the director general of aircraft production shortly afterwards. Lemon was vice president and formerly Chief Mechanical Engineer of the LMS.[795] He would probably have known Morton through shared membership of engineering institutions, and suggested that the ministry: 'should put down an aircraft assembly plant in Foynes and that Eire should be made into a regional sub

[792] GNRGM 1023/31, Memo for board, 24 July 1941.
[793] GNRGM 105/1, 'Reservation of railway employees', Pope to Howden, 5 Jan. 1943.
[794] GSR Board Minute, 7 Oct. 1938.
[795] H. Hartley, 'William Arthur Stanier 1876-1965', *Bibliographical Memoirs of Fellows of the Royal Society,* 12 (1966), pp. 488-502.

contracting area'. [796] Bredin subsequently met with the director of sub contracting and discussed the manufacture of wings at Inchicore and Dundalk. Lemon was making similar suggestions to British railway companies and allocated the construction of Hurricane wings to the LMS workshops.[797] In his discussions with the Irish companies Lemon: 'Agreed that certain difficulties might present themselves in sub contracting with a firm in Northern Ireland'. The matter did not proceed further, possibly because such a venture would have threatened neutrality as much as British possession of the treaty ports.[798] The External Affairs file on the matter was destroyed in May 1940.[799]

During the Emergency period the GSR carried out engineering work for military and civilian bodies in Northern Ireland and in Éire. On 4 June 1940 Maj. General Hugo Mc Neill approached Bredin requesting assistance in the manufacture of mines and armoured cars. Work commenced immediately and on 11 June Morton wrote to the Department of Defence advising them of arrangements and suggesting a basis for charging for the work. Defence replied on 26 June accepting the proposed arrangements, [800] and a number of military orders were undertaken. Perhaps the best remembered is the manufacture of armoured cars on Ford chassis. Less glamorous work included the conversion of sixty nine field kitchens from horse to motor haulage. Stressing the urgency of this work, Morton urged Bredin to proceed: 'with the utmost speed… Overtime to the fullest extent may be incurred'.[801] The work reflects an urgent move to adapt the army to modern warfare. Apart from the armoured car order the bulk of the expenditure was on the adaptation of field kitchens for motor haulage, the manufacture of anti aircraft mountings for Vickers and

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[796] GSRGM 38351, 'Manufacture of munitions or Aeroplane parts for the British Government', memo from E.J.H. Lemon to Sir Donald Banks, permanent under secretary, Air Ministry, 28 Oct. 1938.
[797] Hartley, 'Stanier', p. 500.
[798] GSRGM 38351, Morton to Leydon, 2 Nov. 1938, Bredin to Morton, 21 Nov. 1938.
[799] C. Crowe et al., *Documents on Irish Foreign Policy*, Vol. V (Dublin, 2006), p. 506.
[800] GSRGM 4555/1/1, 'Manufacture of equipment', Bredin to Morton, 6 June 1940, Morton to Bredin, 11 June 1940 Defence to Morton, 26 June 1940.
[801] GSRGM 45551/1/1/c, 'Fitting up of field kitchens', Morton to Bredin, 19 July 1940.

Hotchkiss machine guns, the sale and conversion of sixteen buses to field ambulances and the manufacture of 5,000 hand grenades. In the uncertainty after the fall of France, Mc Neill moved quickly to mechanise the army and to give it some anti aircraft protection, placing orders with Bredin on 4 June which were not confirmed by Defence until nearly a month later. The work was charged at the rate of time and materials plus two thirds, the rate charged to the War Office during the First World War. In 1942 a request to tender for the manufacture of eight more armoured cars was declined, perhaps in a reflection of the demands which the fuel shortage was placing on engineering facilities.[802]

During the Belfast blitz of May 1941 York Road station and workshops of the LMS Northern Counties Committee were severely damaged with 24 coaches and 260 wagons being destroyed. While the LMS sent over forty replacement coaches from Britain it could not supply replacement wagons and the NCC turned to the GNR and the GSR for help. The unburned parts of 150 wagons were salvaged and sent to Dundalk and Inchicore for remanufacture.[803] The work was under way in early June, when the GSR ARP committee visited York Road, and Pope thanked Morton for the help with the wagons.[804] The NCC owned the port of Larne and served the port of Belfast, both of which had a crucial strategic role, especially after the arrival of US troops. By rebuilding the wagons destroyed in the Belfast blitz, the GSR and GNR helped in keeping Allied forces in Northern Ireland supplied, while lessening the demands on engineering capacity in Britain.

In another initiative related to the Belfast blitz, on 22 April 1941 the Department of Industry and Commerce met the two railway companies and the DUTC to discuss the hire of buses to the Northern Ireland Road Transport Board. The DUTC stated that they had no buses available, so the matter fell upon the railway companies. T.J. Flynn of the

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[802]GSRGM 45551/10, 'Construction of armoured cars', Bredin to Defence, 8 June 1942.
[803] Board Minute, 4909, 6 June 1941.
[804] GSRGM 38403/69, 'Bombing of Belfast York Road station', Pope to Morton, 11 June 1941.

Department of Industry and Commerce stated that, while the buses were sought for the evacuation of children, they might be used on regular services as he understood that trams had been destroyed in the recent blitz on Belfast. The GSR agreed to provide forty buses with the GNR providing the balance.[805] The vehicles concerned had their GSR and GNR markings obliterated until their return in 1943, when the NIRTB took delivery of new buses.

Such aid to other transport undertakings did not constitute a breach of neutrality although it was of benefit to the war effort. The GNR provided steel plates supplied to the GSR for use in the manufacture of armoured cars,[806] and supplied field kitchens to the Irish army.[807] Dundalk works also developed and manufactured armoured railcars for patrolling the railway lines of Northern Ireland. A prototype was tested in Belfast and returned to Dundalk for alterations.[808] The military authorities ordered eight of these vehicles and although the fitting of the armour was undertaken in Belfast, the lead role in the manufacturing was undertaken by Dundalk works and an export licence was secured for delivery to Northern Ireland.[809] This was a very elastic definition of neutrality.

Not all cross border co-operation was approved. In 1942 Defence approved the hire of a locomotive to the BCDR but vetoed the hiring of fifteen coaches to the GNR, insisting that the coaches could not travel within Northern Ireland. The military authorities were unaware that permission sought was retrospective as some of the coaches were in use on a workman's train between Strabane and Enniskillen. The coaches were returned south and used on Dublin suburban services where they released coaches for work in Northern

[805] GSRGM 49180, 'Hire of omnibuses to NIRTB', minute of meeting, 22 Apr. 1941.
[806] Mallon collection, Mechanical Engineer's index 1940, p. 134, file 40/728.
[807] Mechanical Engineer's index 1940, p. 134, file 40/758.
[808] Mechanical Engineer's index 1940, p. 452, file 40/757.
[809] Mechanical Engineer's index 1941, p. 455, file 40/757.

Ireland.[810] However they continued to work into Northern Ireland until 1942 when complaints from the northern blackout authorities resulted in the coaches being confined to Éire.[811] Both Switzerland and Sweden had lent wagons and locomotives to the Reichsbahn but this was to deliver Swiss or Swedish coal.[812] The GSR coaches (described by the GNR traffic manager as absolutely essential in October 1943) on Malahide or Drogheda services would have stood out not least by their dilapidated condition, leading any knowledgeable observer to wonder whether the coaches they released were carrying troops from Omagh to Belfast docks or workers to the aircraft factories along the shores of Lough Neagh.[813]

Evacuation of urban civilians from air raids

In 1936 during the Spanish Civil War, forty thousand Spanish children were evacuated from Madrid and other cities vulnerable to bombing to Valencia, Murcia and Cartagena, with further evacuations to Mexico and the USSR later in the war.[814] All the combatants planned for the evacuation of civilians from cities vulnerable to air attack, and planning for this eventuality had commenced in the UK in 1938.[815] In Northern Ireland a joint committee of the three railway companies and the NIRTB met in July 1939 and planned the evacuation of approximately 60,000 civilians from Belfast, submitting an interim scheme on 7 September 1939.[816] Frank Aiken convened a meeting of the transport companies and other interested parties in December 1938 'to consider measures for evacuating children, old people and the sick and infirm and the equipment of hospital trains'.[817] No further progress was made until November 1939 when the government

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[810] GNRGM 97/6, 'GSR coaches in NI', Ferguson to Morton, 28 June 1941, Lockhart to Howden, 15 July 1941.
[811] Mechanical engineer's index 1942, p. 453, file 39/406/4.
[812] For Sweden see Ollson, *German coal,* p. 177, for Switzerland see *RG,* 15 May 1942, p. 577.
[813] GNRGM 97/17, 'Demurrage Hire of GSR coaches', Lockhart to Shanahan, 22 Oct. 1943.
[814] I. Lozano. D. Burgos, *Los railes del exilio Ninos de Morelia* (Madrid, 2007), p. 46.
[815] T.L. Crosby, *The impact of civilian evacuation in the Second World War* (London, 1986), pp. 20-21.
[816] GNRGM 1023/SB, 'National emergency evacuation of Children and certain adults from Belfast'.
[817] GSRGM 38403/8, Memo, 31 July 1939.

decided to conduct a survey of those likely to be evacuated from Dublin and Dun Laoghaire.[818]

The organisation of an evacuation scheme was the subject of inter departmental discussions in May 1940. On 31 May 1940 (shortly after the bombing of Rotterdam) Finance urged that a scheme should not be adopted citing, inter alia, the social and educational difficulties which would be caused by evacuation.[819] Frank Aiken, Minister for co ordination of defensive measures, and Seán Moylan, his Parliamentary Secretary, decided to progress the matter through the cabinet committee on emergency preparation before proceeding to full cabinet,[820] and on 3 June the committee considered a memo on evacuation formulated by Defence after 'discussions with the departments who appeared to be concerned and representatives of the principle transport companies'.[821] It was decided that evacuation schemes should be considered as a matter of urgency.[822] On 13 July the development of a plan was approved with the priority task being the compilation of a list of potential evacuees and hosts. The slow rate of progress may be explained as a reaction to the widely debated failure of the British evacuation in September 1939. In autumn 1940 the Fabian Society published a highly critical pamphlet which described the evacuation arrangements as 'military, male and middle class… [with] considerably less than half the evacuable population… [taking] advantage of the scheme…and over half of those who actually went [returning] home by the end of the year'.[823] In September the Luftwaffe assault on British cities commenced with a shift from day to night operations. This did not speed up Irish evacuation planning. The preparation of a final plan had to await the

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[818] NADT S11986A, Memo for government, Dept. of Co ordination of Defensive measures, 27 May 1940.
[819] NADT S11986A, Finance memo, 31 Bealtaine 1940.
[820] NADT S11986A, Moylan to Aiken, 7 June 1940.
[821] NADT S11986A, Memo, 7 June 1940.
[822] NADT S11903, Minute of cabinet committee on emergency preparation, 3 June 1940.
[823] A.D.H. Owen, Review of 'Evacuation survey: a report to the Fabian society' *Economic Journal,* 200 (1940), p. 503.

registration of potential evacuees. On 16 November an ARP report noted 'arrangements will be discussed with the transport companies as soon as information is available on requirements'.[824] This process was completed in February 1941. Although aimed at families whose income did not exceed £300 per annum, all intending evacuees were required to register as 'Those who fail to register may find themselves unable to leave the city if a serious emergency arises.' Potential evacuees comprised unaccompanied school age children, children under school age to be accompanied by their mothers or a female guardian and expectant mothers. The reception areas consisted of Roscommon, Longford and Wicklow (excluding Bray, Wicklow Town and Arklow) Leitrim, Meath and Kildare and parts of Westmeath and Laois.[825] A memorandum for government dated 9 January 1941 lists provision of transport facilities as one of the outstanding actions, while referring to the situation in Britain where: 'Many British evacuation schemes were failures…The idea that people will readily rush their families out of the cities is not borne out by what happened in …Manchester where only 10,000 of 80,000 children were evacuated following the recent heavy attack on that city…The acceptance by the Government of making the scheme attractive is therefore essential to its success'.[826] On 22 January the *Irish Press* announced that evacuation plans were ready.

It was not until 19 February 1941 the Departments of Industry and Commerce and Defence first met the railway companies and outlined their needs. The railway representatives agreed to the appointment of liaison officers and promised every co-operation to Maj. Lillis, O/C of civilian and military transport, who stated: 'The military did not intend to assume control of the railways, but that their use of them would be limited in extreme emergency to some troop movements…the question of evacuating civilians was

[824] NADT S11986A, report, 16 Nov. 1941.
[825] GSRGM 48438, 'Evacuation of civilians', Dept of Defence leaflet, Feb. 1941.
[826]NADT S11986A, Memo for government, 9 Jan. 1941.

also discussed when it was noted that when particulars of the reception areas were available, Mr. Haughey of the Dept of Industry and Commerce…would get in touch with the railway companies'.[827] Initial evacuation plans were submitted within days, with the bus department submitting a proposal providing 32,000 seats within the first 24 hours of the evacuation. The initial rail scheme was less detailed as the destination points were not known but it involved the despatch of twenty-one trains from Kingsbridge, Westland Row and Broadstone.[828] Following a meeting with the evacuation authorities on 19 March the detailed work of preparing the road evacuation scheme went ahead jointly with the DUTC. The draft scheme was completed on 5 July, but an inter-company meeting on July 18 to discuss the method of charging [829] was adjourned as the original scheme might be radically altered.[830] By May 1941 arrangements had been made for the transport of 51,300 people in the first two days.[831] In early June the plan was extended beyond two days with 10,000 to be evacuated on the third and subsequent days until a figure of 155,000 was reached on day twelve.[832]

In late August the scenario changed again, and a so-called panic evacuation was proposed, involving the evacuation of 221,000 over three days with 123,000 being evacuated on the first day. The ARP authorities agreed to give twenty-four hours notice of evacuation and required that all other services would be suspended.[833] During the summer and autumn billeting officers in the reception areas allocated evacuees to local householders. Billeting had become compulsory under an Emergency Powers Order and those with substantial houses could expect a visit. On 8 May 1941 the accountant prepared

[827] GSRGM 48438/1, Memo of meeting, 19 Feb. 1941.
[828] GSRGM 48438/1, Stewart to Morton (road) 20 Feb. 1941, Kirwan to Morton (rail,) 22 Feb. 1941.
[829] GSRGM 43438/1, Morton to Reynolds, 5 July 1941.
[830] GSRGM 43438/1, Minute of meeting, 18 July 1941.
[831] NA DT S12405, ARP weekly progress report, 10 June 1941.
[832] NA DT S12405, ARP weekly progress report, 24 June 1941
[833] GSRGM 48438/1, undated memo, ARP branch to GSR

a memo recommending that a request by Alexandra College to lease the company-owned hotel at Malranny should be accepted 'rather than risk commandeering by government for evacuees'.[834] The stationmaster in Drumshambo was informed that as he lived in a five-roomed house he would have to take three children and a woman in the event of evacuation. He protested as did his colleague in Ballinlough. Although these were the only two examples they might reflect the situation in Britain where a willingness to welcome evacuees was in inverse proportion to house size and social status.[835]

The planning process was reviewed at a conference chaired by Aiken on 22 November 1941. Despite the considerable planning undertaken, the arrangements were not regarded as adequate. On 15 December 1941 J. Linnane of Defence rang and said: 'He feared that [the GSR] did not understand the very grave position at the moment and the inadequacy of [their] evacuation arrangements…the military wanted to evacuate 160,000 people within some eleven hours, but the scheme the company had put forward would involve three days, and if the company's schedule were kept, there would be a repetition of the appalling conditions that prevailed in Belfast...If the company's proposals were to be followed it would impose on the military the task of feeding etc. of these thousands of evacuees at the evacuation centres. He wants to ask the company to make more adequate arrangements and he stated that the government is very gravely concerned about the in position at the moment'.[836] This phone call shows how the aftermath of the Belfast blitz had shaped government thinking. This was to be an evacuation conducted during or immediately after an air raid with the evacuees congregating at embarkation centres on the assumption that their homes had been destroyed or rendered uninhabitable by bombing.

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[834] GSRGM 48320, 'Hotels-proposals to lease out buildings', Hartnell Smith to Morton, 8 May 1941.
[835] GSRGM 48438/3, 'Exemption of stationmasters' houses in designated areas', memos to Traffic manager from stationmaster Drumshambo, 10 July 1941; Stationmaster Ballinlough, 22 July 1941.
[836] GSRGM 48438/1, minute of telephone call, 15 Dec. 1941.

At a meeting held later that day, the Department of Defence indicated the Government's requirements. ARP headquarters had requested and received a table of all GSR locomotives carriages and wagons in June 1941. This information was categorised by region and estimated the number of vehicles necessary to run a basic service and the number that were spare.[837] With this information the military drew up a framework evacuation plan and presented it as a *fait accompli* to the GSR who were left to work out the details. This was for an evacuation of 145,434 people 54,013 by train to counties Meath, Westmeath, Longford, Leitrim and Roscommon, 50,437 by bus to destinations the same counties and 40,984 by train to destinations in counties Wicklow and Wexford. The Departmental representatives said that

> The government requires a scheme…for evacuation to commence at two hours notice…Neither Kingsbridge or Amiens Street stations can be utilised…The ordinary scheduled train service … must be suspended. A total of 96 trains will be necessary…of these 55 will leave from Liffey Junction and 41 from Westland Row or Harcourt Street… [The] 360 coaches will make up 36 separate trains (carrying capacity of 1,000 passengers) as follows: 19 trains to main line stations Mullingar Ballinasloe, 10 trains Navan and Kingscourt branch, 24 trains Mullingar -Sligo branch and 12 trains Athlone Claremorris branch. The government prohibits the return to Dublin of the ten trains to Navan and Kingscourt branch. The 9 trains for main line, together with 3 from the Sligo and Claremorris branches must return empty to Dublin at once via Clara and Portarlington to form further trains. Seven more trains must be provided from …coaches operating on Southern section…coaches in Inchicore works which are capable of running will also be requisitioned.[838]

In order to make this programme work the GSR drew up a twelve-point action programme, covering the technical, stores and staff issues which needed to be dealt with, and which plan was approved by Bredin on 23 December.[839] This panic evacuation was on a much larger scale than any operation undertaken by the GSR and involved moving on the first day five times more people than travelled for the 1939 All Ireland hurling final where

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[837] GSRGM 45841, 'Air raid precautions invasion plans', Morton to Maj. A. Lawlor 27 June 1941.
[838] GSRGM 48438, Minute of meeting, 15 Dec. 1941.
[839] GSRGM 48438, Note by Bredin, 23 Dec. 1941.

21,000 seats were provided.[840] The evacuation arrangements bore the hallmarks of the tactical use of railways by the military to mobilize and concentrate troop formations. 'Concentration comprised [trains] that could be timed meticulously…Train movements would be fewer and slower than in peacetime and would follow a quite different pattern [requiring] uniform speeds and [train] lengths…standard times were set for feeding men and animals and for fuelling and watering engines'.[841] This pattern of traffic would require the suspension of railway traffic management entitled block working as required by the Regulation of Railways Act 1889. The speeds planned for the western evacuation special trains were on average between sixteen and twenty three mph, compared to speeds of between twenty-eight and thirty-two mph in the 1942 working timetable.[842] The consistent size of each train is a further demonstration that the evacuation was based on a military template for railway operation. The requirement of the military authorities was for a plan developed in accordance with a military template specifying resources, duties and contingency arrangements. This was new to railway management and may have been the source of some tensions. P. J. Floyd, the traffic manager, was an experienced railway operator but was over 65, and was immediately affected by the Board's decision of January to apply compulsory retirement at 65. His successor J. O' Dowd wrote to Bredin on 7 February 1942 that 'no provision has been made for the allocation of engines, carriages or trucks…No provision has been made for supplying trains for purely military purposes'.[843] Whether this letter reflects a lack of preparedness on Floyd's part or the actions of a newly appointed manager seeking to impress his superiors, Bredin annotated the letter to the effect that no action need be taken.

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[840] GSR Weekly Circular 2674, week ending 9 Sept. 1939.
[841] D. Stevenson, 'War by timetable? The railway race before 1914', *Past and Present,* 162 (1999), p. 167.
[842] For train speeds see schedules in file and GSR working timetable 1942.
[843] GSRGM 48438, O' Dowd to Bredin, 7 Feb. 1942.

Work continued on the preparation of a plan and on 24 February a department of Defence memo reported that 'The transport companies have prepared schedules for an evacuation of 145,000 in eighteen to twenty four hours…The western sector from which 68,000 have to be removed presents greatest difficulties…a complete clearance of the 54,000 allocated to Liffey Junction is the best possible in view of military restrictions on return of trains'.[844] Completed plans for the rail and bus evacuations were submitted on 6 May 1942[845] at a cost of £2,300 for the road scheme and £20,000 for the rail scheme.[846] The bus-based evacuation was simpler as the bus companies had already arranged to call in their drivers and move buses to a place of safety in the event of an aerial attack on Dublin.[847] Evacuation involved adding passengers and changing the destinations of a scheme already in place. Such difficulties as arose were due to weak bridges, narrow roads and the fact that the reception areas were based on district electoral divisions rather than the road network. The GSR and the DUTC planned to carry 50,000 evacuees on two hundred double-deck and one hundred single-deck buses from embarkation points at Ashtown and Griffith Avenue to destinations in Meath, Westmeath, Longford, Cavan and Leitrim. The Department of Defence recognised that the GSR would: 'Have to make a much more elaborate scheme before the rail transport scheme [could] operate to the extent necessary.'[848] The rail scheme took longer to perfect but operated an average speed of twenty mph compared to the ten mph planned in the bus scheme. The narrowness of the roads at some points prevented returning buses passing outgoing buses thus precluding night-time operation.[849]

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[844] NA DT S11986A, memo for Government, 24 Feb. 1942.
[845] GSRGM 48438, Bredin to Egan, 6 May 1942.
[846] GSRGM 48438, Stewart (GSR) and Martin (DUTC) to Defence, 6 May 1942.
[847] NA DT S11986A, Memo for Government, 24 Feb. 1942.
[848] NADT S11986A, 24 Feb. 1942.
[849] NADT S11986A, 24 Feb. 1942

While the bus plan remained unchanged, the geographical scope of the rail plans was altered on a number of occasions. The Western plan was rebalanced with evacuees being diverted to more westerly destinations in early 1943. (See figure 8) The westernmost destinations moved from Ballinasloe to Athenry on the Galway line, Castlerea to Westport on the Mayo line and Ballaghadereen to Collooney on the Sligo line. The number of trains sent to the Kingscourt line was halved to five. The development of more long distance destinations was intended to spread the burden of evacuees more evenly and was also facilitated by the availability of better fuel by the early part of 1943.

The South Eastern evacuation plan was changed significantly on a number of occasions. On 10 March 1942 Defence stipulated that an additional 15,000 evacuees should be conveyed to destinations in Counties Wexford and Carlow using the line between Macmine Junction (south of Enniscorthy) and Bagenalstown.
In May, the GSR was advised that this line was not available for evacuation trains.[850] The line was the route for evacuating locomotives and rolling stock in the event of an invasion.[851] In 1943, a supplementary scheme was prepared which saw the 5,000 Bray evacuees being redistributed by road to counties Wexford and Carlow. On 27 April the Department of advised that 'It has been decided not to use Westland Row…as an embarking point and to entrain at Landsdowne road station the 10,000 evacuees hitherto allocated to Westland Row (in addition to the 5,000 evacuees already allocated to Lansdowne Road). Trinity College grounds were also been eliminated as an assembly centre and the evacuees who were to be assembled there will be assembled at Landsdowne Road rugby football grounds. In November 1943 the line from Westland Row to Dun Laoghaire was abandoned for evacuation purposes. The final version of the plan completed

[850] GSRGM 48438, Linane to Bredin, 19 May 1942.
[851] MA EDP/66 railways.

in April 1944 envisaged an evacuation of 28,000 people via the South Eastern section from Harcourt Street, Ranelagh and Milltown and 4,000 from Dun Laoghaire and Dalkey. In May 1942 Bray, only seven miles from Dalkey was planned as an evacuation destination for 11,000 people, while in April 1944 Dalkey was to be evacuated and Bray was only a staging point for onward transfer of evacuees to destinations in Carlow and Wexford.[852] These changes show the increasingly pessimistic assumptions underlying evacuation planning as the war progressed.

There were no evacuation plans for locations outside Dublin. The matter was pursued in a somewhat desultory manner in June when approval was given for a preliminary survey for the evacuation of Cork, Limerick and Waterford. Nothing seems to have come of these surveys, perhaps because of the conflict between evacuation of civilians and evacuation of railway equipment. In response to a demand for an evacuation plan for Cork, the Department of Defence stated in August 1942 that any evacuation programme would have to rely on such GSR buses as were not needed by the military. The memo added that defence would not consider giving its plans to public companies (such as the GSR) for security reasons.[853]

Providing coaches for the evacuation plan was not a problem as even before the service cuts of July 1941, 450 of the 813 GSR coaches were classified as spare and used for seasonal peaks in traffic. [854] The Dublin region alone had 260 spare coaches of the 360 needed for evacuation. The original plan to await the arrival of trains from the provinces

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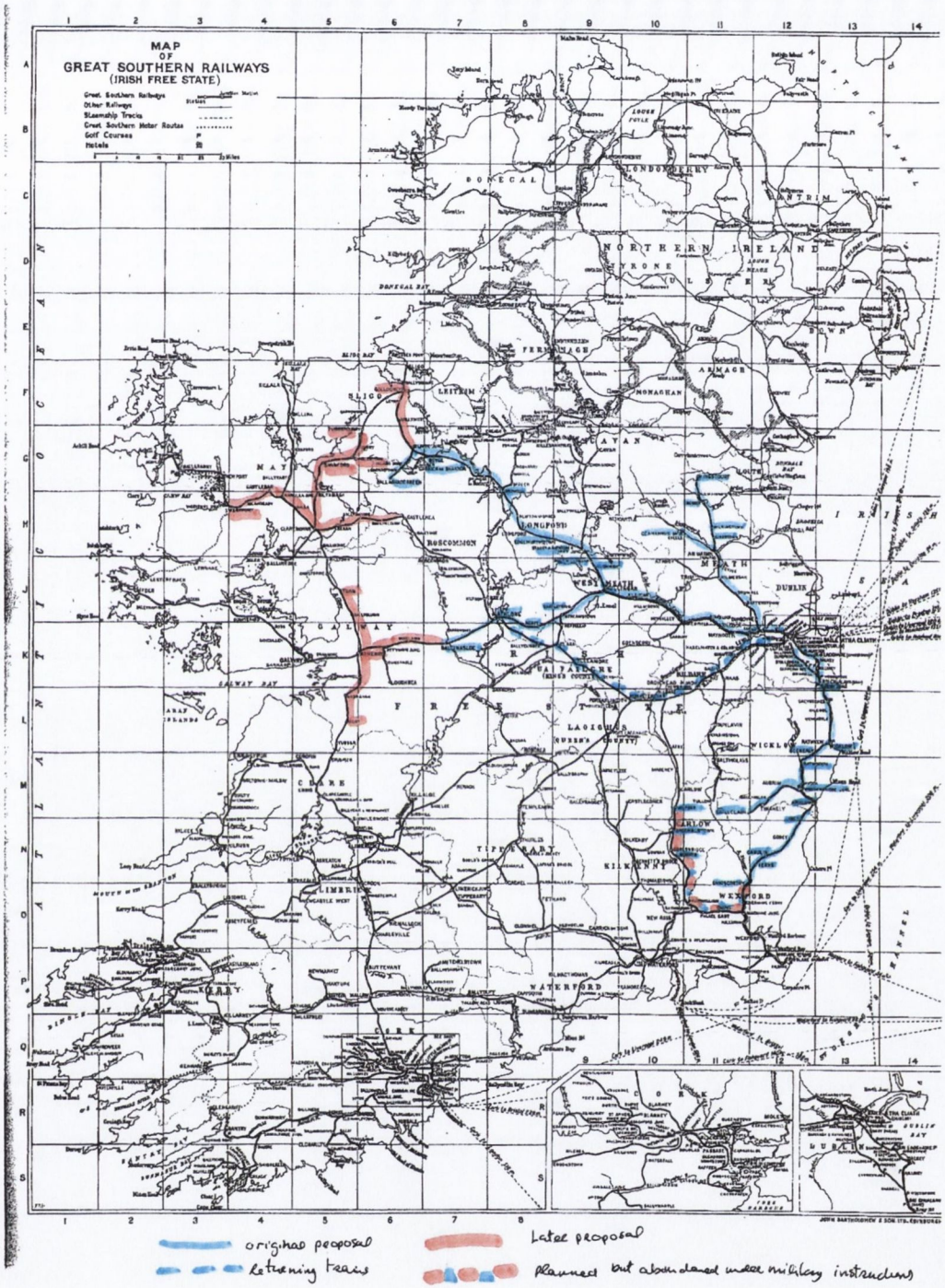
[852] GSRGM 48438, Quigley to Bredin, 7 Oct. 1943.
[853] NADT 11986A, Memo, 27 Aug. 1942.
[854] GSRGM 45841, Morton to Maj. A. Lawlor, 27 June 1941.

Figure 8 Rail evacuation schemes showing destination stations highlighted.



Source: GSRGM 48438

trains to make up evacuation trains made the evacuation plan vulnerable to disruption of the Dublin to Cork line. It was therefore decided to store the evacuation trains in the greater

Dublin area. One of the double tracks between Liffey Junction and Clonsilla was converted to a 5.5 mile long siding. On 4 November 1942 the Cabinet committee on emergency preparation decided that carriages for evacuation trains were to be removed at once to this siding.[855] When the GSR received this instruction, they approached Industry and Commerce with a view to having the instruction deferred until a threat was imminent. On 27 February Defence wrote to Bredin agreeing to an alternative arrangement in view of the importance of this section of track in ensuring continuity of turf supplies to the capital.[856] The revised arrangement saw the holding of 190 coaches in eight stations in the Dublin area. Parked in such locations as Leixlip and Naas, the coaches provided a dry if musty shelter for courting couples, some of whom were summoned to Naas district court in May 1943 when the district Justice said: 'I hate to spoil romance in Naas but if this kind of thing occurs again, the culprits will go to Mountjoy.'[857]

The development of an evacuation plan required the commitment of a significant amount of managerial time, especially as some of the plans went through multiple revisions. The tasks ranged from the issue of identity permits to the staff to the provision of emergency coal and water arrangements. One of the most time consuming tasks was the preparation of a set of instructions for each location. Special arrangements were made for latrine and field kitchen arrangements in Liffey Junction, Ranelagh and Sydney Parade and for the provision of hot food to evacuees.[858] The feeding of such a large group of people was given some consideration. It was proposed to serve a hot drink and some food to evacuees and facilities (including trench latrines) were put in place in the embarkation

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[855] NADT S11903, Minute of meeting, 4 Nov. 1942.
[856] GSRGM 48438/2, Egan to Bredin, 21 Jan. 1943, Bredin to O Brien, 1 Feb. 1943, Egan to Bredin, 27 Feb. 1943.
[857] *Evening Mail,* 14 May 1943.
[858] GSRGM 48438/7, Egan to Bredin, 9 Sept. 1942.

stations of Liffey Junction, Sydney Parade, Dalkey, Milltown and Ranelagh.[859] Provision was also made to provide each evacuee with a two pound loaf of bread, to be loaded in the van of the train before it was filled with passengers.[860] It was also planned to send: 'A quantity of flour sufficient for the needs of evacuees for a period of one week. The total amount required is approximately 357 tons…each train to carry 2.25 tons in the guard's van'.[861] Lorries supplied the bus evacuation areas.[862]

Defence planners envisaged widespread destruction in central Dublin, and their assumptions became increasingly pessimistic as the war progressed. In 1941 it was envisaged that neither Kingsbridge nor Amiens Street stations would be usable and that there would be extensive damage to water mains (as shown by the extensive correspondence about mobile water pumps). The arrangements for provisioning the evacuation with flour involved a north side and a south side mill and three alternates in the event of the nominated mill being put out of action.[863]

The late start of evacuation planning allowed the Irish to learn from the failures of the British scheme of 1939. However the snail's pace of progress in the Department of Defence between May of 1940 when it was decided to establish a scheme and February 1941 when the transport companies were approached meant that no evacuation plan existed between the fall of France and the invasion of Russia arguably the period of highest risk. The cause of the delay was due to the Department of Defence undertaking tasks sequentially rather than in parallel. Transport preparation did not commence until the registration of evacuees was completed. While the details of transport could not have been finalised until the final numbers and destinations were known, it seems strange that the

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[859] GSRGM 43438/7, 'Provision of facilities for intending evacuees', Defence to Bredin, 9 Sept. 1942.
[860] GSRGM 48437/7, District engineer to Bredin, 25 Sept. 1942.
[861] GSRGM 43438/8, 'Transport of flour to reception areas', Linane to Bredin, 6 May 1942.
[862] GSRGM 43438/8, Schedule dated 22 July 1942.
[863] GSRGM 43438/8, Memo re particular of firms nominated to supply flour.

transport companies were contacted so late in the process. Under the 1939 plan it was proposed to evacuate fourteen per cent of Belfast's population of 438,000 and twenty one per cent of London's population of 8.6 million.[864] The initial Dublin plan proposed to evacuate eleven per cent of the population of 473,000. Later amendments saw those proportions rise to thirty one per cent in December 1941 and thirty four per cent in March 1942.[865]

The planning of the evacuation scheme seems to have been laborious and not particularly effective. It seems to have taken inordinate amounts of time to settle relatively minor matters. For example, in 1941 the Department of Defence agreed to make available 800 tons of good coal for evacuation trains but the matter was not finalised until 1944.[866] In a review of all aspects of the evacuation scheme undertaken in early 1943 the army described the transport of the scheme as workable. However the analysis of the scheme as a whole concluded that 'The scheme is incomplete, and does not indicate much prospect of reaching finality'.[867] Fortunately the scheme never had to be put to the test.

Conclusion

The Irish railway system was of less importance than the British system in the First World War and was not considered worthy of government control until 1916. By 1939 the tactical role of the Irish railway system had diminished even further, given the developments in motorised transport. Even in 1914 the time involved in detraining meant that railways were considered uneconomic at distances of under 100 miles.[868] One exception to this was the 30-mile deployment of the Curragh mobile column in four special

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[864] M. Brown, *Evacuees wartime evacuation in Britain 1939 -1945* (Stroud, 2005), p. 16.
[865] M. Muldowney, *The impact of the Second World War on women in Belfast and Dublin an oral history,* unpublished PhD thesis, TCD, 2005, p. 41 contains these statistics.
[866] GSRGM 48438/4, 'Reserve and storing of coal', passim.
[867] MA EDP/40/8, Austin Lawlor to GOC, 19 April 1943.
[868] M. Van Creveld, *Supplying war- logistics From Wallenstein to Patton* (Cambridge, 1977), p. 114.

trains on Easter Monday 1916.[869] However, the development of reliable motor transport meant that by the Second World War the critical distance for rail deployment had moved to 200 miles.[870] When Major Lillis outlined his requirements to the GNR in June 1940 it was for the use of the company's road fleet. When he told the GSR in February 1941 that the army would not take over the rail system except in case of extreme emergency he was reflecting the limited role that railways would have in a motorised war. For Irish defence planners the main role of the GSR was to put as much rolling stock as possible out of reach of an invader by evacuation or immobilisation.

A more extensive role was envisaged for the railway companies in the area of civil defence. The GSR was expected to enrol and maintain its own ARP and LSF units. In this area the concern of railway managers in 1940 was the same as in 1914 – they sought to minimise the enlistment of their skilled operation and maintenance staff as much as possible. There was no great difference between the behaviour of the GNR in Northern Ireland and that of the GSR in Éire in securing this objective. However the most important tactical role of the GSR was to evacuate thirty per cent of the civilian population of Dublin in the event of bombing. Successive plans were developed from late 1941 involving both bus and rail transport. While the planning was conducted by the railway staff, it was on an essentially military template identical to that applied in the mobilisation of the armies of 1914. The adequacy or otherwise of these plans was thankfully never put to the test, but this should not obscure their ambitious scope their extensive nature. Notwithstanding its diminished role in comparison with 1914 – 1918, the railway system was: 'A true arm in time of war…as a means of military transport of evacuation or of supplying the civilian population the railway system through its rediscovered monopoly experienced exceptional

[869] P. Rigney, 'Easter week 1916 and the Great Southern and Western Railway', *JIRRS,* 160 (2006), p. 460.
[870] Van Creveld, *Supplying War,* p. 143.

traffic, mobilising…all material and human resources available to it'.[871] This is a description of the role played by the French railways between 1939 and 1945. It can be applied with equal accuracy to the GSR.

[871] Ribeill, G., 'Les chantiers de collaboration socials des federations legals des cheminots (1939-1944)', *Le Mouvement Social,* 158 (1992), p. 87.

Chapter eight

Coping Strategies

From an exclusive reliance on Welsh coal the GSR was forced to become an innovator with other fuels. Between May 1942 and April 1944 the GSR adopted a combination of strategies involving various experiments with fuel and combustion and the reorganisation of operating methods, such as recasting of timetables. This chapter will analyse this process and will show that the main characteristic of Emergency technical change on the GSR was 'Its cumulative character and the lack of a single impressive innovation'.[872] (The durability or otherwise of these changes will be considered in the following chapter.) As the difference between a path finding idea and a technical *cul de sac* is often only visible in retrospect, both successful and unsuccessful experiments will be considered. The GSR initially placed its faith in the substitution of turf for coal, which had it proved successful would have been an impressive innovation. However, the most significant and successful initiative was purchase of second hand coal briquette manufacturing machines from Britain. This move was geographically rather than technically innovative.

When coal briquettes became available, they allowed the GSR to use the inferior coal available and gave them a fuel supply system on the continental model. This alleviated the crisis and allowed management to devote resources to other technical and organisational changes. The main characteristic of the period between 1942 and spring 1944 was one of stability. This chapter will, in addition, consider the social aspects of this stability in the area of railway working conditions, and the role of the railway system as an illicit source of fuel for neighboring householders.

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[872] N. Rosenberg, *Inside the black box –Technology and economics* (Cambridge, 1982), p. 70.

Coal briquettes had been used as domestic fuel in Ireland since the late nineteen thirties coincidental with the development of the Arigna coalfield,[873] and they were used widely as locomotive fuel in mainland Europe. In 1938 when the British Foreign Office was considering sanctions against Spain they considered that 'Simultaneous denial of high quality coal and pitch for briquettes would seriously embarrass the railways'.[874] In July 1941 Morton sought information from the Department of Supplies on briquette manufacturing plants and was informed that one company was manufacturing and that another was in the process of commissioning a plant.[875] Manufacturing a coal briquette suitable for the locomotive firebox was a more challenging process than manufacturing a briquette for a domestic grate. A locomotive firebox functions at a temperature of 2,000 degrees with a draught of in excess of 200 mph.[876] From September 1941 a number of outside contractors such as Sisk and Sutton's of Cork manufactured briquettes for the GSR with generally successful results. Martin White describes how 'Supplies of ovoids began to arrive from a local coal merchant. These were made from duff mixed with pitch and turned out very satisfactory'.[877] (Briquettes were square, ovoids were oval). The GSR concluded that 'A briquetting plant would greatly reduce and almost eliminate the difficulties caused by the general low volatile content of the coal',[878] and decided to establish manufacturing plants under their own control. Between late 1941 and summer 1942 three machines were purchased from a Glasgow concern and another machine from a London gasworks.[879] No difficulties were encountered in securing export approval from the British chief censor's office or in securing passports for GSR technical staff travelling to Britain. This shows the

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[873] NA DT 7795A, 'Arigna Mineral exploration', memo for executive council, 2 July 1936, p. 5.
[874] BNA POWE 26/398, FO memo 'Spanish postwar railway and transport coal situation', 1938, p. 7.
[875] GSRGM 53960, 'Briquette manufacture', Morton to Supplies, 11 July 1941, reply of 6 Aug.
[876] *RG,* 4 Sept. 1942, p. 216.
[877] M. White, 'Fifty Years of a locoman's life', p. 266.
[878] GSRGM 53960/10, 'Briquetting miscellaneous', Bredin to Morton, 3 Sept. 1941 re manufacture by Sisk. Bredin to Ginnety, 20 Oct. 1941, re an unsuccessful batch from the Kingscourt terra cotta company.
[879] GSRGM 53960/9, 'Purchase of briquetting plants', memo for chairman, 2 Sept. 1942.

Mines Department had no objection to an arrangement allowing the GSR to make more efficient use of low quality fuel. The machines arrived in Dublin in mid -December 1941 and the process of re commissioning started. This process was delayed by lost parts and other problems with reassembling the machinery. The company later told the fitters' unions that: 'The new plant was not in good mechanical order–we had no experience of it'.[880] However a tentative starting date of late March was given,[881] and by mid April: 'The machine although broken down and under repair had produced 3 tons of briquettes which had proven very effective'.[882]

The increasingly chaotic train service was in dire need of alternative fuel. A survey of late running freight trains taken on 11 and 12 April revealed an average delay of nine hours and that 'trains are taking approximately 24 hours en route and instead of reaching their destinations during the early hours of the morning are...[travelling] during daylight when the wagons should be available for discharge'.[883] On 15 April the new chairman A.P. Reynolds optimistically promised a better service to the Irish cattle traders' association using briquettes.[884] Satisfactory production of briquettes finally commenced in late April, and on the twenty eighth, the Cork passenger train successfully used briquettes for the first time. The locomotive inspector reported: 'the engine steamed exceptionally well, maintaining water and boiler pressure...The fire kept in good condition and there was good lasting in the briquettes used'. Bredin wrote a single word on the report – 'satisfactory'.[885] A corner had been turned in the fuel crisis and trains began to run to something approaching a schedule. The *Irish Times* of 15 May reported 'Cork train only two hours late'.

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[880] GSRGM 53960/10, Minute of meeting, 3 Apr.1946.
[881] GSRGM 53960/2, Ginnety to Bredin, 6 March 1942.
[882] GSRGM 53960/2, Memo for general manager, 17 Apr. 1942.
[883] GSRGM 53673, 'Late running of goods trains', O' Dowd to Bredin, 13 Apr. 1942.
[884] *Irish Press,* 15 Apr. 1942
[885] GSRGM 53960/2, 1 May 1942, Ginnety to Bredin.

A French textbook describes how briquettes are:

> Formed of coal dust often washed, which is moulded with the help of pitch…With a low ash content it is equivalent to good quality large coal, the pitch being itself a rich source of carbon, but briquettes made with low quality coal will disintegrate into dust before complete combustion has taken place. [886]

J.H. Dudley, an engineer in the locomotive department described in 1947 how experiments with various combinations of material failed as:

> Either the cement bond cracked in contact with the fire …or the volatile matter...burned away thus splitting the bond and the briquette collapsed. It is easy now to dismiss these experiments in a few lines but at the time the consequences of each experiment were vital and the success of any one of them would have been extremely important.[887]

Knowledge of the operation of briquette machines was therefore crucial to success, and the GSR went to some lengths to recruit someone with such knowledge and experience. The engineer in charge of dismantling the plants in Britain was mandated to offer employment to the machine operator but refused the operator's demand for a wage of £9 per week and a two-year contract as excessive.[888] Such a demand shows that the skill and knowledge crucial to briquette manufacture was scarce in Ireland. The Dublin General Steam Shipping Company supplied plans and technical knowledge but with the reservation that as they were: 'the pioneers in Éire of the manufacture of briquettes' they wished to safeguard their commercial position after the war.[889] It was these concerns about intellectual property that caused the GSR engineer in charge of dismantling the plants to pass himself off as the employee of a Dublin coal merchant while he was in Britain.[890]

On 6 February 1942 Charles Johnston had two meetings in Cardiff with the Mines Department. In the morning meeting he requested duff and slack for briquette manufacture.

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[886] Sauvage, *Machine Locomotive,* p. 97.
[887] Dudley, J.H., 'Railway fuel problems', *JIRRS,* 3 (1947), p. 66.
[888] GSRGM 53960/2, Report of Lyons, 4 Oct. 1941.
[889] GSRGM 53960/9, Ratledge to Reynolds, 1 Sept. 1942.
[890] GSRGM 53960/2, 'Purchase of Briquette Plant from Forest patent fuel company', passim. For clandestine dealings see correspondence between Mc Mahon- and Morton. Instructions from Bredin to George Lyons, engineer in charge of dismantling and shipping the plants.

In the afternoon he met Norman Smith who was pessimistic on the prospect of coal supplies, stating that 'there could be no increases in quantity or improvement in quality and that present indications were that both would worsen'.[891] The report of this meeting concluded: 'Arrangements have been made for Mr. George Lyons when finishing his enquiries ...at Silloth to proceed to Newport Mon. to meet Mr. Johnston and obtain information which Mr. Johnston states he could not convey to the company either by letter or telephone'. [892] This information may have been related to further cuts in supplies, as in March the GSR was informed that coal for briquette making would have to be set against their steam coal allocation or exchanged with the ESB.[893] However, on 16 May 1942 Leydon recorded that Smith was 'allowing export licences for duff in considerable quantities', and that he had to request more large coal from Smith as 'at present the railway company is not in a position to briquette in large quantities as they have only one plant working, the capacity is limited and it may break down'.[894] The willingness of Britain to supply raw material for briquettes had outstripped the capacity of the GSR to use the raw material.

Following the commissioning of the briquette plants a series of managerial changes were made. On 5 May 1942 an engineer was put in full charge of the distribution of coal and of the anticipated 100 tons per day of briquettes.[895] One week later another engineer was given charge of the briquette making plant at Inchicore, with complete responsibility for the maintenance and maximum output from the plants.[896] On 21 May the introduction of three-shift working was discussed with the Department of Industry and Commerce, who agreed .that the company's coal position constituted an emergency and exempted the

[891] GSRGM 53960/2, Ginnety to Bredin, 7 Feb. 1942.
[892] GSRGM 53960/2, Ginnety to Bredin, 7 Feb. 1942.
[893] GSRGM 53960/2, Report of telephone call, 7 Feb. 1942, Meadows to Bredin, 26 Mar.1942.
[894] NA DFA P23.1, Note of a phone conversation, 16 May 1941.
[895] GSRGM 53206, Minute, 5 May 1942.
[896] GSRGM 53206, Minute, 12 May 1942.

proposed shift-working from the Conditions of Employment Act.[897] These changes reflected the move of briquettes from the experimental to the mainstream.

By August, 1,000 tons of briquettes were being produced each week and shortly thereafter the *Irish Press* reported 'On a few occasions recently the train from Cork arrived at Kingsbridge ahead of schedule'.[898] After the appointment of Reynolds, the *Irish Press* adopted a sympathetic attitude to the GSR and its attempts to use alternatives to coal.[899] (The *Irish Press* editorials at this time have been described by Claire Wills as reading like government communiqués.)[900] The availability of briquettes brought improvements in the passenger timetable, and on 29 June an additional daily train to Limerick was introduced augmenting the 09.00 service to Cork.[901] The *Irish Press* reported that 'Overcrowding disappeared with the new double train service to the South and west which began yesterday'.

Briquettes were reserved for passenger trains and for 'perishable' trains carrying items such as butter, milk, fish, meat or livestock. These trains were as important as passenger trains throughout the Emergency as the material they carried was food, in many cases for export. The carriage of this food was a central point in any dealings with the British on GSR coal supplies. Thus in May 1943 Bredin wrote to the traffic manager that

> Information has been reaching the Department of Industry and Commerce as to the number of passenger vehicles attached to perishable trains. I was reminded that …we refused salmon traffic ex Mallow…on the plea of overloading. Nothing need be done about the matter except to see that the conveyance of passengers on these trains is not overdone and that the attaching of passenger vehicles does not interfere with the working of legitimate perishable traffic.[902]

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[897] GSRGM 53960/10, Industry and Commerce to Bredin, 1 June 1942.
[898] *Irish Press,* 18 Aug. 1942.
[899] *Irish Press,* 30 June 1942.
[900] C. Wills, *That Neutral Island* (London, 2007), p. 209.
[901] *RG,* 17 July 1942, p. 66.
[902] GSRGM 58480, 'Passenger coaches attached to perishable trains', Bredin to Stewart, 17 May 1943.

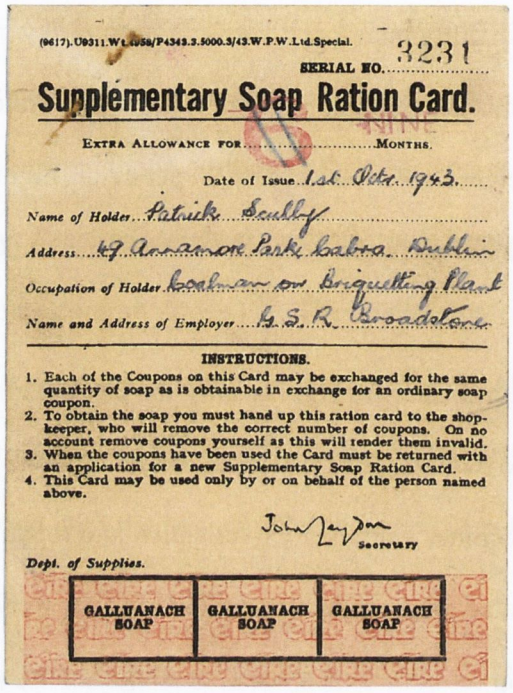
This shows the strategic importance of perishable traffic and the extent of vigilance exercised by the Department in ensuring that it was carried. The low quality of fuel available to goods trains meant that little improvement was recorded over that recorded in the April survey on wagon availability mentioned above. During May 1942 turf transport in Kerry collapsed, with ten trains abandoned between Mallow and Tralee at one point.[903] In August 1942 the loads of freight trains were cut by 25 per cent. Lighter trains were less likely to stall but more trains had to be run in order to maintain the amount of freight carried.

By autumn 1942 things had changed significantly for the better. In September the chairman was informed that the two briquette machines in Inchicore were producing 750 tons per week. Two further machines were being overhauled and repaired for Inchicore and Broadstone, with an estimated joint production of 700 tons per week.[904] By early 1943 the briquette plants produced up to 2,000 tons a week, or roughly forty per cent of coal requirements. A plant operated in Cork by a sub contractor: 'filled a gap during a very critical period but at...an exorbitant cost'.[905] In November 1942 Meadows reported to Bredin that 'The briquette as manufactured in Inchicore is a very poor substitute for those sold commercially. With the quality of the duffs available it would be impossible to make a really satisfactory fuel'. [906] Heavy rain could make the raw material unusable or lead to an excessive level of moisture in the briquettes. This moisture turned to steam in the fire and split the briquettes before the ingredients had combusted. The extremely unpleasant working conditions (briquette workers were among the groups that were allowed a supplementary soap ration) caused absenteeism, which meant that plants could be shut

[903] See Chapter 5, p. 150.
[904] GSRGM 53960/9, Memo for chairman, 2 Sept. 1942.
[905] GSRGM 53960/17, 'Briquette machine Cork', memo for general manager, 2 Oct. 1944.
[906] GSRGM 53960/12, Meadows to Bredin, 2 Nov. 1942.

down due to lack of labour.[907] Nevertheless: 'The briquettes became the backbone of the railway, drivers would try and beg a few extra and hide them on the engine'.[908]

Figure 9 Supplementary soap ration card.



(9617). U9311.Wt.4058/P4349.3.5000.3/43.W.P.W.Ltd.Special.

SERIAL NO. 3231

Supplementary Soap Ration Card.

EXTRA ALLOWANCE FOR NINE MONTHS.

Date of Issue 1st Oct. 1943.

Name of Holder Patrick Scully

Address 47 Annamoe Park, Kabra. Dublin

Occupation of Holder Coalman on Briquetting Plant

Name and Address of Employer G.S.R. Broadstone

INSTRUCTIONS.

1. Each of the Coupons on this Card may be exchanged for the same quantity of soap as is obtainable in exchange for an ordinary soap coupon.
2. To obtain the soap you must hand up this ration card to the shopkeeper, who will remove the correct number of coupons. On no account remove coupons yourself as this will render them invalid.
3. When the coupons have been used the Card must be returned with an application for a new Supplementary Soap Ration Card.
4. This Card may be used only by or on behalf of the person named above.

John Leydon Secretary

Dept. of Supplies.

GALLUANACH SOAP	GALLUANACH SOAP	GALLUANACH SOAP

Source GSRGM 56864

In October 1942 the fuel management system was further refined with the establishment of a fuel control system.[909] This involved the analysis of each cargo and the grading of the fuel into four categories, with the higher grade A being allocated to perishable and passenger trains, B to livestock, C to turf and general goods trains and D to shunting locomotives.[910] Care was taken to ensure an even geographic distribution of all types of fuel as: 'previously the coal was directed to any depot needing fuel; the result was that one or two depots received large quantities of bad coal…There is no use in putting first

[907] GSRGM 56864, 'Soap rationing', see also coal daily record sheets passim for briquette plant closures.
[908] Dudley, 'Problems', p. 68.
[909] GSRGM 55566, 'Fuel position appointment of Mr. Burnell', minute of meeting, 24 Oct. 1942.
[910] GSR Inchicore foremens' book, p. 29, 30 May 1943.

grade coal on the Cork –Dublin train if the Tralee connection is late at Mallow due to inferior fuel, and if the Tralee train again depends on the Cahirciveen connection'.[911]

Late running of trains resulted in higher earnings for locomotive crew, causing a perception that some locomotive crews used the excuse of bad coal to deliberately run late and to generate overtime. Martin White describes an incident where: ' A man came to me at Dalkey and accused me of deliberately delaying the train to earn overtime…I think he was very lucky that my fireman did not give him a belt of a shovel'.[912] This perception is referred to by James Meenan in his 1969 Thomas Davis lecture where he said that '[poor running] was at first attributed to the poor quality of the fuel; later it was thought that the fuel was not being handled by the railwaymen as efficiently as it might have been'.[913] While it is difficult to give substance to these assertions, Meenan identifies a contemporary perception. A letter to foremen in November 1941 stated that some drivers were going to sheds in the course of their trip and seeking additional coal: 'Such action …would appear to be deliberate with a view to making overtime'. This letter was displayed on the notice board in Portlaoise, which not surprisingly provoked a protest from ASLEF. When Bredin sought details in order to prepare a reply he described the action of the foreman in displaying the letter as stupid, as it would lead to worsened relationships between management and locomotive crews at a difficult time.[914]

The working life of engine crews had become much more difficult and physically demanding with the bad coal. This was particularly so for firemen who, in addition to shovelling coal, had to clean the fire much more often. Firing a steam locomotive involves throwing in about of six shovels of coal at a time in order to achieve a brightly burning fire

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[911] Dudley, 'Problems', p. 69.
[912] White 'Fifty years', p. 267.
[913] K.B. Nowlan, and T.D. William, eds. *Ireland in the War Years and After* (Dublin, 1969), p. 36.
[914] GSRGM 51598, 'ASLEF Protest against notice Maryboro', notice nd, Bredin to Ginnety, 7 Jan. 1942.

of concave shape. The impurities in the fuel fused into a rock hard slag known as clinker, which cut off the air supply to the fire. Removing the clinker meant frequent fire cleaning or 'baling out' as it became known. This involved stopping breaking the clinker and shovelling it out. For this purpose fire irons about twelve feet long were provided, a long shovel, a heavy bar known as a dart, for breaking clinker formation and a picker for pulling light clinker from the base of the fire. Figure 10 shows these tools. The demanding nature of firecleaning cannot be over emphasised. Val Horan writes

> With bad coal [these locomotives] were just man killers. I remember … having to clean the fire six times on an overload special [from Athlone] to Athenry and back – 70 miles…With the bad coal the firing method was altogether different…and the fireman never stopped in his effort to keep the fire going. You would…fire all around the box with half shovelfuls. After every third or fourth round you would use the …dart to lever the clinker from the bars to let the air come up… particularly with "slurry" coal which had the consistency of bog with never a lump in it…When you would picker or the …dart out of the…firebox it would be glowing red for three fourths of its length'.[915]

[915] V. Horan, 'Memories', *JIRRS,* 87 (1982), p. 333.

Figure 10 Fire irons L to R: rake, dart and picker for breaking clinker, shovel.

Source: Author, courtesy D. Carse.

Crew costs and conditions

The overtime bill for drivers and firemen was about £5,000 in the first half years of 1939 and 1940. In the same period of 1941 it had increased to £6,830 jumping to £28,105 in 1942.[916] This can be attributed in part to the working long distance goods trains which generally had a second crew taking over a train at a mid way point such as Thurles. These

[916] GSRGM 55202, 'Overtime paid to drivers and firemen'.

crews booked on at their allocated time and waited their train which might be running up to eight hours late. When they eventually took over the train they had spent most of their normal day in the mess room and worked the train forward on overtime. In response, crews were instructed not to report for work until they were called. In June 1942 the Irish organiser of ASLEF complained that 'At Athlone with the exception of two crews for passenger working all the locomotive staff were rostered to be available as required, [which] interferes very considerably with their domestic and social life'.[917] In September 1942 the company told the unions that 'there were two courses open – to scrap the timetable for goods trains and do away with rosters [or] to agree a period of on call'.[918] An agreement along these lines was reached in November 1942 with waiting hours between one and five to be paid at half time.[919] This agreement caused overtime costs to stabilise and then to decrease, as is shown in table 9.

Table 9 Drivers' and Firemen's overtime cost 1942 and 1943

Period	w.e. 8 Feb. 1942	w. e. 28 Dec.1942	w. e. 8 Feb. 1943
Loco crew o/t	£6597	£6893	£4253
Index	100	104.4	64.4

Source: GSRGM 55202, Table, 19 Feb. 1943.

While company representatives were concerned with overtime costs, locomotive crews were concerned with long hours, periods of transfer to out depots, and securing provisions when away from home. Overtime payments were only a limited compensation in a period of rationing when ration cards and not money was the key determinant in getting scarce commodities. The unions negotiated an arrangement with the Department of Supplies which allowed trainmen staying away from home half an ounce of tea to cover the

[917] GSRGM 52212, 'Rostering of enginemen', Sweeney (ASLEF) to Bredin, 24 June 1942.
[918] GSRGM 52212, Minute of meeting, 19 Sept. 1942.
[919] GSRGM 52212, Agreement between ASLEF, NUR and GSR, 19 Nov. 1942.

first three nights, rising to an ounce of tea for those away over three nights.[920] Despite such special concessions complaints surfaced both through union channels and in a number of petitions to the chairman. Fireman Larkin of Bray complained to Reynolds that

> I am one of about two hundred men affected with our families in one town and our lodgings in another. It is almost impossible for any landlady to cater for men in my trade as we have to take sufficient food with us to last us a few days. Under the present system of rationing that cannot be done so we are trying to work heavy trains half hungry.[921]

In the same vein a petition to Reynolds by Broadstone firemen complained: 'At present enginemen are working as much as 48 to 60 hours overtime a week, and often 20 hours on a single trip'.[922] At a meeting between union officials and management held in November the issues discussed were excessive hours, lack of lodging accommodation and men held away from home for long periods.[923] In a typical case in January 1942 when a Waterford crew taking a Saturday goods train to Kilkenny returned home on Sunday. They sought payment for the Sunday but were refused on the basis that they should have stayed in Kilkenny and made themselves available for work on the Monday. Following the intervention of the NUR, payment was conceded in December 1942.[924] This state of affairs was caused by the large number of special trains. Val Horan writes: 'A look at the timetable of those times gives no idea of the number of trains which were in fact running...Only a few regular goods trains were listed. The method of operation was to send off specials of "overload" [or extra] goods trains as fast as they could be got away'.[925]

In July 1943 the Irish organiser of ASLEF described the difficulties in getting 'Full payment for time on duty...after 'baling out' [where enginemen] have found themselves

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[920] Irish Railway Wages Board, *Proceedings,* 17 Apr. 1942, evidence of C.D. Watters, NUR.
[921] GSRGM 54475, 'Complaints from enginemen', Larkin to Reynolds, 27 Apr. 1942.
[922] GSRGM 54475, Mc Lean and others to Reynolds, 18 June 1942.
[923] GSRGM 54475, minute of meeting, 6 Nov. 1942.
[924] GSRGM 55590, 'Driver J Dolan's claim for Sunday payment' describes this case.
[925] Horan, 'Memories', p. 335.

stranded in the wilds of the country with no prospects of getting accommodation'.[926] The GSR provided dormitories in fifteen locations, which were used by 34,000 men in the twelve months to January 1942, 109 men per night based on six day working.[927] Dormitories ranged in size from twenty four beds in Athlone or Waterford to six beds in Kingscourt. Mobile sleeping cars with bunk beds were sent to stations on the occasion of big fairs. However as a train crew consisted of driver, fireman and a guard, a twenty-four bed dormitory could cater for no more than eight trains.[928] The traffic manager explained how:

> in normal times our men experience difficulties in getting accommodation ... but now with the rationing of food, soap etc., as well as the fact that our men have to confine themselves to a certain type of boarding house for obvious reasons their position has become impossible and on certain occasions they could not get any accommodation and were up all night before a fair. The position of enginemen is ...very much worse and altogether between lack of accommodation and long hours on duty men working fair specials have a very difficult time. [929]

1943 a year of improvement

The year 1943 brought a significantly improved operating environment. A reply to a query from the Department of Industry and Commerce pinpointed January 1943 as the turning point. 'During December last the poor quality of fuel available resulted in considerable delays ... [but] there has been a substantial improvement since January'.[930] July 1943 Cecil Tyndall who was in charge of fuel distribution suggested to Bredin that 'Now that the trains run to time...you may consider the Company [do not need] the 800 tons of coal to be supplied by the evacuation authorities'.[931] In July the traffic manager wrote of the goods service that 'Since 15 February when the train schedules were

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[926] *Locomotive Journal,* July 1943, p. 143
[927] Irish Railway Wages Board, *Proceedings,* 17 Apr. 1942, evidence of G.B. Howden GNR.
[928] GSRGM 49897, 'Meal and lodging allowances', memo, 8 Apr. 1942.
[929] GSRGM 56549, 'Sleeping vans for fairs', Kirwan to Bredin, 1 June 1943.
[930] GSRGM 58526, 'Dept of I & C re running of certain passenger trains', Kirwan to Bredin, 31 May 1943.
[931] GSRGM 48438/4, 'Evacuation of civilians supplies of coal', Tyndall and Kirwan to Bredin, 24 July 1943.

altered…the position has materially altered for the better, and at present the position is more or less normal'. [932]

A daily record of the running of key passenger, mail and perishable trains survives for the year 1943 and is summarised in table 10. The bad situation in January was followed by sporadic improvements through the year. The small number of trains makes averages susceptible to wide variations, as in December where the statistics are distorted by two trains arriving ninety and seventy minutes late. The average lateness in 1943 was 32 minutes compared to GWR mainline trains to South Wales in the same period which averaged 21 minutes late.[933]

Table 10 Train punctuality on the third of each month 1943

	Number of trains	Percentage Late	Average minutes late
Jan	8	100	48.5
Feb	12	58	45.3
Mar	14	86	27.6
Apr	8	13	10
May	12	75	45
June	13	62	21
July	15	60	39
August	19	74	37.8
September	19	63	26.6
October	16	81	14.7
November	17	65	27
December	17	35	43.2

Source: CHEM F55, 'Lateness of passenger and perishable trains', 1943.

[932] GSRGM 52112, Kirwan to Bredin, 20 July 1943.
[933] P. Semmens, *A history of the GWR 1939 -1948* (London, 1985), p. 33.

This is a reliable indicator for train running as a whole, as passenger and perishable trains cannot arrive punctually if they are blocked by goods trains encountering fuel difficulties.

Improved fuel supplies allowed improved services. In May 1943 the Department of Industry and Commerce approved the coupling of passenger coaches to goods trains on certain lines. [934] Improvements to mainline passenger services were proposed to the Department in late May, involving separate trains from Dublin to Waterford and Mayo as opposed to connections from the Limerick and Galway trains at Portlaoise and Athlone respectively. In addition, a second train each way per day was proposed for the Wexford line. This second train was unique on any main line during the Emergency and was proposed due to the: 'considerable quantity of milk and other perishable traffic…curtail the passenger accommodation'.[935] The government representatives: 'Intimated that while the Minister was reluctant to encourage people to travel…permission would be given to run the increased mileage…but the minimum of publicity should be given and any alterations…should not be advertised as an increased train service'.[936] The government representative pressed the GSR to run a service from Kingscourt to Dublin each morning, returning each evening, and the GSR agreed.[937] In addition the Department approved a Sunday service from Westland Row to Bray, thus providing Dubliners with transport to visit the seaside.[938] This *flathúlach* attitude to passenger services provoked demands for further improvements. The *Connacht Sentinel* commented:

> While we do not grudge the Wexford people this concession we find it difficult to believe that they were ever in such urgent need of an extra train as the people catered for by the Galway line. The fuel position seems to have eased somewhat

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[934] GSRGM 58275 'Application to run mixed train Birr Roscrea' and 58479 'Proposed mixed train Athenry Galway'.
[935] GSRGM 58522, 'Proposed additional passenger trains', minute of meeting 12 June 1943.
[936] GSRGM 58522, Minute, 12 June 1943.
[937] *Ibid* .
[938] GSRGM 58522, John O' Brien to Bredin, 9 July 1943.

and…we would urge the authorities …to put on an extra train each way between Galway and Dublin'.[939]

Contemporary accounts from diverse sources confirm the improvement in services and reliability. The working diaries of Séamus Ennis record his travels on behalf of the Folklore Commission between 1942 and 1946. In July 1942, he cycled to Galway, breaking the journey in Ballinasloe: 'D'fhág mé Baile Átha Cliath ar a 2.30.pm agus shroich mé Béal Átha na Sluaighe ar a 11.30 pm mar a chodail mé'.[940] He returned from Galway on the bus. A year later he simply recorded 'Aoine 5 Samhain traen agus bus go Carna'. There is no mention of any untoward delays. The return journey was similarly uneventful- 'Céadaoin 15 Nollaig bus Ó Charna ar a 8 a.m go Gaillimh agus traen go Baile Átha Cliath abhaile'. Thus a person who travelled regularly in the course of his work cycled from Dublin to Galway in 1942 in preference to the train and returned by bus. In 1943 he used the Galway train as a matter of course with no appreciable delays being recorded.[941] Martin Quigley, on OSS operative whose cover was as a representative of US newsreel interests, wrote in his report of 12 July 1943 that 'I was pleasantly surprised that I was able to make the trip so pleasantly. The trains are…restricted and quite crowded but nevertheless satisfactory'.[942] On 10 October he wrote in the same vein of a trip to the west: 'The trains in Éire are comfortable enough, if very slow. In most cases there is only one train a day'.[943] This situation does not differ greatly from descriptions of rail travel in Britain during the war years where 'travelling conditions over long distances became progressively more unpleasant as the war progressed…overcrowding to an unbearable degree became commonplace'.[944]

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[939] *Connacht Sentinel,* 13 July 1943.
[940] R. Ui Ogáin, ed., *Mise an fear ceoil* (Dublin, 2007), p. 37.
[941] *Ibid.*, p. 11, p. 121.
[942] M.S. Quigley, *A US spy in Ireland* (Dublin, 1999), p. 136.
[943] *Ibid.*, p. 189.
[944] H.C. Casserly, *Railways since 1939* (Newton Abbot, 1972), p. 11.

Managing train running

As briquettes became available train running improved. This placed a spotlight on another contributory factor in unreliable running - the worsened mechanical state of the locomotives due to shortages of materials. In late 1942 Bredin wrote to the running superintendent that 'It is clear from the nature of these failures that the supervision of the mechanical condition of the locomotives…requires improvement …and I wish to impress on you that the mechanical efficiency of the locomotives is a matter for which you are personally responsible'.[945] Bredin followed this by redesigning the weekly failure report to include action taken, and ordered that the reports be forwarded to him.[946] This did not produce a significant improvement in the short term and the number of failures of broad gauge steam locomotives almost doubled in February of 1943 compared to January.[947] In March 1943 a system of regular mechanical examinations of locomotives was established which aimed to 'reduce failures and to fix responsibility'.[948] The fact that such a system could be established shows that management time was no longer preoccupied with crisis management. The underlying cause of each locomotive failure was recorded, traced and rigorously followed up with drivers, tradesmen and supervisors being chastised and on occasion disciplined. In addition, monthly records of the coal and oil consumption of each locomotive were forwarded to foremen with instruction that bad performers be specially monitored.[949]

In the booming labour market for mechanical tradesmen, managing the trade staff presented some challenges as was seen in February 1942 when 150 fitters in Inchicore went on unofficial strike over the suspension of a colleague. Although the men struck on a

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[945] GSRGM 55806, 'Locomotive failures', Bredin to Tyndall, 16 Nov. 1942.
[946] GSRGM 55806, Bredin to Stewart, 23 Dec. 1942.
[947] GSRGM 55806, Results tabulated in an access database is the source of these figures.
[948] Inchicore foremens' book, circular of 9 Mar. 1943.
[949] Inchicore foremens' book, circular of 6 Oct. 1943.

Friday the thirty men scheduled for Saturday overtime did their overtime but resumed their strike on Monday. The strike was resolved on the following Wednesday when the contested suspension was withdrawn.[950] Despite such glitches the systematic approach to maintenance introduced in February 1943 led to an improvement in reliability, as can be seen in table 11.[951]

Table 11 Broad Gauge steam locomotive failures by quarter 1943

Q1 1943	Q2 1943	Q3 1943	Q4 1943
100	75	83	69

Source: GSRGM 55806

This approach was gradually extended to train running. On 31 August 1943 the Inchicore foreman was instructed to summon a driver Kelly to the office on the basis of bad running of a particular train.[952] In November 1943 foremen were informed that in each case where enginemen asserted that time was lost due to bad coal a sample of the fuel was to be sent to the laboratory.[953] On 4 December the Chief Chemist was informed that 'It is essential that your reports should be submitted without undue delay so that disciplinary action may if necessary be taken against drivers in instances where your reports disclosed that time lost was not due or only partially due to the quality of the fuel supplied'.[954] On 16 December, foremen were instructed to examine the locomotives of late running trains for mechanical defects, to question the driver and to submit a report to the running superintendent.[955] When C. Tyndall, the running superintendent, came across a case of a two-hour delay on the Cork line where a high-quality fuel had been issued to the locomotive; he advised G. Burnell the Chemist that: 'I propose taking disciplinary action [in this case] in the event of an appeal by the driver or a protest from his trade union that

[950] GSRGM 52136, 'Strike by fitters Inchicore', Bredin to Industry and Commerce, 10 Feb. 1942.
[951] Inchicore foremens' book, 5 Feb. 1944.
[952] Inchicore foremens' book, 31 Aug. 1943.
[953] Inchicore foremens' book, circular to foremen, 29 Nov. 1943
[954] CHEM F30, loco failures due to alleged poor quality of coal, Tyndall to Burnell, 3 Dec. 1943
[955] Inchicore foremens' book, circular to foremen, 16 Dec. 1943.

you will verify that the fuel supplied was not such as to account for the bad work performed'. Burnell replied: 'Unless some responsible person has examined and made a note of the physical condition of the fuel …in use, I should not recommend going any further in the matter'.[956] From this date almost all reports from the laboratory contained the phrase 'If the sample as received was representative of that which was on the tender',[957] thus avoiding the embroilment of this department in industrial relations issues.

One of the few laboratory reports to survive covers sixteen cases and states: 'Difficulty would have been experienced in all of the above cases due to poor quality fuel'.[958] Drivers of late running trains knew that the fuel would be sent to Inchicore for analysis and could expect an interview with the local superintendent. The Waterford area superintendent describes an interview with the driver of a turf special which delayed the following passenger train by two hours. 'I have had the man before me and he states the coal he got at Dungarvan was of an exceptionally poor quality…and that the picker [one of the fire irons] bent double'.[959] Local management were obliged to test fuel even where they believed that the crew had done their best. In a typical case the Cork Superintendent wrote to the chemist that 'The fuel…was of exceptionally poor quality and I am satisfied that the work performed was the best that could be done in all the circumstances'.[960] This would suggest that the testing regime was in place as a deterrent, functioning as an internal audit service in a financial institution. This view is supported by the practice of some drivers in giving a sample to a foreman en route as on 3 August 1944 when a late running Waterford driver gave a sample of fuel to the foreman at Limerick Junction.[961] There are no records of disciplinary cases involving bad fuel coming through the industrial relations machinery,

[956] CHEM F30, Tyndall to Burnell, 14 Dec. 1943, Burnell to Tyndall, 15 Dec. 1943.
[957] CHEM F30, passim.
[958] CHEM F30, chemist's report, 1 Nov. 1944.
[959] CHEM F30, Mc Ilveen to Burnell, 12 Sept. 1944.
[960] CHEM F30, Massey to Burnell, 12 Oct. 1944.
[961] CHEM F30, Mc Ilveen to Burnell, 3 Aug. 1944.

which adds weight to the view that disciplinary sanction functioned mainly as a deterrent. The Irish Organiser of ASLEF which represented the vast majority of enginemen wrote:

> Fuel difficulties are becoming easier but the shortage of lubricating oil becomes acute. Both the management and the staff are being severely tested and the greatest amount of co operation between the sides is required in the interests of the state. In general this happy position has been reached and is being maintained. It is apparent that many of the newly appointed younger officers of the company recognise that the co operation of the staff is something to be desired and one of these officers is to be complimented for his efforts…This gentleman takes a keen interest in the education of engine cleaners and …distributes throughout his district notes dealing with the construction of the locomotive. They are excellently written and are creating considerable interest among the men…Of course there are exceptions to the rule and …and a friendly word of warning is sent out to one of these officers who from lack of experience maybe believes that the only way to run a service is by intimidation and terrorism.[962]

The organiser quoted correspondence between a driver and a superintendent whose letters were described as both venomous and scurrilous. The significance of this attribution of praise and blame to managers was that the articles would have had a broader readership than union members and would have without doubt caught the eye of Bredin.[963] These references reflected on managers' capacity to manage the enginemen in their districts. By late 1945 the approach seems to have changed, as is seen in the case of a driver of a Dublin to Cork goods which lost four hours in running north of Thurles where the crew changed. The district superintendent wrote that he was arranging for a locomotive inspector to travel with the driver concerned 'as his work has not been satisfactory'. [964]

Irish coal

The coal shortages forced GSR management to set aside their antipathy to Irish coal described in chapter one. With some reluctance, the GSR bought Irish coal – mainly as a briquette ingredient. The Irish coal industry grew considerably during the emergency. The

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[962] *Locomotive Journal,* June 1943, p. 141.
[963] Union journals were read by management. PEC /6 Sulzer file contains a copy of the NUR *Railway Review* with an article on the manning of diesel locomotives in the United States.
[964] CHEM F30, Massey to running superintendent, 27 Nov. 1945.

Arigna Mining Company was owned by the Leydon family who, during the late nineteen thirties had invested in an aerial ropeway, a briquetting plant and coal cutting machinery. Output increased from 25,000 tons per annum in 1939 to 50,000 tons in 1941, by which stage the main constraint on increased production was the availability of labour.[965] The established Castlecomer Colliery Company was joined by the Slievardagh mining company in Tipperary which was reopened in 1942, and Rossmore Collieries Co. Laois, which was opened in 1943. This latter mine was operated by a company owned by Pat Fleming whose shared experience with Seán Lemass during the Civil War engendered a lifelong friendship.[966]

The G.S.R. General Manager's file entitled 'use of Irish coal in locomotives' deals initially, not with Irish mined coal, but with house coal owned by public authorities which was given to the GSR for the turf trains. In January 1942 the GSR were informed that duff for briquette manufacture would be part of rather than an addition to their coal allocation.[967] Irish coal was therefore sought [968] as a way of gaining the maximum amount of fuel for the briquette plants 'due to the difficulties in obtaining coal from Britain'.[969] The coal was tested with various combinations of locomotive smokebox ash, power station ash, silica sand, fireclay and turf mould.[970] These tests took place between 22 August and 9 September 1942 on the Tullow train which left the main line at Sallins, thus protecting the mainline service from obstruction if the test train failed. The conclusion of these tests was

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[965] P. Rigney, 'Arigna coal mines and the emergency' *Breifne,* 12 (2004), p. 291.
[966] Horgan, J. *Enigmatic patriot* (Dublin, 1997), p. 25.
[967] GSRGM 53960/2, Meadows to Bredin, 26 Mar. 1942.
[968] GSRGM 53960/2, Meadows to Bredin 31 Mar. 1942, quotes from Lynn's of Sligo, Arigna Colliery and Castlecomer Collieries.
[969] GSRGM 60370, 'Purchases of Irish coal', Ennis and Burnell to Ginnety, 27 July 1942.
[970] GSRGM 60370, Tyndall to Bredin, 12 Aug. 1942, 53960/10 'Briquettes Miscellaneous' gives test results.

that Irish coal might be used blended with duff as a briquette ingredient up to a level of 15 per cent.[971]

Lower quality coals such as slack, culm or duff are difficult to dispose of and if unsold must be accumulated in spoil tips which need to be maintained. They are therefore an irritant for mine operators who use whatever means possible to secure a market for them. On 15 September 1942 the stores superintendent was informed by Bredin that 'It has been arranged to procure 3,000 tons of duff coal from Mr. Fleming of Athy'.[972] The agreement to purchase was concluded by A. P. Reynolds.[973] Before reaching a conclusion whether Reynolds was engaged in a quasi political transaction it is necessary to note that the GSR was anxious to procure as much as possible of the material.[974] In a later instance a proprietor of a small mine in the Arigna district wrote to Reynolds, in a letter addressed to 'Dear Percy', which continued: 'we are anxious to secure a contract and I trust you will endeavour to secure this for me'.[975] The letter was passed to Bredin who indicated they were prepared to buy coal but that they would not enter into a long term contract.[976] When Fleming's contract for Athy culm was terminated in January 1943 he raised the matter with Reynolds, who referred the matter to Bredin.[977] Bredin confirmed the decision and in a barbed reference to quality pointed out that 'we have also on hands a quantity of ashes which we have reclaimed from the front end of our locomotives which we are making use of'[in the same way as the duff].[978] The reluctance to deal with Irish mines can be seen in Meadows' request for guidance 'In view of the possible further deterioration of cross

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[971] GSRGM 60370, Burnell to Bredin, 2 Sept. 1942.
[972] GSRGM 60370, Bredin to Meadows, 15 Sept. 1942.
[973] GSRGM 60370, Meadows to Bredin, 12 Oct. 1942.
[974] GSRGM 60370, Meadows to Bredin, 12 Oct. 1942.
[975] GSRGM 60370, Joseph Griffin to Reynolds, 18 Dec. 1942.
[976] GSRGM 60370, Bredin to Griffin, 28 Dec. 1942.
[977] GSRGM 60370, Fleming to Reynolds, 15 Feb. 1943.
[978] GSRGM 60370, Bredin to Fleming, 23 Feb. 1943.

channel fuel supplies when the company might find itself forced to make the best of native supplies'.[979]

In January 1943 the GSR was buying coal from the Arigna Colliery Company directly, and in addition from three smaller concerns who dealt through the Dublin firm of Donnelly's. This firm assured the GSR that everything possible would be done 'to obtain as great a weight of coal as possible from the Arigna district'.[980] The phrase 'as great a weight as possible' referred – perhaps unintentionally- to one of the problems with Arigna coal. Companies were paid by weight and this weight could be made up of stone, slate and other uncombustible materials. A note from the chief chemist in December 1945 read: 'A box labelled 'ex Leydon's pits, Derrynavoggy was received here…on 1/12/1945 containing only slate like pieces of material, presumably carboniferous limestone and consequently was not submitted for fuel analysis'.[981] Irish coal could only be economically used when mixed with thro'[or fine] coal from cross channel, and when the ash content of Arigna coal rose above twenty per cent trouble was experienced with locomotives.[982] A similar situation occurred in Argentina where local coal could only be used successfully when mixed with Brazilian coal. [983]

When Arigna coal was reintroduced on the Cavan and Leitrim of the G.S.R. section in mid 1942 average weekly coal consumption increased by 188 per cent.[984] Any hope that it would be more successful in broad gauge fireboxes were dispelled in a report from the Mullingar locomotive inspector, who wrote:

> The enginemen in Dromod refuse to take [coal from one mine] it as it is useless for any purpose, firebox being full of ashes before 10 miles have been run. If Leydon's coal is sent out, enginemen will take it as a mixture of 3 to 1 with Duff slack and in

[979] GSRGM 60370, Meadows to Bredin, 19 Nov. 1942.
[980] GSRGM 60370, Donnelly to Bredin, 5 Jan. 1942.
[981] CHEM F30, Chemist to running supt., 4 Dec. 1945.
[982] GSRGM 60370, Minute of meeting, 18 Mar. 1943.
[983] See chapter three, fn 63.
[984] GSRGM 54005, 'Cost and tonnage of fuel consumed by locos', Burnell to Bredin, 26 Sept. 1942.

> 75% of cases can run to Mullingar without cleaning out fire a distance of 37 miles. Lynn's coal is the best variety of all … since the emergency the variety of coal from Leyden's and Lynn's has deteriorated. I believe myself that the firms are holding back the good varieties. I strongly urge that supplies from Cull and Gannon be dispensed with as same is useless for locomotive purposes. [985]

Problems with Arigna coal were exacerbated by adulteration and pilferage. George Burnell visited the coalfield in February 1943 and in his report discussed the problem of 'contamination'.[986] 'Mr. Laydon [sic] said that the sieved and picked coal left him and he was of the opinion that it was subsequently mixed with other coal from the neighbourhood before being sent to us…He hinted that one of our employees was suspected of pilfering it'. A later report from the stores superintendent revealed that there were indications of abuses by lorries hired and supplied with petrol by the GSR under the controlled areas scheme. 'There is the possibility of their being used at night for the illicit extraction of coal from wagons lying at Arigna'.[987] Another shortcoming was adverted to by the stores superintendent when he wrote that 'seasonal farming operations commencing in March will draw labour from the smaller operators and Leydon is the only one capable of producing a steady output'.[988] A related trend was described by Seán Lemass in April 1944 as: 'The tendency of coal producers…particularly in the Sligo area to do a spot of black marketing in coal at night time. There are a number of small mines in the area…upon all of which it is not possible to keep a very effective check'.[989] Leydons informed the Department of Finance that they expected their sales to contract after the war even to the ESB whom they described as 'a more recent and more fickle customer'.[990] This lack of a long term perspective on the trade gave little incentive to operators to improve and maintain quality as they knew that after the war many of their wartime customers would desert them. Similarly

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[985] GM60370, Ledwith to Mc Nab, 10 Feb. 1943.
[986] P. Rigney, 'Report on Arigna coalmines' *Breifne,* 10 (2002), pp. 509-515 reproduces this report.
[987] GSRGM 60370, Murphy to Bredin, 25 Feb. 1944.
[988] GSRGM 60370, Murphy to Bredin, 6 Feb. 1944.
[989] Dáil Debates, vol. 93, col. 1292, 20 Apr. 1944.
[990] Rigney, 'Arigna coalfield', p. 293.

the GSR regarded Irish coal as a wartime affliction, as expressed by Bredin to the store superintendent when he approved a contract 'in order to maintain supplies from this source at least until we can afford to do without them'.[991] Lemass put the position of Irish coal in perspective in the Dáil debate of April 1944 when he said that the combined outcome of all the Irish mines at 4,000 tons per week was equivalent of the weekly consumption of the GSR.[992]

Fuel experiments

In addition to turf and coal briquettes the GSR tried to make more efficient use of low quality coal and other alternative fuels. One such material was pitch which was one of the most important resources in allowing the GSR to cope with the decline in coal quality. Pitch is a by product of the British foundry industry and was freely available for export. Between May 1942 and October 1944 27,000 tons or two years supply was imported.[993] Although intended for briquette manufacture it was found that loose pitch, when added to an ailing fire could assist locomotive performance. Pitch was described as 'the most disagreeable thing to manipulate in the world'[994] and four Dublin dockers unloading pitch were hospitalised in April 1943 having been overcome by fumes.[995] Val Horan observes: 'the fumes from the pitch were very hard on the eyes: sore eyes were a common complaint of footplate men'.[996] Despite its unpleasant characteristics, pitch was eagerly sought after by loco crews and dire measures had to be threatened to control unauthorized issue.[997] When pitch was first issued in the first week of June 1942, coal consumption fell dramatically by twelve per cent from 80.3 lbs per mile in the three weeks before the first

[991] GSRGM 60370, Murphy to Bredin, 3 Feb. 1944.
[992] Dáil Debates, vol. 93 col. 1292, 20 Apr. 1944.
[993] GSRGM 54433, Murphy (Stores) to Bredin, 6 Oct. 1944.
[994] NA DT 7795A, Memo for executive council, 2 July 1936 p. 6.
[995] GSRGM 54433, 'Use of pitch in locomotives', Meadows to Bredin, 22 Apr. 1943.
[996] Letter to author
[997] Inchicore foremens' book, memo to foremen Northern District, 15 Oct. 1943.

issue of pitch to 70.4 lbs per mile in the three weeks afterwards.[998] Foreman Ledwith of Mullingar reported that 'There is a supply of pitch at Dromod and since it was put there has been a noticeable improvement in the running of goods trains'.[999]

In summer 1942 an experiment was undertaken to use liquefied pitch as a locomotive fuel using the technology of oil burning. A problem was encountered in keeping the pitch in a liquid state. Burnell wrote that' under perfect conditions such as…a power house, pitch can be successfully used [but] I have grave doubts as to its exploitation for locomotive purposes'. He recommended that the experiment should not proceed further but that the engineer devoted to it should be retained: 'to embark on an experiment with pulverized native coal'.[1000] Pulverisation was a proven way of burning low quality coal. The process had been experimentally used on locomotives in the years after 1918 when coal was scarce. The engineer in question was not retained and on Christmas Day 1942 Burnell died. As an experienced industrial chemist who had joined the GSR from the English GWR in the nineteen twenties and with his background in railway technology, his loss must have been keenly felt.[1001] He was succeeded in his post by his son George.

During the course of 1942 two experiments were undertaken with experimental steam assisted grates. One was designed by an Irish engineer named Mac Allister while the other was supplied by the Diesel Engine Company. The experiments were both unsuccessful as the equipment reacted adversely to pitch and seemed unsuited to the difficult environment of a locomotive. In both experiments Percy Reynolds was involved in procuring equipment, while Bredin assumed direct control over the experiments, transmitting the designers' requirements to his subordinates and demanding telephone

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[998] GSRGM 56700, 'Weekly aggregate figure of coal consumption', 1942/ 1943 table.
[999] GSRGM 60370, See footnote 70.
[1000] GSRGM 54433, Ginnety to Bredin, 17 July 1942.
[1001] *Irish Times*, 28 Dec. 1942.

reports of progress. This involvement of senior management ensured that the equipment was given more than a fair chance and that its failure could not be ascribed to non cooperation by the GSR.[1002]

In spring of 1944 the pulverised coal proposal was revived. Much work on this process had been undertaken in mainland Europe, and Bratt of the GNR had a copy of a German language work on the subject. Additionally, a review of the issue had been published in the *Transactions* of the Institute of Mechanical Engineers in 1941.[1003] The pulverised fuel initiative had its roots in the need to acquire high quality anthracite as fuel for fuel lorry gas producers. In February 1944 P. J. Fleming offered the GSR 250 tons of good quality anthracite a week from his newly developed Slieveardagh mine, provided the GSR resumed buying culm at the rate of 750 tons per week. The GSR concluded that 'Unless we can find a satisfactory method of burning culm in much larger quantities than at present Fleming's offer is of no assistance to us'.[1004] The Benbulbin Barytes Company was approached for the materials to adapt a locomotive and in March 1944 express passenger locomotive 402 was modified. This locomotive had a high grate area needed to burn low-grade coal which was fed into the fire by a screw conveyor. Tests commenced in April 1944, and were referred to in somewhat oblique terms by Lemass in a Dáil debate on 20 April. Bredin later explained to an equipment supplier that 'We hope to purchase low-grade coal at the pit for…under £1 per ton. If we find we can burn this fuel satisfactorily…we intend fitting sufficient locomotives to consume 1,000 tons per week'.[1005] This price quoted for Athy culm was 16/8 per ton compared to 65/10 per for locomotive fuel.[1006] The initial results of static trials were encouraging and the locomotive quickly developing a large

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[1002] GSRGM 55538, 'Purchase of slack burning apparatus from diesel engine company', and 56254, 'Loco 354 Tests with Mr. Mc Allister's Patent grate', passim.
[1003] GNRGM 200/37 'Book on Locomotives and their fuel', Bratt to Howden ,10 Aug. 1942
[1004] GSRGM 60370, Murphy to Bredin, 29 Feb. 1944.
[1005] GSRGM 61576, 'Processing of coal', Bredin to Jennings Gill patent agents, 15 May 1944.
[1006] GSRGM 65854, 'World Fuel Conference 1946', report by CIE .

amount of steam.[1007] When running trials commenced in August problems were encountered, with the ash fusing onto the inside of the firebox, blocking the tubes and forming an insulation blanket. The tests were abandoned after a month as 'in order to obtain sufficient horse power it was necessary to have fuel of a quality not available', and that further alterations to the locomotive were not practicable.[1008] When trials commenced the GSR held 2,310 tons of Athy culm. About a thousand tons were used in the trials and in briquette manufacture, but the use of the material effectively ceased in mid July 1944, which was a low point in coal supply. In September 1944 this material was reclassified as 'Athy culm and accumulated useless coal',[1009] a description which describes encapsulates much of the Emergency experience with Irish coal. However some of the adaptations undertaken to the firebox were similar to those necessary to convert a locomotive to burn oil as was done later in the Emergency period.

The regulator and the regulated

As the coal supply situation in Britain failed to improve during the middle years of the war, an increasingly close relationship developed between the GSR and the Ministry of Fuel and Power. The official war history of the coal industry describes how 'On the Ministry of Fuel and Power fell the direct task of inducing industry to burn more [low grade] coal. This was no easy task'.[1010] This required a laboratory for experimentation and the GSR fulfilled this role. A brand of smokeless fuel called phurnacite became available from June 1942. This premium fuel was developed for domestic ranges. Its availability in Éire surprised Donnelly's, the importing agent.[1011] It was extremely expensive and special

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[1007] Interview with Paddy Guilfoyle late driver Inchicore who was fireman on these tests.
[1008] GSRGM 61576, Reynolds to Benbulbin Barytes Company, 23 Nov. 1944.
[1009] GSRGM unnumbered file of daily coal returns.
[1010] Court, *Coal,* p. 374.
[1011] GSRGM 53960/12, 'Analysis and test of phurnacite coal ovoids', Reihill to Bredin, 26 May 1942.

instructions issued to locomotive crews regarding its use.[1012] Deliveries of phurnacite commenced in June 1942 and by October 1942 they were running at 3,000 tons per month.[1013] These deliveries are the 'reallocation of existing quotas' by Smith referred to in chapter four. The British policy was that coal exports to Ireland should be confined to the lowest quality unsaleable on the home market. As phurnacite was a manufactured product it was deemed not to be coal and could therefore be sold to the GSR. It might be argued that this was a somewhat Jesuitical distinction but it suited both the mines department and to the GSR.

In May 1943 Charles Johnston reported on a meeting with Norman Smith where he expressed concern at: 'The danger of our being deprived of this fuel now that we have proved its worth and carried out extensive experiments on the use of it as a locomotive fuel'.[1014] He continued: 'The loco fuel position was discussed from many angles. He is rather interested in our method for using phurnacite…He would like the opportunity of travelling on the footplate of a loco using this fuel. Should you wish to have overalls available, he is 6' tall and of slight build'?[1015] This shows that the GSR was allocated phurnacite in order that the Ministry of Fuel and Power could evaluate its utility as a locomotive fuel. This role as a laboratory continued and in September 1943 George Lyons, the fuel controller reported that 'numerous tests were being carried out to supply information to the British Authorities on various types of fuel under normal working conditions'.[1016] Dudley wrote:

> In 1943 or 1944 certain people in high places in Britain were interested in how it was being done and came here to see it for themselves when Britain was conserving coal for a continental landing … it had been represented to them that

[1012] Inchicore foremens' book, Circulars re fuel classification p. 97, re segregation p. 104.
[1013] GSRGM 53960/12, Table of phurnacite deliveries.
[1014] GSRGM 53960/12, Johnston to Bredin, 11 May 1943.
[1015] GSRGM 53960/12, Johnston to Bredin, 11 May 1943.
[1016] GSRGM 43737/1, 'Increases in steam coal prices', Minute of meeting, 14 Sept. 1943.

> certain types of fuel could not be used successfully, whilst at the same time our drivers were doing well on them. They had learned how to use them.[1017]

In December 1943 a railway enthusiast newsletter noted that 'not long since a fuel expert from England turned up to see how the trains were running on ovoids: [a test with] the Cork train from Ballybrophy to Dublin was run at an average 70 mph'.[1018] The locomotive used was 800 *Maedhbh*, the premier locomotive in the fleet. This and the high speeds achieved, unknown during the Emergency, indicates that a show was being put on for the visitor who was, most probably, Norman Smith.

This chain of events shows that the relationship which developed between the GSR and the Ministry of Fuel and Power served both Irish and British needs. By late 1943, planning for the invasion of France was under way. The supply lines of the invading armies would need initially to import their own fuel. Those in charge of the fuel side of invasion planning therefore needed to experiment with various different types of briquettes and manufactured fuel as these would be the staple fuel of continental railway systems after liberation. It was impractical for testing work to be carried out in Britain due to the unacceptability of delays on the British railway system, which was working near to capacity. A laboratory was needed and the GSR became such a laboratory. The desire by both sides to keep these experiments quiet is understandable. The Irish side was pushing out the definitions of neutrality while the Ministry of Fuel and Power was ignoring a decision of the Cabinet. Smith's visit is recorded by Johnston requisitioning overalls for him, while the scale of the test programme is recorded in a chance remark in the course of a meeting dealing with other matters. The corroborative evidence comes from contemporary railway enthusiast sources- a privately circulated bulletin in the case of the 1943 visit while Dudley's reference comes from a paper he delivered in 1947 to the Irish Railway Record

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[1017] Dudley, 'Problems' p. 72.
[1018] *Irish Railway News,* 30 Dec. 1943.

Society. Taken together, these incidents show the evolving role of the GSR as a testing facility for the Ministry of Fuel and Power.

Pilferage or Poverty?

Shortages of coal were reflected in many aspects of Irish life other than in train running. What is now termed 'fuel poverty' became widespread and this had obvious implications for the GSR as a major owner or transporter of fuel. The company was vulnerable to theft of anything combustible be it locomotive coal, turf in transit or timber parts of the infrastructure. The railway line was fenced with wooden fence posts while the rails were laid on wooden sleepers, held in place oblong wooden keys. These latter items could almost have been designed to fit easily in the pocket or handbag. Being impregnated with creosote they were a particularly attractive source of domestic fuel. The trees which grew beside the line (though the sparks from locomotives ensured that they were less numerous than today) presented another source of domestic fuel. For all these reasons the railway system was almost under siege for the duration of fuel shortages.

On 15 August 1941 G. J. Murphy, the Civil Engineer, wrote to the Garda Commissioner reporting 51 incidents involving the theft of keys which had occurred since May. 'These articles are about 6 inches long and 3 inches square and being made of oak and well seasoned are very attractive from the point of view of use of fuel…the removal of sufficient number of keys…would leave the rails loose and cause derailment'. The Garda commissioner advised of the difficulties in patrolling the track, but noted that two men had been prosecuted for theft of keys at Killiney and had both been sentenced to a month's imprisonment- suspended in one case.[1019] On 1 September 1941 a driver came before the Dublin District court charged with the theft of a lump of coal which weighed 34lbs. It

[1019] GSRGM 47744A, 'Theft of keys', Murphy to Commissioner, 5 Aug. 1941, Commissioner to Murphy, 9 Sept. 1941.

would appear that he threw it from his locomotive where it struck a member of an LDF patrol. The district justice applied the probation act but described coal as being 'as scarce as gold dust'.[1020]

The GSR habitually took a strong line against trespass, pursuing court cases against trespassers whose motives ranged from swimming in the Royal Canal to stone throwing, the taking of short cuts and chasing rabbits with ferrets.[1021] Of the fifteen cases involving prosecutions taken during 1941 only two were for theft of keys. As the shortage of domestic coal worsened the incidence of theft increased, and of the seventeen prosecutions taken for trespass in 1942 nine concerned the theft of some combustible part of the railway infrastructure.[1022] In May a ganger on the Macroom line asked the company to proceed against two local youths 'As the damage done…to fences is appalling. These youths are armed with hatchets and bags and are tearing away the fences everywhere they can'.[1023] In June four boys aged between four and nine years who lived in Dublin's Beggar's Bush barracks were interviewed in the presence of their parents and admitted to stealing keys. It was decided not to prosecute as the majority of the youths were under seven years of age.[1024] In July 1942 alone three cases came before the courts in Bandon, Mullingar and Dublin. In Bandon the local Garda superintendent advised a prosecution where two youths had been caught cutting bog alder – a moist and slow burning tree. Despite the view of the Chief Engineer that he was not unduly concerned a prosecution was mounted and the probation act was applied.[1025] Later in the month a brother and sister were prosecuted in Mullingar for theft of turf. The case came to court in November and what was described as

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[1020] GSRGM 50360, 'Theft of coal Shankill', Bredin to Morton, 2 Sept. 1941.
[1021] GSRGM 47744, 'Trespass 1941'.
[1022] GSRGM 53350, 'Trespass 1942'.
[1023] GSRGM 53350/2, 'Damage to fences Macroom line', Sheehan to District Engineer Cork, 4 May 1942.
[1024] GSRGM 53350/6, 'Trespass and theft of keys', report Garda T O Driscoll Irishtown, 20 June 1942.
[1025] GSRGM 54540, 'Trees pillaged mp 23 Bandon section'.

a nominal fine of 2/6 was applied.[1026] On 18 July a labourer leaving Inchicore was stopped and three briquettes were found in his possession. He was brought before the court three days later, but the justice decided not to impose a criminal sentence as the man had admitted to taking briquettes over a period of time and had offered to pay compensation. A request for reinstatement in his job was declined.[1027] In August the Chief Engineer reported that 'About 180 sleepers …on the Wexford south branch near the Maudlintown Corporation houses have been chipped with axes by persons gathering firewood…25 of them have been so damaged that their lives have been shortened'.[1028] In September the Gardai raided a house near Cork and found railway keys. The householder was prosecuted.[1029] In winter 1942 a milepost was removed from the line between Cappoquin and Lismore,[1030] while eight fence posts were removed near Maynooth.[1031] Matters became more serious in August 1942 when points were interfered with at Mallow in order to bring turf trains to a halt at a signal. Bredin was informed that 'Civic guards brought 11 parties male and female to station…These parties were found to be in possession of 16 bags presumably for the purpose of stealing turf.' The case came before the court in mid October where the defendants were bound over for twelve months on a bond of £10 or in default 7 days imprisonment.[1032]

Reports of thefts of combustible railway material decline after winter 1942. This may well be related to the relaunch of the railway LSF section in early 1943 referred to in chapter seven. Theft of fuel reappeared in the bad winter of 1946/47 but it was an irritant rather than a problem. When the Running Superintendent reported that in Mullingar where

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[1026] GSRGM 54547, 'Larceny of turf Mullingar'.
[1027] GSRGM 54529, 'Pillage of Briquettes Inchicore'.
[1028] GSRGM 53350/11, 'Trespass and damage to sleepers, Wexford south branch'.
[1029] GSRGM 53350/15, 'Theft of keys mp 163. Kingsbridge Cork line'.
[1030] GSRGM 55561, 'Milepost 35 3/4 stolen'.
[1031] GSRGM 55578, 'Maynooth – Fencing posts stolen'.
[1032] GSRGM 55519, 'Pillage of Turf at Killarney Junction Mallow', Brazil to Bredin, 15 Oct. 1942.

2,500 tons of coal was held 'They have had two cases recently of women loading up sacks of coal' and suggested employing watchmen, the memo was annotated: 'The pilferage would need to be substantial to justify this expense'.[1033] The best sociological analysis of the problem comes from a report by the investigation branch of the problem in Mallow.

> There is undoubtedly a certain amount of fuel pillaged at all large centres…the main offenders in this respect in Mallow would appear to be coalmen, steam risers and …local temporary labourers…the supervisors are decidedly reluctant to interfere with fuel pillaging employees inside and…they give 'the Nelson Eye' to certain trespassers from outside because they do not wish to encourage the displeasure of their own subordinates or town dwellers whom they may know as near neighbours or otherwise….Such an attitude is not confined to Mallow and too often our employees of different ranks are indifferent to trespass and consequent petty pillage of fuel ranging from stray coal to abandoned turf down to whatever can be salvaged from a heap of discharged clinkers.[1034]

The GSR was probably one of the major owners of combustible material in urban Ireland during the Emergency. Fuel Importers possibly held more stocks of fuel but it was held in concentrated and defensible areas. The TDB or the county surveyors owned more turf but much of it was remote from the urban consumer and so wet as to be unattractive to the fuel hungry. The pilferage of fuel from the GSR shows the widespread incidence of fuel poverty in Irish society during this period. The thefts of coal and turf are also one of the few occasions where women occur in the narrative of the Emergency railway system. Women make a fleeting appearance bearing sacks with which they hoped to get fuel for heat and cooking. These incidents serve as a reminder that emergency shortages had wide social consequences. Shortage of fuel could mean a shortage of hot water for washing, which when combined with the soap rationing mentioned earlier in the chapter, had its effect on public health. Infant mortality and the death rate from tuberculosis rose significantly in Éire in the emergency period.[1035]

[1033] GSRGM 65932/1, 'Theft of coal at Mullingar', memo to General Manager, 4 July 1947.
[1034] GSRGM 65932, 'Theft of coal at Mallow', Heany to Traffic Manager, 12 Mar. 1947.
[1035] Ó Gráda, *Rocky Road,* p.17.

Conclusion

Between 1942 and 1944 the GSR, like railway companies in neutral and belligerent counties, reorganised its services to cope with low quality fuel. The critical action for the GSR was getting the briquette machines into operation. The more radical experiments with turf, liquid pitch, pulverised coal or patent fire grates did not produce a solution but in the case of the last three laid the groundwork for the successful development of oil burning outlined in the next chapter. Of greater importance were smaller initiatives such as the fitting of drop grates, the issues of pitch or the reorganisation of schedules. These brought an improvement to all trains, not just the trains which received briquettes. Historians of technology stress the importance of a sequence of small incremental changes in the development of machines or technological systems, and this can be seen in the response of the GSR to the emergency fuel crisis. Probably the most significant technical innovation of this was the simplest – the fitting of a dropping section to the grates of locomotives, allowing the fire to be cleaned with greater speed and ease. A boilermaker who improved upon the basic design was recommended for an award of £3, but Bredin sanctioned an increased award of £5 with instructions that the cheque be presented personally.[1036] This unconsciously reflects the process described by Rosenberg, in his collection of essays on technological change, where he quotes a study on the steam riverboats in antebellum America, which highlights the vital role of

> anonymous and unheroic craftsmen, shop foremen and master mechanics in whose hands rested the daily job of making things go and making them go a little better [through] such seemingly small matters as machining a shaft to hundredths rather than sixteenths of an inch or devising a cylinder packing that would increase effective cylinder pressure by a few pounds or altering the design of a boiler so that cleaning… would be necessary only every other rather than every trip'.[1037]

[1036] GSRGM 61581, 'Boilermaker J. Woodful suggestion re drop grates', Tyndall to Bredin, 21Apr. Bredin to Tyndall, 23 Apr. 1944.
[1037] Rosenberg, *Black Box,* p. 64.

While the phrase 'Plato's cave' has been used to describe life in Emergency Ireland, [1038] a more appropriate metaphor for the railway industry would be a magpie's nest. The GSR shamelessly begged, borrowed or stole ideas in order to keep the system going. Briquettes came from continental practice; turf burning had been tried on Swedish railways as far back as 1911 while pulverised fuel had been tried in mainland Europe in the years after the First World War. The GSR almost certainly had access to German scientific knowledge through Burnell, their chemist, and through Bratt, the chemist of the GNR who wrote to Howden '[The author of this book] is very interested in utilisation of low grade fuels …He has been very interested in placing before the technical public a translation of Professor Meinke's book on "The locomotive"…I actually came across [Meinke] in my student days in Darmstadt'.[1039] This is not Plato's cave. Far from being 'a ghost of its peacetime self' as Meenan describes it, in late 1943 the GSR was busier than it had been in the pre war years. [1040] Passenger services were sparser and slower than in pre war years but this was the case in most railway systems throughout the globe. By early 1943 the GSR had reached a workable equilibrium with improving passenger and freight services. Complaints about service levels had all but disappeared. However, the continuation of this state of affairs depended on a continuing supply of coal and of shipping. This changed radically in 1944 for reasons will be described in the next chapter.

[1038] F.S.L. Lyons, *Ireland since the Famine* (London, 1978), pp. 557-8., R. Fisk, *In time of war* (London, 1983), pp. 352-385.
[1039] GNRGM 200/37, Bratt to Howden, 10 Aug. 1942.
[1040] Nowlan and Williams, *War years*, p. 36.

Chapter nine

The end of the Emergency

This chapter deals primarily with the period between January 1944 and December 1946. The Allied preparations for D day had a severe effect on coal supplies to Ireland. In addition to the Anglo Irish security restrictions, production problems in the British coal industry and the need to stockpile coal meant unprecedented shortages. Seán Lemass told the Dáil in April 1944 that 'The term "essential" is an elastic one. We have become accustomed … to do without commodities and facilities which we would have regarded as essential…before the war, but many things which … we have regarded as essential must now be eliminated'.[1041] Lemass went on to announce cutbacks in coal supplies which brought an end to the stability of GSR services which had prevailed since the end of 1942. Ireland's relationship with Britain had changed from the adversarial approach adopted by Churchill to an approach based on limited and a partial mobilization of the Irish economy in aid of the Allied war effort. Ireland's limited coal allocation was almost halved, and was of an even worse quality than that received from the earlier years of the war. The coal allocation was dependent on the continuation of Irish exports of strategic materials to Britain.

The liberation of Europe brought little or no respite from coal shortages, and there was a European 'coal famine' at the end of the war due, at least in part, to a crisis in the British coal industry. This chapter deals with the impact of the resultant shortages on the operation of the GSR. The chapter also deals with the new legislative framework contained in the Transport Bills of 1944. The work of a tribunal of enquiry into GSR share dealings brought down a minority Fianna Fáil government and ended the passage of the first Bill.

[1041] Dáil Debates, vol. 93 col. 1283, 20 Apr. 1944.

Fianna Fáil returned to power once with an overall majority at the ensuing election. A second bill, almost identical bill was passed by the new Dáil and on 31 December 1944 the GSR went out of existence to be replaced by CIÉ. This chapter will examine how this process really began in 1942 with the appointment of Percy Reynolds. Finally this chapter moves beyond 1946 and deals with the role of the war in facilitating the adaptation of steam locomotives to oil burning and the further transition to diesel power, which began before the war's end. Ireland was ahead of other European countries in embracing diesel traction. The chapter will argue that the dependency of the GSR on imported coal led to Ireland becoming an early adopter of diesel power, well ahead of Britain where steam locomotives were being built as late as 1960.

Invasion preparations

Allied preparations for the invasion of Europe led to a tightening of security measures, a concentration of shipping and the stockpiling of fuel, which in turn led to a range of restrictions on communications between the two countries. The impending restrictions were communicated to De Valera by Maffey on 28 March 1944 when he wrote that 'The amount of coal which can be made available will be seriously reduced...It is desired to discuss with the Eire authorities the resulting position'.[1042] Restrictions were imposed on passenger travel, phone communications, and air travel to Britain. In the area of shipping, services from Ireland to Portugal were suspended. Many British ports were closed to Irish ships and British owned colliers were withdrawn from the Irish coal trade. The frankness and relative openness of the British side was in sharp contrast with 1941, reflecting increased bilateral economic co operation since May 1942. This co-operation had led to the partial mobilization of the Irish economy in aid of the Allied war effort and

[1042] NA DFA A59, Maffey to De Valera, 28 Mar. 1944.

was desirable from the British viewpoint as it spared them from having to place further pressure on their already straining economy.

On 30 March 1944 F.H Boland and John Leydon flew with Sir John Maffey from Long Kesh airfield to London.[1043] In his report on the ensuing meeting, Leydon reported that while assurances were given that the measure planned were only of a temporary character, this did not apply to coal because:

> the British are confronted with supply difficulties of the gravest kind…We were unable to get any assurance as to the duration of the various alterations because…the military authorities will have the last word as to when security requirements will permit return to present conditions. I think however, it would not be unreasonable to anticipate such a stage may be reached in say two or three months.[1044]

The Irish delegation was informed that the weekly coal allocation of 19,700 tons was to be cut to 10,000 tons. The distribution of these cuts is shown below.

Table 12 Reductions in weekly coal allocation (tons).

Company	Weekly tonnage	A reduction of
Gas companies	1,640	2,500
G.S.R.	3,650	1,300
G.N.R.	600	250
ESB	nil	2,250
Sugar coy	nil	Nil
Unallocated	1,000	4,000

Source NA DFA A59, report of meeting, 31 March 1941

Leydon continued: '

> As regards the railways we were told that the coal would be inferior to what we had been getting up to the present…On the unallocated coal we were given to understand that the British desire that certain preferential customers should continue to get their allocation i.e. Commissioners of Irish Lights, certain creameries which

[1043] NA DFA A59, Report Boland to an Taoiseach, 3 Apr. 1944.
[1044] NA DFA A59, Undated report by Leydon on meeting of 31 Mar. 1944.

> do an export trade 150 tons, Guinness and other maltsters 400 tons, Goodbody's jute and BOAC. I pointed out that taking account of quality our proposed allocation would be less than one sixth of normal [pre war] allocation....while they appreciated our difficulties they could not improve on their proposal. I asked for increased petrol allocation as passenger miles of GSR already cut by 50% and I could not see where further savings could be made without paralysing our internal transport. It was suggested to me that the high commissioner should make representations.[1045]

On 20 April Leydon wrote to Norman Archer of the British High Commission that '

> The economic effects of this dislocation of the country's transport system cannot yet be gauged precisely. But it is obvious that it must be considerable. Cattle fairs in particular are certain to suffer...The reduction of railway services might be off set...by an expansion in road services...[for which] an additional supply of at least 3,500 tons of petroleum a month would be required.[1046]

Problems of the British coal industry

The assurances given at the London meeting as to the temporary nature of restrictions did not apply to coal, reflecting the crisis in British coal production which had been developing since the previous autumn. On 13 October 1943 Maj. Lloyd George, Minister of Fuel and Power, outlined to the Commons the supply outlook for the following year. He mentioned the additional needs generated by the surrender of Italy which was using British coal for railway purposes, as Sardinian coal was not suitable for railway use.[1047] He also expressed concern that aggregate coal output was down in the year to date compared with the same period in 1942 despite the decline in the number of industrial disputes in this period.[1048] The conscription of labour into the mines is an indication of the severity of the production problems. During 1944, 11,100 forces personnel were reallocated to mining, of whom only 6,400 were ex miners.[1049] The mining workforce was becoming very mixed:

[1045] NA DFA A59, Undated report by Leydon on meeting of 31 Mar. 1944.
[1046] NA DFA P33, Leydon to Norman Archer, 20 Apr. 1944.
[1047] C.R.S. Harris, *Allied military administration of Italy 1943 -45*, (London, 1957), p. 102.
[1048] Court, *Coal,* p. 246.
[1049] Court, *Coal,* p. 304.

> One aspect of the manpower problem of the war had been the advanced age of the workforce; another had been its youthfulness. Many of the latter had been plunged into work and into war at the same time, divorced by a generation from their older workmates and told at a time of hardship to keep in line by their own union.[1050]

Professor Court summarises this experience: 'No other major British industry carried so many unsolved problems into the war: none brought more out'.[1051] Industrial relations problems intensified in spring 1944 when dissatisfaction over wages caused a wave of unofficial strikes in Scotland, Yorkshire [1052] and crucially for Ireland, South Wales.[1053] Here, it took a week of solid persuasion by union officials to get the 90,000 men back to work in early March, by which stage half a million tons production had been lost.[1054] In addition to industrial relations problems, productivity in the industry remained low, and a consensus on domestic fuel rationing could not be reached.[1055] With invasion planning came the need to stockpile coal, which was critical for railways as the demand from SHAEF[1056] was for quality large coal for use as locomotive fuel.[1057]

Table 13 British coal consumption – selected sectors.

Year	1940 41	1941 42	1942 43	1943 44	1944 -45
Railway	13.6	14.2	14.7	15.2	15.1
N Ireland	2.5	2.5	2.5	2.7	2.5
Total	190	195	189	186	190.5

Source: Court, *Coal*, p.388.

The coal supply issue assumed wider proportions in this period as shortages in British production were compensated by supplying the Middle East and the area under Allied

[1050] Francis and Smith, *The Fed,* p. 415.
[1051] Court, *Coal*, p. 375.
[1052] *Times,* 12 Apr. 1944.
[1053] Francis and Smith, *The Fed,* p. 411.
[1054] *Ibid.*, p. 412.
[1055] Court, *Coal*, p. 309 (productivity) and p. 162 (rationing).
[1056] Supreme Headquarters Allied Expeditionary Force
[1057] Court, *Coal,* p. 375.

control in the Mediterranean with 'a number old crocks unsuitable for service elsewhere [which] maintained 'the coal shuttle' from India and South Africa'.[1058]

Table 14 1943 projections for coal flows Q3 and Q4 1944

Route	Monthly tonnage
South Africa to the Middle East	180,000
South Africa to the Mediterranean	40,000
India to the Mediterranean	15,0000

Source: Behrens *Merchant shipping*, p. 460

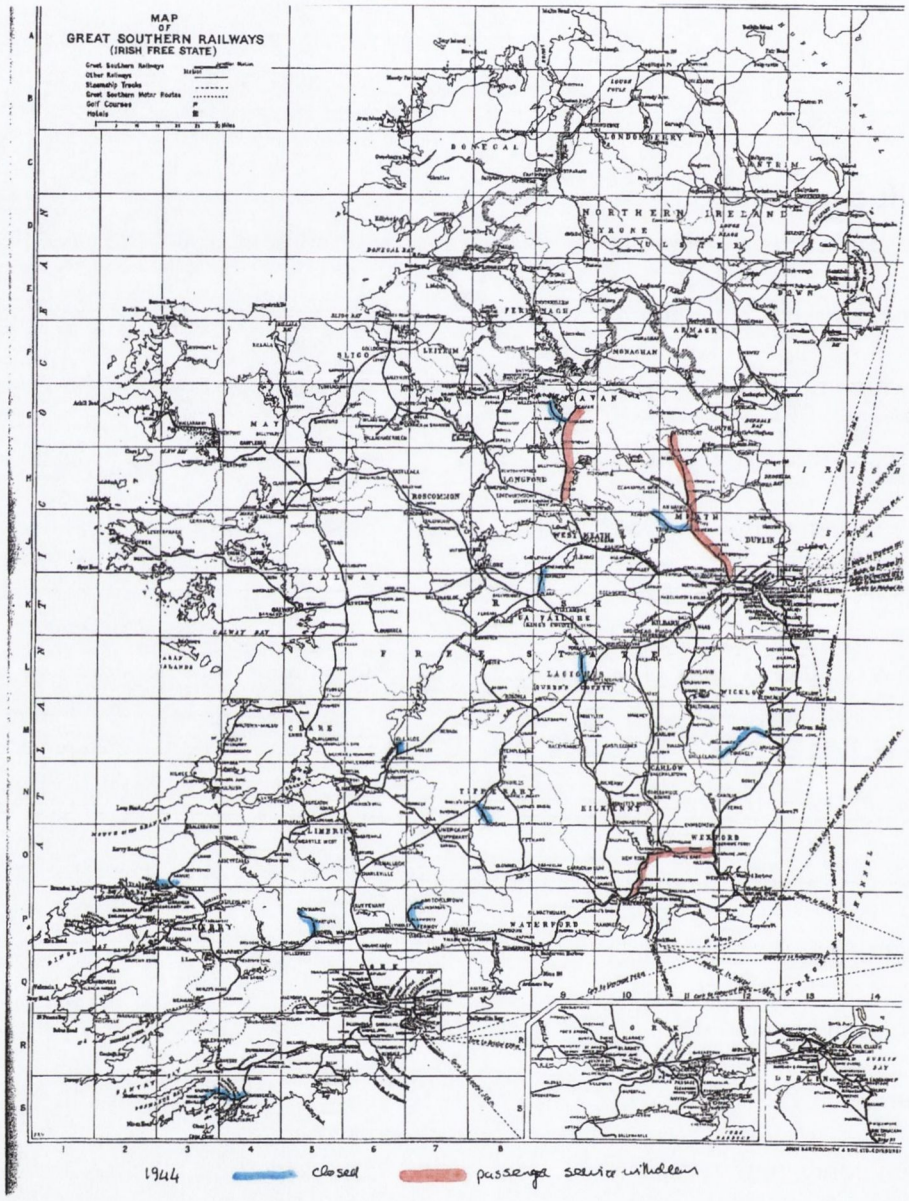
Service cutbacks

In late April 1944, immediately after the London meeting, the GSR began drawing up an emergency timetable which was introduced on 24 April. Figure 11 illustrates these cuts which involved the withdrawal of services on eleven branch lines and passenger services withdrawn on the other secondary lines. Passenger train services outside the cities were reduced to two days per week and goods train services to four days per week. A restricted suburban service continued to run daily in Dublin, Cork, Limerick and Waterford. Lemass explained this to the Dáil on 20 April, stating that deep cuts in services were necessary to accumulate stocks to meet the peak demand in September, October and November: 'If by limiting services at the present time we can make possible the provision of greater transport facilities to move grain, beet and turf in those months, then it is clearly desirable that we should accept now whatever limitations are necessary'.[1059] He continued: 'There will be a reduction of...40 per cent in the number of passengers and 20 per cent in the amount of [goods] traffic'...It is not contemplated that a corresponding reduction in the special goods train service [turf, grain, beet, livestock] will be made as in the ordinary goods train service'.[1060] These cuts reduced train mileage by almost a third from 162,000 to 116,000 miles.[1061] The public response to the cuts was one of resignation tinged with

[1058] C B. A. Behrens *Merchant shipping and the demands of war* (London, 1955), p. 341.
[1059] Dáil Debates, vol. 93, col. 1284, 20 April 1944.
[1060] Dáil Debates, vol. 93, cols. 1285, 1286, 20 April 1944.
[1061] GSRGM Un numbered file, 'Statement of weekly mileage and fuel cost', 1944

protest. Bredin responded to one appeal that 'Protests no matter how strong, will not, I fear increase the supply of fuel which is the basis of our difficulties'.[1062]

Figure 11 **1944 cuts : blue closed, red passenger services withdrawn**



Source GSRGM 61551

The provincial press seemed resigned, with the editor of the *Munster Express* writing: 'In the circumstances we must take a philosophical view [and] ask providence to spare us from

[1062] GSRGM 61551, 'Reduced train services from 24 4 44', Bredin to W. Odlum, 18 Apr. 1944.

unbearable burdens'.[1063] The *Leitrim Observer* of 22 April reported that 'the British restrictions on diplomatic communication means that invasion is due at any moment according to opinion in Stockholm'. The understanding view of the service cutbacks taken by the press may be linked to the appointment by the GSR of its first press officer in April 1944. Richard Dowling formerly worked for the *Irish Times* and earned the praise of the *Connacht Tribune* which described him as 'The man in the gap…when the train crisis arose last week. It was the first time…that newspaper men found that they could quickly discover what was happening in Kingsbridge'.[1064] Such was the publicity [1065] surrounding the restricted services that on the first day of the new timetable the public avoided travelling with some trains leaving their termini half empty. The first train to leave Galway provided over 350 seats of which half were unoccupied.[1066] The cuts had not the same significance in the North West where the *Anglo Celt* noted that 'The alternative services of the GNR are running normally'.[1067] In this period many Dublin bound rail travellers from Sligo traveled to Enniskillen and onwards via Clones and Dundalk on the GNR.

Changed trading relationships

On 21 April 1944, Leydon and Norman Archer discussed the drafting of a request for additional petrol. The issue of cattle exports and railway fuel played a central role in this discussion as they had in 1942. Leydon pointed out that 'He could not expect to turn this country into a manufacturing factory for the United Kingdom giving us just sufficient raw materials for imports…Archer then said that the arrangement for letting us have 10,000

[1063] *Munster Express*, 21 Apr. 1944.
[1064] *Connacht Tribune,* 18 Apr. 1944.
[1065] *Connacht Tribune*, 22 Apr. 1944.
[1066] *Connacht Tribune*, 29 Apr. 1944.
[1067] *Anglo Celt*, 22 Apr. 1944.

tons of coal a week hangs by a thread'.[1068] Exports to Britain were the key to maintaining that thread. Ian Forsyth of Fuel and Power emphasised how important it was that

> The UK departments concerned are satisfied with the maintenance of imports from Éire… e.g. cement, beer, rubber manufacture, creamery products, cattle, cattle feed, agricultural machinery, flax and jute yarn, binder twine and cordage, talc, glycerine…continuance of supplies of coal …could only be justified so long as imports from Éire of the above products were maintained.[1069]

The extensive range of products reflects the expansion of trade in strategic materials which had developed since 1942 and at least in part explains the co operative attitude of the British side. In late June Forsyth stated that 'As an indication of their realisation of Irish difficulties they were prepared…to make available an additional 2,000 tons of coal a week. Every effort would be made to provide coal to the extent to which it could be carried'. [1070] In these discussions Sir John Fisher of the Ministry of War Transport requested of Leydon that 'In connection with the Great Southern Railways it would be of considerable assistance to him if…eggs and condensed milk which are at present shipped from Limerick port could be diverted to Cork for shipment from there'.[1071] This demonstrates both the narrowness of the shipping margin and the extent to which the Irish and the British were prepared to co-operate on the supplies issue. This in turn reflected the changed circumstances since 1941 when cuts in coal deliveries were entirely punitive in nature. By 1944 the British difficulties with coal supply were real and especially severe in South Wales - Ireland's traditional source of coal.

The 'coal year' ran from May to April with the prime stocking season being from late spring to early autumn, when the weather facilitated both extraction and transport.[1072] Winter was a consumption season when factors such as bad weather and winter illnesses

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[1068] NA DFA P33, Leydon to Boland, 21 Apr. 1944.
[1069] NA DFA P33, Forsyth to Leydon, 17 May 1944.
[1070] NA DFA P33, Minute of Meeting, 23 June 1944
[1071] NA DFA P33, Minute of Meeting, 23 June 1944
[1072] Court, *Coal,* p. 389.

could slow extraction and distribution of coal. The 1944 restrictions came in the midst of the coal stocking season - both coal transport and Operation Overlord were predicated on favourable shipping weather. This disruption of stocking meant that when restrictions were lifted problems would continue through the winter of 1944/45. By this time the GSR had perfected the management of coal supplies by adjusting their mileage. A similar system for managing petrol supplies had been applied successfully in spring 1943 to deal with a sudden dip in petrol supplies. In 1944, although passenger trains ran on only two days per week, they ran to a timetable and did not disappear into a void as in 1941.

Management of coal supplies

This management of coal supplies required detailed knowledge and daily reports on the coal position of the GSR survive from January 1944 to October 1946. These reports record the daily level of stocks, the output of the briquette plants and sailing information for colliers. The year 1944 opened with a stock of 19,381 tons, or 3.07 weeks supply.[1073] Much of this was raw material for the five briquette plants which produced approximately 300 tons of fuel per day.[1074] Stocks declined during January, and by the end of February stood at 12,000 tons. On the day Maffey and Leydon went to London stocks had risen to 17,964 tons. The evolving crisis can be traced in the absolute levels of fuel and in the changing nature of the data being recorded. From 20 March separate accounts were kept of 'direct firing'coal which could be used in locomotives as opposed to briquette ingredients. The last cargo of duff was discharged on 17 April 1944, posing a challenge for the continued manufacture of briquettes. Despite attempts to use alternatives, production of briquettes declined to an average of about 160 tons per day. On 31 May the third shift was discontinued and the plants struggled on with whatever material could be got until finally

[1073] These returns are contained an un numbered file and are referred to hereafter as Coal Returns.
[1074] Coal returns. An average of 303 tons per day were produced over 12 days 13 to 26 Jan. 1944.

only the Broadstone plant was in operation. By 1945 the plants were using slurry, turf mould and Irish coal to produce briquettes.[1075] These ingredients brought quality problems as seen in a Waterford foreman's report on the late arrival of the Dublin passenger train: ' I examined the fire on arrival here and it was practically out; it consisted of reddened dross. The briquettes used were apparently of bad quality and fell away to dust. The driver states he had great difficulty in keeping the fire lighting and ...I do not doubt his word'.[1076] Exports of duff did resume but ceased again in May 1945. In November the General Manager was advised that 'This increase [in fuel consumption] is attributed mainly to the cessation of the manufacture of briquettes on 16/11/1945. In May 1945 supplies of duff were cut off as duff was required for British and Continental use and since may we have been working off our reserve stock of duff which is now exhausted'.[1077]

The daily amount issued to locomotives stood at 5,300 tons when first recorded on 4 April 1944. On the following day shipping information became erratic as a hold up on cross channel telephone calls took effect. The imposition of security measures meant that all Irish coal was shipped at the nominated ports of Ardrossan and Ayr in Ayrshire, Workington and Maryport in Cumbria and Mostyn and Point of Ayr in North Wales.[1078] The coalfields nominated to supply Ireland were in Ayrshire, Cumberland, Durham and Northumberland.[1079] All ships sailed to Dublin leaving the GSR to distribute from there coal which previously had been shipped direct to Cork and Waterford. Charles Johnston transferred his base from Newport to Maryport in Cumbria, and on 24 May he wrote 'Spoke to FAP this afternoon, the opinion there seems to be that we will not revert to

[1075] GSRGM, 53960/10, Minute of meeting, 9 June 1945.
[1076] CHEM F30, Mc Ilveen to running superintendent, 11 June 1945.
[1077] GSRGM 63665, memo for general manager, 5 Dec. 1945.
[1078] NA DFA A59, Jenkins (War Transport) to Leydon, 2 May 1944.
[1079] GSRGM 50542, memo. 9 May 1944.

normal for some time'.[1080] Half of the entire British coasting fleet was earmarked for the invasion and all British ships were withdrawn from the Irish trade.[1081] The daily return of 27 April recorded '*Turquoise* was to sail last night from Ayr. This will probably be the last British vessel to operate to here for the moment'. [1082] British vessels were replaced by Irish ships which had been debarred from the Lisbon run for security reasons. These could not always be loaded and on 25 May Johnston reported 'no cargo for *Kerloge*, no cargo for *Moyalla.*'[1083] The Irish ships lacked the suitability of purpose built colliers and were exorbitantly expensive according to the stores superintendent:[1084]

> The [Irish] ships …which are temporarily withdrawn from the Lisbon route are now carrying our coal cargoes. In addition we are using the ships belonging to the Dublin Gas Company, Messrs. Heiton and Messrs Lockington of Dundalk which habitually engaged in cross channel coal traffic. In the early stages the freight rates demanded for the Lisbon ships was 20/- per ton but our discharging agents Mc Kenzies and Co., who were anxious to break the 20/- rate were able to obtain for us the Gas company and Heiton vessels at the British rate plus 4/- surcharge, which worked out at about 13/- per ton. Following representations, the Department of Supplies have ruled that the rate for the Lisbon vessels is fixed at 13/- and to be retrospective to catch any payments we had made at 20/-. …I consider this very satisfactory.

Despite the cutbacks in regular services, by the end of June the GSR was running an additional ten thousand miles and the amount of coal issued to locomotives each week exceeded coal shipments by 900 tons. Bredin summoned a meeting on 29 June to consider remedies for this unsustainable trend. David Stewart, the traffic manager, pointed out that between 80 and 90 percent of the freight traffic was priority traffic such as turf, coal, cattle, grain and animal feedstuffs. Most of the special trains were for Castlecomer coal and for the residue of traffic which could not be accommodated on scheduled regular services. A suggestion that turf be re introduced as fuel on turf specials was described as 'highly

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[1080] GSRGM 50542, Johnston to Murphy, 24 May 1944.
[1081] Behrens, *Shipping,* p. 400.
[1082] GSRGM Coal Returns, Jan.1944 Mar. 1946.
[1083] GSRGM Coal Returns, Jan.1944 Mar. 1946.
[1084] GSRGM 43737/1, 'Increases in steam coal costs', Murphy to Bredin, 19 May 1944.

undesireable from the point of view of efficiency'and senior management was instructed to bring down train mileage to a level consistent with a daily coal issue of 4,000 tons.[1085] On 2 July the issue to locomotives was cut by twelve per cent to 4,700 tons per day. On 7 July Bredin issued instructions that 'each up road turf special...shall be supplied with two wagons of turf'. What was highly undesirable just a week before had become a necessity. This was the low point in coal supply, and an improvement can be pinpointed to 12 July when instructions were issued that 'Owing to improved coal position cancel arrangements for loading turf for locos'.[1086]

Passenger services improved slightly when the Department allowed the attachment of a single passenger coach to perishable trains on the Dublin to Cork line on condition that it would not displace perishable traffic and would not be advertised.[1087] Despite the advertising restrictions, these services attracted passengers and in mid July were given connections to Tralee, Limerick and Waterford.[1088] Suburban services were maintained in Dublin with the help of four Drumm battery trains. However, an exceptionally dry spring lowered water levels in the River Shannon and caused an electricity shortage. Electricity rationing was introduced in March and extended in April,[1089] when the use of electric current for traction was capped at 60 % of 1943 levels. In June, when the coal position was at its worst, the use of electricity for transport was banned. These regulations grounded the Drumm trains and the DUTC tram fleet, placing increased demands on GSR steam hauled suburban services.[1090] In contrast the mainline passenger service began to benefit from improvements in coal supply and resumed four-day week running from mid-July. Further improvements in the Saturday suburban services in Dublin were made in October, while a

[1085] GSRGM 54005, 'Cost and tonnage of fuel consumed in locomotives', minute of meeting, 29 June 1944.
[1086] GSRGM 53300/24, 'Working of turf specials MGW', Bredin to Running Supt., 7 July, 12 July 1944.
[1087] GSRGM 61551, Bredin to Ferguson, 23 May 1944.
[1088] GSRGM 61551, Ferguson to Bredin, 18 July 1944.
[1089] *Irish Times,* 1 Apr. 1944.
[1090] *Irish Times,* 8 June 1944.

six-day passenger service was restored between 11 and 23 December. Mixed trains had been introduced on some lines giving a slow passenger service five days a week.[1091] From August the seasonal traffics of turf and grain and beet began to be carried and on 2 August the daily coal issue coal was increased to 5,570 tons. This was increased regularly thereafter until 10 October when it stood at 6,200 tons. Stocks of coal were supplemented by deliveries from Irish mines. However, these deliveries amounted to no more than 900 tons per week or equivalent to two coal boats. Lemass had warned deputies not to: 'Imagine that there is possible any increase in the output of coal from the Irish mines which would effect more than a very slight change in our circumstances. The total output of all the Irish mines working to the fullest capacity would probably not exceed 4,000 tons a week and that...is the consumption of the Great Southern Railway Company alone'.[1092] The weekly mileage shown in table 15 shows of a summer trough followed by an autumn peak as the livestock, turf, grain and beet seasons followed in quick succession.

Table 15 Coal stocks weekly issue and miles run 1944 and 1945.

Date	Stock in tons	index	Stock in Weeks	Train Mileage	Index	Daily Issue tons	
April 44	17,48	100	3.2	163,982	100	5,300	
Sept. 44	11,539	65	2.02	147,000	90	5,700	108
Dec. 44	15,070	85	2.5	166,185	101	6,000	113
April 45	23,318	132	3.9	139,170	85	5,850	110
Sept. 45	27,732	157	4.62	161,894	99	6,000	113
Dec. 45	25,769	146	3.97	182,266	111	6,500	123

source: coal returns

[1091] GSRGM 61551/12, 'Revision of train service 17/7/1944', Kirwan to Bredin, 20 October, Board minute 5489 11 Nov., Beere to Bredin, 15 Nov. 1944.
[1092] Dáil Debates, Vol. 93 col.1292, 20 Apr. 1944.

The lowest weekly tonnage was of 111,000 in the week of D Day, 51,000 less than in the same period in 1943. While weekly mileage run as shown in figure 12 reached 150,000 in the end of October this was 30,000 less than in the same period in 1943. The seasonal pattern of usage was matched by a seasonal pattern to supplies. In late January 1945 it was recorded that coal tips were frozen and that cranes were frozen. Around this time stocks of direct firing coal fell below the critical one week level, and the daily issue was cut by 14 per cent. The low point for stock was in September 1944, but the low point for mileage run came in April 1945, reflecting the different seasonal patterns of supply and of traffic.

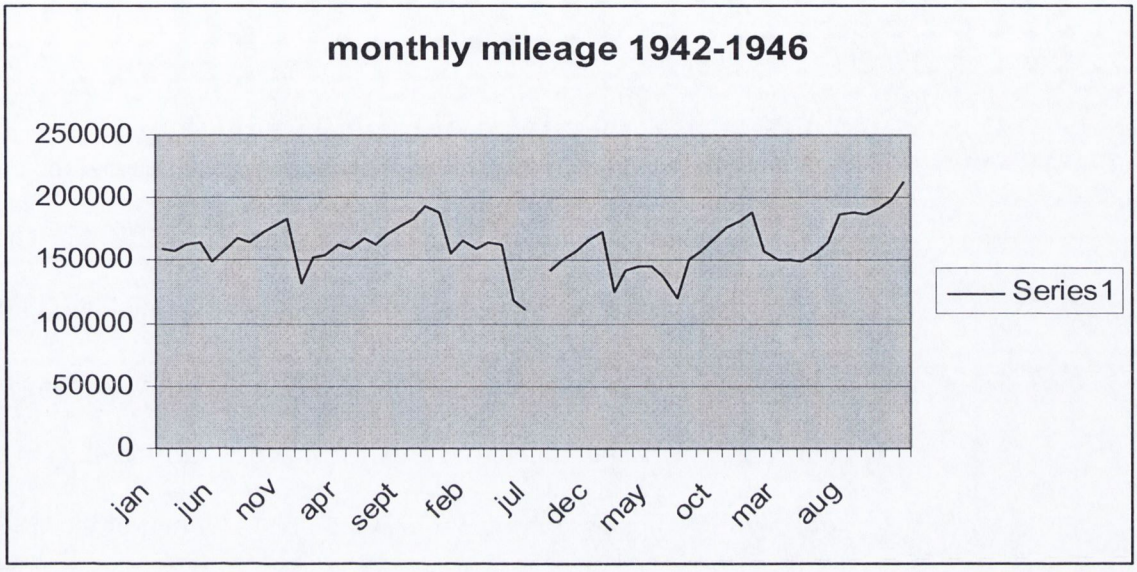
As supplies improved the need for daily monitoring of stocks supplies disappeared and in September 1946 the daily coal record ceased at which point the stock stood at 47,000 tons or just over seven weeks supply.

The invasion had two conflicting effects on Irish coal supplies. It increased the demand for British shipping and delayed the return of British colliers to the Irish Sea, while allowing some security measures to be relaxed. From 10 July 1944 Irish ships were allowed access to all British ports north of the Bristol Channel,[1093] but access was denied to the Bristol Channel itself until September.[1094] Shipping restrictions also meant that ships bound for Ireland could only use Dublin, and a memo from the stores superintendent outlined the costs imposed by these restrictions. 'In normal times with the Bristol Channel open…the saving to us [by drawing the coal in Cork] would be 11d per ton. Under today's abnormal circumstances when our imported coal has to be sent to depots from Dublin the comparative saving is [6/ per ton]'.[1095] Johnston stressed the importance of using these

[1093] NA DFA A59, Note of telephone conversation, Braddock to Leydon, 8 July 1945.
[1094] NA DFA P33, Maffey to Walsh, 30 Aug. 1944 re an allocation of south Wales anthracite for Irish maltsters 'The anthracite will be sent to the Mersey for shipment'.
[1095] GSRGM 61847, Murphy to Bredin, 23 June, 27 June 1944.

newly won concessions by keeping a flow through the Bristol Channel.[1096] In September colliers began to arrive in Cork and Waterford. On 29 September Rosslare opened for coal

Figure 12. Monthly train mileage 1942 -1946



Source: file 'Statement of weekly mileage and fuel cost'

and Limerick Steamship company ships sailed continuously into this port.[1097] The shorter sea distance saved both shipping space and internal distribution costs.

The quality and quantity of coal available to the GSR was directly reflected in the level of train services. The basic emergency service pattern from October 1941 was of a six day service with one passenger train each way per day. The passenger service was cut in April 1944 to two days a week and the goods service to four. All subsequent improvements can be linked to improvements in supply. In July 1944 with the relaxation of some security restrictions the passenger service increased to four days a week. In September the goods service – which consumed more coal than passenger service due to the greater number of goods miles run - was restored to five week running, coincidental with the opening of the Bristol Channel and the re- opening of Rosslare as a coal port. In

[1096] GSRGM 50542, Johnston to Reynolds, 15 Sept. 19
[1097] GSRGM Coal returns.

July 1945 passenger service were restored to five day running and in August to six day running, coincidental with the return of British colliers to the Irish trade. These close links between shipping and rail services demonstrates the narrowness of the margin between supply and demand.

Elections, a new company and share dealing.

The demise of the GSR after two decades of existence and the creation of Córas Iompair Éireann has been described in Ó Riain's history of CIÉ.[1098] The corporate restructuring had little or no affect on how the railway operated during the last months of the emergency, but a summary of the main events is given for the sake of completeness and to put in context the appointment of Percy Reynolds in early 1942. On 6 February 1943 Reynolds wrote to Lemass setting out his views on the future of the GSR, suggesting a long term reorganisation with a new and better capitalised company being established. He asked the Minister to indicate a policy which he could announce to the shareholders at the AGM. Reynolds was told that approval of a new policy could not be conveyed within the timescale requested. At the Company's AGM of 3 March Reynolds outlined the difficulties facing the company, stating that plans for a restructuring of the GSR could not be postponed and requested government action. This public statement could best be described as sotto voce, given the discussions on the restructuring of the GSR under way.

In February 1943 the tenth Dáil came to the end of its life under constitutional time limits, so the reluctance to make policy commitments is understandable. The main narrative for the subsequent chain of events comes from the report of a tribunal of enquiry into dealings in GSR stocks, established in November 1943 to examine movements in the GSR stock price during the earlier part of that year. This report has a four page section entitled 'Inner history of events leading to the capital reorganisation proposals' which fill

[1098] M. Ó Riain, *On the move* (Dublin, 1995), pp. 28-37.

the gaps left by the lack of surviving records.[1099] Discussions on the fate of the GSR continued between Reynolds and the Department and on 27 February 1943 Lemass indicated to R.C. Ferguson that he had arrived at a tentative conclusion that a new recapitalised company would be established which would compulsorily acquire both the GSR and the DUTC. This company would have a chairman with the same powers enjoyed by Reynolds, with the directors elected by the shareholders. These confidential discussions on the Reynolds proposal straddled a general election which was held on 23 June. The result of the election was a decrease in support for Fianna Fáil and Fine Gael and an eleventh Dáil where Fianna Fail formed a minority government, due in part to the inability of the opposition to unite.[1100] Discussions continued between Reynolds and the civil servants, and on 9 October the Department of Finance indicated it had no objections to the proposals, which were considered by the cabinet at its meetings of 15 and 19 October when the proposals were approved and conveyed to the shareholders on 24 October 1943.

From mid August dealing intensified in GSR shares, and despite discussions on restructuring the stock exchange did not suspend dealings in the shares. [1101]

Table 16 Dealings in GSR shares on Dublin Stock Exchange.

Period	GSR shares purchased
32 weeks to 14 August	550,000
10 weeks to 23 October	634,000
4 weeks to 20 November	815,000

Source: GSR shares tribunal report

The increased level of trading was described as 'absolutely abnormal, a boom, absolutely hectic and inexplicable'.[1102] Following a parliamentary question put by an independent

[1099] *Report of the tribunal of enquiry into dealings in GSR stocks between the first day of January 1943 and the eighteenth day of November 1943* (Dublin, Stationery Office, 1944), p 6792, pp. 20-24.
[1100] Wills, *Neutral Island*, p. 330, 336.
[1101] *GSR shares tribunal*, p. 11.

deputy in November, a tribunal of enquiry was established to investigate the dealings and 'the extent, if any to which any such dealings were attributable to the improper use or disclosure of information'. [1103]

The Transport Bill was introduced in the Dáil on 2 May 1944 by Seán Lemass. He described the proposed legislation as designed to facilitate a long term transport policy and having no relationship to the transport difficulties of the Emergency.[1104] He stated that by 1938 the government had recognised that the object of previous legislation of 1932 and 1933- securing the financial health of the railway companies and in particular of the GSR had failed. His speech went on to synthesise the attitude of the government to the GSR and is as relevant to the events of February 1942 as of March 1944.

> [The Government] Had no power under statute to enforce changes in the management or the organisation of the GSR. It had no evidence that such changes would be made by that company on its own initiative. [or that such changes] within the framework of the GSR would be sufficient to overcome the bad traditions of the organisation or to promote with sufficient speed the development of a sound outlook within in it, upon its own responsibility to the nation and its functions in relation to national economic and social development[1105].

This statement served both as a statement of policy for the future and an indication of the frustration felt by government in late 1941. The powerlessness of the government was rectified by the use of emergency powers legislation. Percy Reynolds had been installed in the manner of a commissioner in a delinquent local authority or a commissar in the Red Army to ensure a 'sound outlook'. However, these changes had only been achieved in February 1942 using emergency legislation, which would lapse on the return of peace. In the absence of legislation the Government risked a return to the 'old' GSR, with what Lemass had described as its bad traditions.

[1102] *GSR shares tribunal*, p. 10.
[1103] *Ibid.*, p. 4.
[1104] Dáil Debates, vol. 93 col.1786.
[1105] Dáil Debates, vol. 93, col. 1787, 2 May 1944.

The passage of the bill was delayed by 'events', as Harold Mac Millan might have put it. The opposition put down a motion to defer consideration of the Bill until the tribunal of enquiry into share dealings reported. When this matter was put to the vote the government was defeated by one vote. The Transport Bill had forced an election, an election which allowed Fianna Fáil to go to the country in an election which the opposition did not want. Fine Gael was weakened, the Labour party was in the throes of a split and the new Clann na Talmhan was untried.

The government returned after the election with an increased majority and continued with its programme. One of the first Legislative tasks of the new Dáil was a new Transport Bill and the Transport (no 2) Bill was introduced into the Dáil on 12 June, the second day's sitting of the twelfth Dáil. Lemass informed the house that the Bill contained no changes other than alterations of the dates rendered necessary by the delay.[1106] The legislation can be seen as adapting the capital and governance structures of the GSR and DUTC to the de facto position since March 1942. The GSR and DUTC were absorbed into the new company and their shareholders received CIÉ stock. The government retained the right to nominate the chairman contained in the 1942 order while the shareholders elected the directors. The passage of the Bill through the Oireachtas was predictable. The Labour Party wanted nationalisation, Fine Gael supported private enterprise and sought to make capital out of previous Fianna Fáil promises to nationalise the railways while some, particularly in the Seanad sought additional compensation for shareholders. Senator Johnston supported such compensation but remarked that he estimated that the public had got for a price of some £20 million assets which at current prices it would have taken some £40-50M to construct. He neglected to mention that many of these assets were life expired

[1106] Dáil Debates, vol. 94, col. 110, 12 June, 1944.

and had given no return to shareholders for many years. The tribunal reported and found that none of the share dealings were irregular, although John O' Brien, Principal Officer with responsibility for the GSR resigned, and was replaced by Thekla Beere.

On 31 December 1944 the GSR ceased to exist. The manner of its departure had been established in 1942, and the 1944 Act can be seen as giving a peacetime framework to the outcome of Emergency legislation. At an operational level, the new corporate structure brought little change and the rail and road services struggled to cope with the effects of Emergency shortages. A more significant operational milestone was reached on 28 December 1944 when the GSR lost its twenty year record of fatality free operation. In a collision between the Dublin to Cork night mail train and a cattle train at Straboe level crossing, six mules south of Portarlington, a postal sorter was killed. The subsequent enquiry found that the primary cause of the accident was that the driver and fireman of the mail train passed a signal at danger. The secondary cause was the failure of the guard of the cattle train to protect his train when stationary, in accordence with the rules.[1107] However, the conditions imposed by the emergency also had a significant bearing on the accident. The cattle train had taken six hours to cover the forty one miles to Portarlington, where the fire was cleaned. Having left with a fresh fire the train got three miles when it had to stop to build up pressure. Upon restarting it got no further than a further two and a quarter miles before having to stop again to clean the fire. The failure to display the correct red light on the end of the goods train and the shortage of parrafin oil was also mentioned in the report of the enquiry.[1108] The conditions prevailing since 1940, with stops in mid section to clean fires, unprotected by signals, and the distraction of crews by badly

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[1107] Department of Industry and Commerce *Report of Investigation of accident at Straboe near Portarlington 20 December 1944* (Dublin, Stationery Office, 1945), p. 6.
[1108] *Ibid.*, p. 7.

performing locomotives increased the hazard of a serious incident and the circumstances eventaul combined to cause a fatal accident.

Trading relationships towards the end of the war

The British Cabinet sub committee on Éire met for the last time on the evening of D Day with a one item agenda – the Irish request for a supplementary oil supply. The Dominions Office memo noted how allowances had been made to Éire:

> To allow her to export to us the agricultural products which we needed…recently we had to make cuts in coastal shipping and close certain ports…coal supplies to Éire had been temporarily reduced by over 50%...It is proposed that 3,500 tons of fuel oil [extra] be allowed as long as coal restrictions remain plus 1,000 tons of lubricating oil'.[1109]

This response was conveyed unofficially to Leydon two days later.[1110] This allowance was reduced to 1750 tons per month in November as coal supplies improved.[1111] In early October the British expressed a willingness to restore the 'pre security' coal allocation of 21,300 tons a week provided the Irish could provide ships to carry it. However, there were not sufficient Irish ships to achieve this. Leydon stressed to the British how all available shipping - even schooners - had been pressed into service and that an Irish shipping vessel had been taken off the North Atlantic run even though this would cause problems for wheat imports. He requested that more of Ireland's allocation would come from South Wales due to the better loading facilities there.[1112] Smith's sympathy with the Irish case can be seen in his note to the Ministry of War Transport that 'Leydon mentions various difficulties which stand in the way of his carrying the present figure of 15,000 tons per week, and we should like if we could, to find some way out of these difficulties… we would like to get back to the figure of 21,300 tons per week. …Would there be any chance of putting in some British

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[1109] BNA CAB 72/25, minute of meeting and memorandum for meeting, 6 June 1944.
[1110] NA DFA P33, Note of phone call, 8 June 1944.
[1111] NA DFA P33, Maffey to Boland, 11 Nov. 1944.
[1112] NA DFA P23, Leydon to Campbell, 6 Oct. 1944.

tonnage'?[1113] While such a move was not possible, the Department of Supplies continued to press for small incremental improvements aimed at speeding the turnaround of ships such as turning up the navigation lights in Preston to peacetime strength and speeding up the security clearance of Irish ships.[1114]

Coal demand in Europe

The end of the war in Europe brought changes to the shipping situation and in late May 1945 Dulanty wrote to Gilmour Jenkins of War Transport that 'within the last ten days ten British colliers have been operating on the coal trade with Ireland...carrying 8,500 tons [of] our present allocation of 17,000 tons'.[1115] The daily coal returns show ships which had traditionally served the GSR returning to the Irish Sea, releasing Irish ships to trade with Iberia and transport supplies for Ireland which had accumulated in Lisbon. Gilmour Jenkins informed Dulanty that 'While it is not possible to give any binding understanding the probability is that during the good weather season we shall be able to continue the assistance we are now giving'.[1116] A coal famine was expected in Europe at the end of the war, but the extent of the problem in France lay dormant during 1944 and was not appreciated until spring 1945. Up to then there were few railways to operate and most of the mining areas were still in German control.[1117] As Allied communications lines lengthened more traffic was put on the reopening railway system, increasing the demand for French mined coal. So severe was the resulting shortage that steam hauled passenger services had to be suspended in France between January and March of 1945 with a skeleton service being provided by diesel railcars.[1118] In April 1945, with France getting only 35%

[1113] BNA MT 59/1282, 'Coal shipments to Éire', Smith to Gorick, 14 Oct. 1944.
[1114] BNA MT 59/1282, memo to Bennett, 25 Oct. 1944.
[1115] NA DFA A59, Dulanty to Gilmour Jenkins, 30 May 1945.
[1116] NA DFA A59, Gilmour Jenkins to Dulanty 5 June 1945.
[1117] F.S.V. Donnison, *Civil affairs and military government North West Europe 1944- 1946*, (London, 1961), p. 398.
[1118] *RG,* 12 Jan. 1945, p. 93, 9 Mar. 1945, p. 242.

of its pre war needs after military requirements were taken into account, it was realised 'That all was not well with France's coal supplies'.[1119] These difficulties impacted directly on Irish coal supplies as Charles Johnston reported on:

> The lack of output from the British mines, the increased consumption cross channel and to increased export to Europe…There was very little coal being got from the French mines…The future outlook was not bright…the quality of coal…being supplied to British railways was inferior to that normally used.[1120]

By August 1945 French production of 630,000 tons was augmented by 400,000 tons of British and US imports.[1121] US coal was transported across the Atlantic in deep sea ships and was transshipped in Britain into small channel colliers as a port capable of handling deep sea ships did not become available until November 1944 after the fall of Antwerp.[1122] Such small ships were normally used to supply Ireland. The urgency of coal supply within liberated Europe can be seen in the establishment of a solid fuels section of SHAEF, staffed with officers from a coal background, who: 'Went into the French mines before the last Germans were out of the mining camps [and] started these mines…while they were still under enemy shell fire'.[1123] Shortly after VE day Pleven, the French Finance minister said that 'France would pay any price for coal and would take all they could get because France cannot live without this coal'.[1124]

After the fall of Germany, the European supply situation worsened further as: 'On 4 May it had been [the military's] duty to kill Germans and destroy the material resources of Germany…but since 5 May it had been all at once become their duty to save the lives of their enemy…but it was six months to the winter and all its north European severity'.[1125] The effort to feed, clothe and heat the German people during the winter of 1945/ 46 was

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[1119] Donnison, *Civil affairs,* p. 399.
[1120] GSRGM 53960/ 10, Minute of meeting, 6 Apr. 1945.
[1121] *RG,* 24 Aug. 1945, p. 189.
[1122] Donnison, *Civil affairs,* p. 121.
[1123] C.J. Potter, 'Europe's coal problem' *Proceedings of the academy of political science,* 21 (Jan.1946) p. 30.
[1124] Potter 'Coal problem', pp. 28-40.
[1125] Donnison, *Civil affairs,* p. 231.

described as the 'Battle of the winter'. It was anticipated that if food and fuel was not made available civil unrest would involve the British in police actions, which would delay the transfer of troops to the east. Therefore 'The rescue of Germany from famine and anarchy was dictated not by sentiment but by self interest'.[1126] The coal industry saw the first change in the policy that nothing should be done to rehabilitate German industry. In 1945 it was decided that 'the need for coal was so great that some import of mining machinery might become necessary...At no time was production allowed to be checked for lack of mining supplies'.[1127] The coal situation mirrored that of 1940 when the burden of supplying coal to the defeated powers fell on the victorious side. Poland and Germany, two of Europe's major pre war coal-producing nations, had been laid waste by war. As Court states: 'Europe could contribute little to its own [coal] requirements and was caught in the vicious cycle of being unable to restore transport services until someone supplied the coal. Britain was to be that someone'.[1128] This meant that coal supplies would remain scarce and fuel prices would remain high until well after the end of the war. This can be seen in the price charged by the GSR for turf mould which had accumulated at stations. The 1944 price of 2/6 per ton climbed to 7/6 per ton in 1945, remaining at that price in 1946 and not dropping to 1/ per ton until 1947.[1129]

The war's end and a new fuel source

Between 1940 and 1944 the cost of fuel increased by 170% on a cost per ton basis and by 337% on a cost per mile basis.[1130] In February 1941 Bredin had told the Engineering and Scientific Association of Ireland that 'In a country such as this in easy reach of the finest coalfields in the world, there can be no doubt that for many years to

[1126] Donnison, *Civil affairs*, p. 231.
[1127] Donnison, *Civil affairs*, p. 429.
[1128] Court, *Coal* p. 375.
[1129] GSRGM 50715/5, 'Turf Mould at stations', passim.
[1130] GSRGM 65854, 'World power conference', CIE report, August 1946.

come the steam locomotive will be the most economical and satisfactory unit for general rail traction'.[1131] By 1944 this 'finest steam coal in the world' was but a memory in Ireland and showed no signs of being available in the foreseeable future. The extent of the decline in fuel quality can be seen in the fact that in the year 1945 the GSR used almost 70,000 tons more coal per annum to operate a service of four million miles less than in 1939.[1132] In April 1944, as the coal supply position was at its lowest point, two strategic initiatives were undertaken, one with long term implications for the future of the railway. In the midst of the pulverized fuel experiments the chief draughtsman prepared a minute for the general manager on oil burning. This contained a literature review and a summary description of international practice, especially in South America, where the Buenos Aires Great Southern had the most extensive fleet of oil burning locomotives in the world.[1133] While it was decided not to proceed at that time as there was no prospect of securing oil supplies, the project was revived in the following year. The modifications made in the locomotive firebox for the pulverised fuel experiment was similar to those needed for oil burning.

A more significant long term move in the direction of oil fuel was towards diesel traction. In his 1941 address to the ESAI Bredin had said: 'It is a popular belief with many people that the cure for [the economic ills of the railway] is to replace steam locomotives by diesel engines. I am going to attempt this evening to show you how unsound such a belief is'.[1134] While railcars had been successfully developed during the nineteen thirties by the GNR and the County Donegal Railways, amongst others, there were no comparable prototypes for mainline locomotives. The transition from steam to diesel was much less developed on European railways than on their US counterparts. Bredin said that 'Up to

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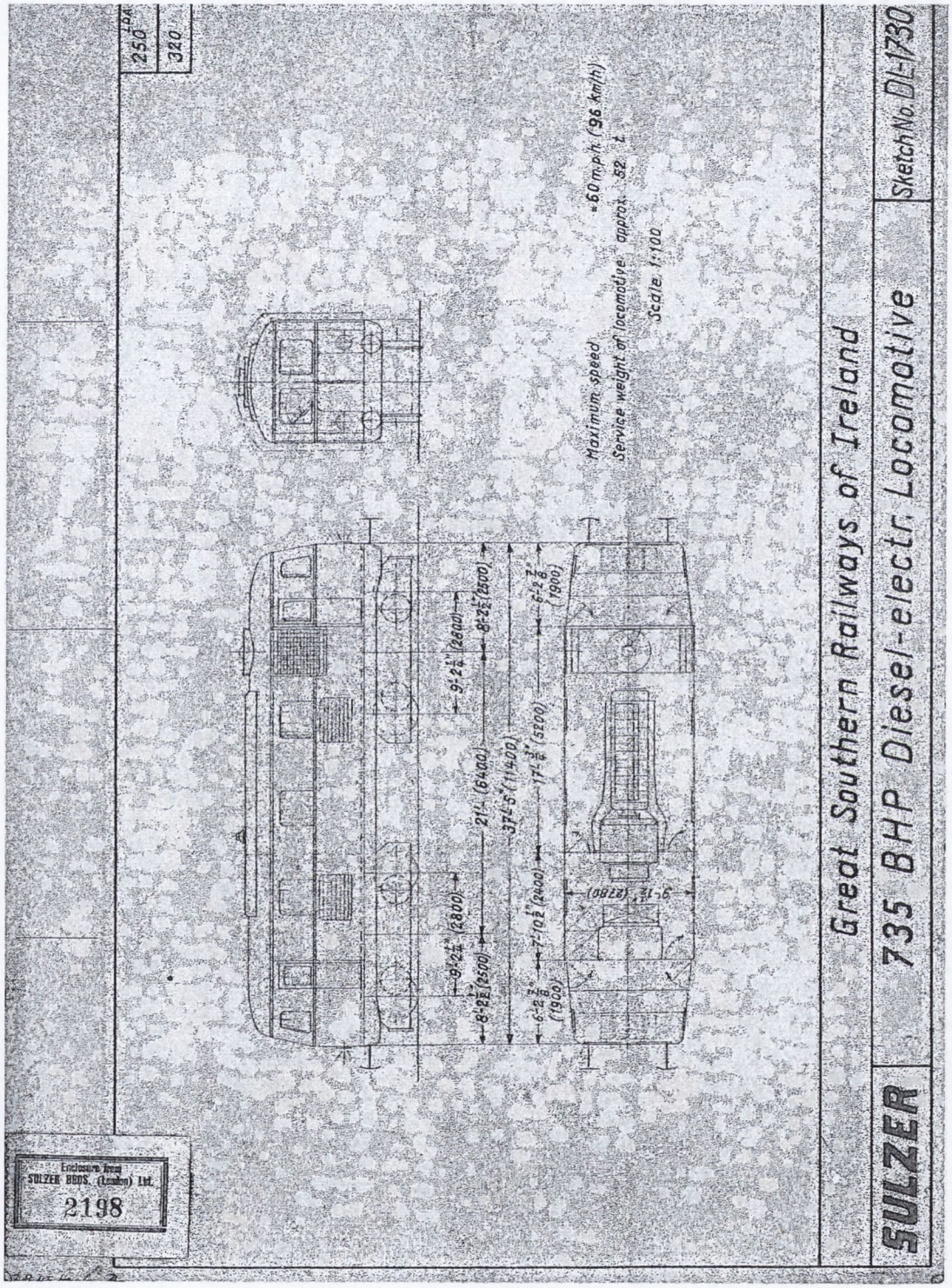
[1131] Bredin E.C. 'The steam locomotive of today and alternative forms of power for railway traction' 10 Feb. 1941, p. 16.
[1132] World power conference, 1946 report, p. 5.
[1133] GSRGM 63665, 'Oil burning locomotives', Minute, 13 Apr. 1944.
[1134] Bredin, 'Steam locomotive of today' p. 1.

[2,000 hp]…a well designed diesel units have lower net operating costs than any other form of rail traction…But the initial cost saddles the machine with enormous interest and depreciation charges and frequently makes the gross operating cost greater than that of an equivalent steam locomotive'.[1135] The huge increase in fuel costs between 1941 and 1944 altered the cost equation, but there were few operational mainline diesel locomotives in Europe and none in Britain.

On 21 April 1944 Bredin approached the Dublin agent of the Sulzer brothers, seeking proposals for the supply of prototypes for a mainline and shunting locomotives and a railcar.[1136] Sulzers were an established manufacturer of diesel locomotives and had supplied countries as diverse as France, Argentina, Siam and Algeria during the nineteen thirties. Their workshops in Winterhur were untouched by wartime destruction. Any armaments work they had undertaken was for the Germans and was declining. They would not be occupied with armaments manufacture for the war against Japan. Additionally – although this was not known to the GSR - they held some diesel units whose sale had been disrupted by the war[1137]. This initiative was not discussed by the GSR board, in keeping with the managerial style of Reynolds outlined in chapter two. While the extent of the proposed dieselization programme was uncertain, it was clear that the first mainline locomotives would be prototypes. The initial Sulzer design for the GSR, shown in figure 13, was based on locomotives supplied to Siamese Railways in 1938. In this case, security of fuel supply drove the acquisition as wood burning steam locomotives were depleting the forests.[1138]

[1135] Bredin, 'Steam locomotive of today', pp. 23-24.
[1136] PEC 6/11, Bredin to Sulzer, 21 April 1944.
[1137] PEC 6/11, Sulzers to Bredin, 28 Oct. 1944.
[1138] Sulzer Brothers history & production details http://www.derbysulzers.com/sulzer.html consulted 23 May 2008.

Figure 13: Sulzer sketch for design of prototype locomotive



Source GSR PEC/6

The United States was the cradle of diesel locomotive development through its most successful exponent, the Electro Motive Division of General Motors. In August 1945 the

New York, Ontario and Western Railroad announced its intention to fully convert to diesel traction, being the first US railroad to do so.[1139] Contributing to this decision was the fact that the company's coal costs were 75% above the average of US railroads, due to its distance from either coalfields or ports.[1140] In December it was reported that the New York and Susquehanna Railroad was the first US road to totally dispense with steam traction.[1141] Rapid change of locomotive fuel had a precedent in the change from timber to coal in the 1860s and 1870s on American railroads where: 'The prospect of much higher future wood prices due to rapidly growing demand and inelastic supply'.[1142] This shift was an 'almost textbook illustration of substitution in response to changing relative prices'[1143] and meant, for example, that in Ohio in 1868 wood was twice as prevalent as coal while in 1872 this proportion had been reversed.[1144] The widespread introduction of diesel traction was planned by the GSR before D day. The decision to make the heavy capital investment in Diesel locomotives was motivated by an uncertainty over fuel supply, which would have been clearer to Irish locomotive engineers, given their wartime experience, than to engineers employed by railways with access to better and more secure supplies of coal.

While a move to Diesel locomotives was planned by the GSR, it was clear that in the short and medium term steam would be the predominant form of traction. On 2 March 1945 Bredin approved plans for conversion of a goods locomotive for oil burning and ordered that it be treated as a matter of urgency.[1145] Bredin requested from the Department of Supplies 46 million gallons of oil for steam locomotives, together with 25 million gallons for as yet undesigned diesel electric locomotives, dwarfing the 4.6m gallon annual

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[1139] *RG,* 14 Sept. 1945, p. 289.
[1140] *Diesel Railway Traction,* Aug. 1945, p. 71.
[1141] *Diesel Railway Traction*, Dec. 1945, p. 125.
[1142] A. Fishlow, 'Productivity and technical change in the railroad sector 1840-1910', NBER working paper 1966, p. 619.
[1143] *Ibid.*, p. 619.
[1144] *Ibid.*, p. 621.
[1145] GSRGM 63665, Minute of meeting 2 Mar. 1945, Bredin to Mechanical Engineer, 2 March 1945.

requirement of the road fleet of CIÉ [1146] This radical strategy involved the complete abandonment of coal as an energy source, and constituted the adoption of Dean Swift's advice on a grand scale, displacing 240,000 tons of Welsh coal per annum. In accordance with this decision, goods locomotive 264 was converted to oil burning and by the end of May 1945 had completed tests. While fuel costs were over twice as high as with coal, it was security of supply rather than cost motivated the experiments. The position regarding coal supplies deteriorated and on 12 October Mc Nab, the western district superintendent, wrote:

> Owing to inferior fuel at Sligo, Mullingar and Broadstone considerable difficulty is being experienced by enginemen... This inferior fuel has been supplied from the boat *Astona* and is composed of 75% slack and the balance of small screenings ...it creates an almost unbreakable clinker, is difficult to light up, has no volatile content and requires cleaning approximately every ten minutes.[1147]

As can be seen in table 17, train punctuality disimproved significantly from October 1945. In November 1945 it was reported that the excess of consumption over deliveries

Table 17 late running trains June 1945- January 1946

Month	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
	20	25	22	19	30	74	73	94

Source: CHEM F39 late train returns.

was 1,000 tons a week, with arrears of deliveries amounting to 11,956 tons and that: 'The present inferior quality of coal has brought about a situation which is almost as bad as at any time during the emergency. The timekeeping of trains has disimproved ...Overtime payment to train and engine crews has increased'.[1148] In February 1946 Bredin wrote: 'we have been passing through a very critical period regarding loco fuel supplies...the supply position has been

[1146] GSRGM 63655, Bredin to Dept. of Supplies, 23 May 1945.
[1147] CHEM F30, Mc Nab to running superintendent, 16 Oct. 1945.
[1148] GSRGM 63665, Memo for general manager, 5 Dec., 1945

serious for the last few weeks…I anticipate that except for a very severe break in the weather we shall not have to reduce rail services'.[1149] The end of hostilities had clearly brought little improvement in coal supplies, with continued services depending on continuing good weather for shipping.

Progress towards the development of diesel traction in Ireland continued, but the patchy survival of evidence makes it difficult to trace with absolute precision. In April 1945 CIÉ informed Sulzers that 'The company has disposed of the question of the supply of diesel electric shunting locomotives'.[1150] On 3 September 1945 the Dublin representative of Metropolitan Vickers called on Frank Lemass, assistant general manager, to discuss the prospect of orders for diesel locomotives. Lemass replied that 'When I saw your representative…I explained to him that my chairman …was at the time in London and it was quite possible that our Diesel electric requirements as regards prototype models would be fixed up. The chairman has now returned and he concluded arrangements for the supply of prototypes for all our requirements in diesel electric traction'.[1151] Thus by the end of the war CIÉ had procured the design and manufacture of prototype diesel electric shunting and mainline locomotives. The delivery of these seven units (five shunters and two mainline) was delayed by material shortages until 1947 and 1950 respectively so the introduction of these units falls outside the scope of this thesis. However, the procurement and much of the design was undertaken during the Emergency. At the first AGM of CIÉ Reynolds announced a plan for the construction of diesel locomotives in Inchicore using imported engines and electrical equipment. In April 1946, *Diesel Railway Traction* under

[1149] GSRGM 65480, 'Running of goods trains', Bredin to Stewart, 20 Feb. 1945.
[1150] PEC 6/11, Lemass to Sulzer, 21 April 1945.
[1151] GSRGM 65042, 'Metropolitan Vickers Export Co', Lemass to Graty, 28 Sept. 1945.

the heading 'Éire to build its own diesel locomotives' and in August it reported: 'Post war programmes, in Eire especially will involve extended application of diesel power'.[1152]

Peacetime services

The end of the war brought an expectation of the return of peacetime conditions. An issue which arose immediately was that of the lines which had been closed or had lost their passenger services in April 1944. Services were restored on all these lines in January 1945 with the exception of the Shillelagh and Killaloe branches. This involved an increased weekly mileage of approximately 3,500 miles, using an additional 150 tons of coal.[1153] Further improvements took place in June with the introduction of Sunday seaside trains in Dublin, Cork, Waterford, Limerick (to Foynes) and Wexford (to Rosslare).[1154] A more substantial return to peacetime conditions followed in July with the introduction of a second service each way per day on each mainline route. This allowed most provincial customers to transact business in Dublin and return home on the same day, which had been impossible since mid 1941. The *Connacht Sentinel* reported that the Westport to Dublin train was accelerated by two hours.[1155] Galway trains still took six hours to travel the route while Cork trains took six and a half.[1156] Additional changes made in October meant, according to the *Connacht Sentinel* that 'It will be possible for Galway people to leave home on the morning train do business in Dublin and return home that night'.[1157] However, these additional services involved additional weekly mileage of 12,871 or nine per cent of total average weekly mileage shown in table 16. This demonstrates the extent to which the emergency railway had become a freight railway. To put things in perspective it is worth noting that the timing of the fastest express between Dublin and Cork in 1939 was three

[1152] *DRT* 1946, p. 37, Aug. 1946, p. 100.
[1153] GSRGM 65110, 'Proposed increase in passenger train services', Traffic manager's memo, 9 Nov. 1945.
[1154] GSRGM 65110, Stewart to Bredin, 21 May 1946.
[1155] *Connacht Sentinel,* 4 June 1946.
[1156] GSRGM 65110, table, 22 May 1946.
[1157] *Connacht Sentinel,* 29 Oct. 1946.

hours thirty minutes. The emergency timing was six hours and forty minutes while the acceleration of July 1946 brought it to four hours and fifty minutes.[1158] The improvements, although a far cry from 1939 conditions, marked an end of the emergency.

However, uncertainty over coal supplies continued and in March 1946 Percy Reynolds told the first AGM of CIÉ that 'Our coal stocks are low and the situation does not show any sign of improving. The quality of coal we are getting is as bad as it ever has been'.[1159] At this time the Department of Industry and Commerce were approached seeking a supply of crude oil to place oil burning prototype 264 in regular traffic. While the request was initially declined,[1160] the locomotive entered service on 16 September 1946. It worked at a cost sixteen per cent higher than achieved with coal.[1161] The significance lies in the fact that for the first time since 1941 the company had developed an effective alternative to coal as a locomotive fuel. Locomotive 264 was kept out of use for almost a year until oil supplies became available. In contrast the locomotives used in the turf, pitch and pulverized coal experiments had been reconverted to coal burning as soon as the trials had been abandoned. Locomotive 264 was of a class of locomotive later described as: 'The most important heavy goods engines on the system. They are of good design and require little maintenance. [They are] essential to the working of beet and cattle specials'.[1162] Keeping such a locomotive out of traffic in anticipation of the availability of oil supplies indicates that management knew that they developed a successful oil burning system which would provide a viable alternative to coal.

British coal supplies deteriorated rapidly due to the exceptionally severe winter of 1946/ 47. On 20 November 1946 Frank Lemass, the new general manager dictated from

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[1158] GSR and CIE working timetables.
[1159] *Irish Independent,* 15 Mar. 1946.
[1160] GSRGM 63665, Bredin to supplies, 7 March, supplies to Bredin, 14 Mar. 1946.
[1161] GSRGM 63566, Industry and Commerce to Lemass, 5 Sept. 1946, Tyndall to Lemass, 20 Sept. 1946.
[1162] IRRS archives, Memo re steam locomotive stock, running superintendent to CME, 17 June 1953.

his sick bed an authorization to convert: 'two decent sized locomotives one passenger and one freight to oil burning for crew training purposes', and instructed the CME to find out all that was possible about oil burning on British and American railways if necessary sending someone to Britain to glean what they could.[1163] Tyndall indicated that 30 locomotives could be converted quickly and the board approved his proposal on the same day.[1164] The crisis of 1946/1947 has been described elsewhere and is beyond the scope of this thesis.[1165] The response to the crisis was a radical cut in services more serious than anything experienced during the emergency with passenger services being suspended for a number of months. 100 locomotives were converted to burn oil-based on the prototype developed in spring 1945. Such an extensive and speedy conversion programme to oil burning was only possible because of the extensive experimentation with a range of solid fuels which had been undertaken during the emergency.

Conclusion

1944 was the most challenging year of the Emergency for the GSR. The cuts in coal deliveries, advised in advance by the British, saw services cut to the bone for most of the spring and summer, reaching a low point in mid July. This round of cuts has not made its way into the collective historical memory partly because the public had by now grown 'emergency weary' and partly because the cuts were publicised widely in advance in Dáil debates and in newspaper reports. The invasion of Europe and the end of the war brought no improvement in coal supplies – in fact, the reverse was the case. This led the GSR to take a strategic decision in spring 1944 to move away from coal as a primary fuel.[1166] It was planned to abandon the use of British coal but without substituting German or Polish

[1163] GSRGM 63566, Note dictated over telephone Lemass to Tyndall, 20 Nov. 1946.
[1164] GSRGM 63566, Tyndall to Lemass, 18 Dec 1946, board minute 1569.
[1165] V. Horan, '1947 and the oil burners' *JIRRS*, 96 (1985), pp. 337-351.
[1166] See footnote 106 above.

coal as envisaged during the economic war.[1167] This move was grounded in the emergency experience and involved two technological innovations- the adaptation of steam locomotives to burn oil and the development of diesel electric traction. These developments in motive power policy broke represented a break with British practice which remained focused on the steam locomotive. It also represented a break with a policy of incremental improvements in the solid fuel steam locomotive. The conversion of a prototype oil burning locomotive in spring 1945 had its roots in previous experiments with pitch and pulverised coal and paved the way for an extensive conversion programme during the winter of 1946/ 1947. The decision to move from coal anticipated the long term decline in the British coal industry which would lead to problems with the quality of locomotive coal supplies almost to the end of steam traction on CIÉ in 1963. In a more radical development the wartime experiences of the GSR convinced management of the necessity of developing Diesel locomotives even though they were as yet untried throughout Europe. This was a more radical step than the Dutch decision to electrify their railways that was taken in 1945. Mainline electric traction was highly developed in 1945 in contrast to diesel traction. The post war years saw the rapid eclipse of steam traction in the US with the last stronghold of American steam, the Norfolk and Western Railroad, withdrawing its last steam locomotive in 1961. In Europe substantial orders for steam locomotives for steam locomotives were placed in the years after 1945, while British Railways did not commit themselves to a diesel future until 1955 and built its last steam locomotive as late as 1960. In Ireland the decision to move away from coal as a locomotive fuel was taken in the darkest period of the Emergency – April 1944. Despite a number of false starts, in 1950 and 1954 CIÉ placed two large orders for diesel locomotives and railcars which culminated in the elimination of steam traction in March 1963.

[1167] See chapter one passim.

Conclusions

The GSR, in common with most railway companies, came out of the 1939 to 1945 period in a much dilapidated state due to arrears of maintenance. The boiler inspectors' report books of CIÉ show the extent to which the locomotive stock was run down.[1168] However the emergency experience did not 'cripple the railways... which were never to recover'.[1169] As a direct consequence of the Emergency and coal shortages CIÉ became an early adopter of diesel traction, which strengthened the long term position of the railway system in the face of revived post war road transport.

The emergency historical record was produced in 1945 under the auspices of the Taoiseach's Department. It states regarding the operation of the GSR that

> The difficulties of the 1939-45 period were due to a great extent to the mismanagement of the Great Southern Railway in the years preceding the Emergency and also to a lack of funds which led to deferred maintenance. Many different types of locomotive and road vehicles were in use so that spare parts presented an acute problem. There were serious arrears of track maintenance and wagon repairs even at the outbreak of the emergency. In the case of the road services there had been a low standard of maintenance and an almost complete lack of local depots suitable for overhaul and repairs. There was also a shortage of vehicles, equipment spare parts and other materials[1170]

This passage inexplicably fails to mention the failure of the coal supply which was the cause of most problems with railway operation during the Emergency. Shortages of materials did not prevent the commissioning of the briquette plants, the various experiments with alternative road and rail fuels or the development of a successful prototype oil burning locomotive. Arrears of track maintenance continued to accumulate, and the branch lines suggested for closure at the transport tribunal due to the poor state of

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[1168] IRRS archives Northern District boiler inspection book 1946/47: 1947/48.
[1169] Wills, *Neutral Island,* p. 238
[1170] NA EHR 2 Memo 'Internal transport' from Industry and Commerce to Dept. Taoiseach, Oct 1945 p. 2.

the track were closed in April 1944. However they were reopened later in the year as coal supplies improved. Spare parts continued to be manufactured for locomotives and rolling stock and the manufacturing of spare parts for lorries and buses was undertaken. Perhaps the reason why the emergency historical record is so misleading is that it suited neither the Department nor CIÉ to draw too much attention to the origins of the company in Emergency powers legislation. The 1944 Transport Act gave peacetime legislative status to Emergency Powers Order 152 of February 1942 which allowed the GSR to be taken over. For the drafters of the legislation this represented an opportunity to solve the 'railway problem' which had been on the agenda of every government since the foundation of the state. British railway companies experienced similar problems to their Irish counterparts during the interwar years. Much of the carriage stock of the LMS and LNER was described as 'ancient and getting shabby' or being 'a long way behind standards that were acceptable'.[1171] The LNER captured the world rail speed record of 126 mph in 1938 but in the same year the auditors 'Had to qualify their certificate because of inadequate provision for maintenance'.[1172] Indeed the wartime record of British railways differed between companies where it was 'noticeable that the LMS and LNER adapted well to the changing traffic circumstances whereas the Great Western was quite unable to do this'.[1173]

The main expectation of most citizens of their railway system is that a train will turn up on a reliable and punctual basis to transport them or their goods at a reasonable price. Subject to this, citizens care little about ownership, capital structure or governance. The GSR failed in its side of the bargain to the passenger for about twelve months after July 1941. After that point, it succeeded in running slow passenger trains which were punctual

[1171] Bonavia, *Railway policy,* p. 77, p. 90.
[1172] *Ibid.*, p. 89
[1173] *Ibid.*, p. 21.

most of the time. Despite a near failure with the turf harvest of 1941, the GSR never broke its bargain with the freight customers. Livestock was exported, the beet factories ran, the grain harvest was moved and urbanites had access to turf, even if it was often soggy. The fulfillment of this bargain was due in the main to the efforts of the engineering staff and locomotive crews of the GSR.

The Emergency experience of the GSR was broadly similar to the wartime experience of railway companies in other countries, especially neutral countries. While Switzerland, with its extensive electrified network is an obvious exception, many parallels may be found between the GSR and RENFE in Spain, CP in Portugal, SJ in Sweden and the various companies in Argentina - all of which had relied on Britain for coal in the pre–war years. Unnoticed by the general public, these parallels could be readily seen in the columns of the *Railway Gazette*. They ranged from the pressure on the railways to use (unsuitable) alternative fuel as in Argentina to the key role of the railway in bringing alternative domestic fuel to the cities as in Sweden, to the mid war- recriminations directed at the railway company for not having bought more coal in 1940 as in Portugal. It is understandable that these similarities have gone unremarked, as most historical treatments of the economic history of this period are based either on a national analysis or on the analysis of trade policy at a high level rather than on the flow of commodities. An exception to this rule is Ollson's work on German coal and Swedish coal and this thesis seeks to follow Ollson's approach.

Coal was a central tool in the bargaining process between states during the war period. The period from 1939 to 1941 saw a sudden reversal of the pre war situation of too few customers for too much coal. Coal went into short supply as war economies geared up, but process was uneven in its development. Coal went into shortage in Canada before Pearl Harbor while British restrictions on exports to Ireland and to Argentina were put in place

cautiously and with an eye to the parlous state of the South Wales coal industry. Just as Britain sought to use coal as a lever in dealing with neutrals for what Professor Court describes as 'good political reasons', Germany used its position after 1939 as sole exporter in mainland Europe to shape its foreign trade policy with Switzerland and Sweden. This pattern had its origins in the First World War when coal was used by Britain as a bargaining tool with Norway, and similarly by Germany with Holland. In wartime trade the considerations are seldom the market prices, as buyers are generally price takers. The considerations might instead be the need to leverage more supplies of a given commodity (such as wheat in the case of Guinness), or the need to deny a commodity to an enemy (such as was the case with Portuguese wolfram). Trade does not cease in war – it assumes new forms and often takes on a new urgency.

The imposition of trade sanctions by Britain in December 1940 gave an opportunity for advocates of Irish fuel self sufficiency to put their theories to the test. The main plank of Irish energy self sufficiency was the Ardnacrusha Hydro electric power station. A Liffey hydro electric scheme was nearing completion but the war meant its commissioning was delayed until 1947. Timber, the main alternative fuel in Sweden and Portugal was too scarce in Ireland to be of significance as an alternative fuel. The TDB was a young organisation and much of its work had been experimental. The development of a mechanused bog at Clonsast was delayed by the slow adaptation of continental mechanised methods to Irish bogs as well as the stranding of key equipment in Germany on the outbreak of the war. Most of the turf which was harvested in Ireland during the Emergency was harvested by traditional hand methods. The emergency period showed that while turf might serve some markets it could not, even in combination with Irish coal, replace imported coal. Some experiments in turf burning had begun before 1939 under the auspices of the TDB, but the emergency turned the entire country into a gigantic outdoor

fuel laboratory. This process proved the proposition of Sir John Purser Griffith that the most effective way of using turf was to burn it on the bog and transmit the energy to the end user. The main evidence of this can be seen in the postwar network of turf fired power stations, the Arigna power station – built to burn the coal mined nearby -and the experiments with turf gasification undertaken after the war. The Emergency tested the Irish coal mining industry, but as Lemass told the Dáil in April 1944, despite expanded emergency production, the combined output of the Irish mines could only meet the needs of the GSR.

The main role of the railway in the implementation of Emergency energy policy was to act as the national grid for turf. The task was simplified in 1942 when production was shifted towards the midland bogs. This was in marked comparison with the hastily improvised 1941 season with its disorganisation and poor linkages between the different components of the turf logistics machine. A different role had been envisaged in late 1940, with the wisespread use of turf as a locomotive fuel being planned. However within a year it was realised that harvesting labour and transport were not infinite and priorities had to be set. C.S. Andrews, the turf evangelist, was the bearer of this message to the GSR when he instructed them to stop buying turf to allow sufficient supplies for the use of the domestic consumer.

Wagon shortages and capacity problems were not unique Irish railways. The British railway system was under severe strain in keeping London and southern England supplied with coal, while the Swedish railway system was severely taxed by the need to transport timber from the north of the country to urban centres. A number of railway systems, notably Sweden and Switzerland expanded their electrified networks during this period. The use of electricity on the GSRwas limited to the Drumm battery railcars, probably one of the few effective uses of native fuel during this period, despite their

inefficiencies compared to diesel railcars. The final judgement on the effectiveness of native fuels came in the immediate post war years when coal shortages were more severe than in the Emergency period. In this period the mainstay of railway services was oil and 100 locomotives were converted to burn it during the bad winter of 1946/ 47. American coal was later used. This demonstrates the limitations of Irish coal or turf and the various devices designed to adapt them to the steam locomotive.

In terms of British policy the most striking theme to emerge was the relative autonomy of the Ministry of Fuel and Power in pursuing its own policy on coal exports, be they to Argentina or to Ireland. Having spent most of the nineteen thirties maintaining Britain's share of global coal markets, they viewed the use of coal in diplomacy with a jaundiced eye. Had they wished to paralyse the GSR, this Ministry could have embargoed the export of briquette plants in late 1941 but they did not do so. The reason for this attitude is obscure but it began with shipments of phurnacite from mid 1942 and was followed by the granting of an extra coal allocation in December 1942, when civil servants subverted a cabinet decision on the export of coal to Éire. Civil servants are unlikely to act in this manner without an expectation of support from their political masters, and with a Labour Dominions Secretary and a Liberal Minister for Fuel and Power civil servants counted on the support of their Ministers in pursuing actions supportive of the war effort even when these actions conflicted with a cabinet decision. This bizarre episode can only be explained by the coalition of forces within the British Ministries concerned, the demonstrable failure of the sanctions policy to achieve its effects and the development of common economic interest across the Irish Sea. These common interests are easily visible in the case of the Ministry of Food - more food for British tables. The motives of the Ministry of Fuel and Power are explained by its mandate to promote the use of low grade fuels. A laboratory was needed to demonstrate that low quality fuels were in fact usable

and the GSR was that laboratory. Assertions by coal users that certain types of coal were unsuitable were undermined by evidence that the fuel concerned was being used with limited success by a similar industry in Ireland

The GSR was widely seen as a failure by 1938 and this view was confirmed by the events of 1941. The collapse of services and the controversy over increased bus fares meant that the days of the company were numbered. However, to this commercial and political failure was counterposed the engineering and operational success in the period of the Emergency and immediately after when the management of the railway experimented, innovated and bargained their way through and kept the Irish economy turning over. This should not be taken for granted as can be seen from the extreme difficulties encountered by the French railways in the immediate post war period and the loss of an entire sugar beet harvest. In their experimentation and dealings, GSR managers made full use of their links, both personal and institutional, with the broader body of railway professionals in the English speaking world. Perhaps the most significant factor working in favour of the GSR was that they had their own representative on the ground in Britain. Charles Johnston played a key role in maintaining and building a relationship with the Ministry of Fuel and Power which transformed the role of the GSR from one of a mendicant seeking quality coal to a body which had something to offer the Ministry in its dealings with reluctant British consumers.

The Emergency experience of the GSR is also illustrative of aspects of Irish political culture. The postwar experience of CIÉ was controversial, with (yet another) report on transport being commissioned by the inter party governement. This led in turn to the dismissal of Percy Reynolds and to the Transport Act 1950, which nationalised CIÉ, completing the work of the 1944 Act. For all the political controversies surrounding the Transport Bills of 1944, the fact remains that this legislation adapted the capital and

corporate governance of the GSR and the DUTC to the political reality brought about by Emergency Powers order 152 of March 1942 which appointing A.P. Reynolds as chairman of the GSR. This appointment meant that in the debates over the future of the GSR the board and the management were neutralised, a significant consideration given the scale of the task which was faced. The choice of Reynolds can be seen as a political one – from a Fianna Fáil viewpoint he was a safe pair of hands. An alternative view was that he was an experienced transport manager and that the Government considered that new blood needed to be brought into the GSR to tackle what Lemass called the its bad culture. Support for the latter viewpoint can be seen in Reynolds' part in attempting to head hunt W. J. Smith from the Ministry of Aircraft Production to manage Inchicore. This view is borne out by the record of post Reynolds appointments in CIÉ. Reynolds was succeeded by T.C. Courtney of the Department of Local Government, who was in turn succeeded by George Howden of the GNR. Similarly when the post of Chief Mechanical Engineer, vacant since 1942 was filled in 1948 the candidate was O.V. S Bullied, the talented if eccentric retired CME of the English Southern Railway

For most European states the wartime management of the railway system was a simple matter as the railways were either state owned as in Germany, were nationalised during the war (as in Spain where RENFE was created in 1941) or were brought under government control for the duration as in Britain. The financial weakness of the GSR made the government initially reluctant to impose control, as it might lead to them assuming ownership of a bankrupt company. However the powerlessness of the government in the face of a number of crises forced them to take control of the GSR under emergency legislation. This exercise of control was undertaken as much with an eye to post war policy as to the immediate requirements of the Emergency economy.

The emergency experience exposed the fallacy of the proposition that a steam powered railway system could provide reasonably cheap and efficient transport using the fuel available on the island of Ireland. The experience of these years brought home to railway managers and to the government that the future for Ireland's rail network lay with a total conversion to diesel traction. This marked the move of the Irish railway system out of the British sphere of influence and into a space where European and American thinking exercised equal strength of influence.

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Colliery Guardian

Cork Examiner

Diesel Railway Traction

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Railway year book 1922

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Appendices

Appendix 1 From GSRGM 53300/18, <u>Turf transport arrangements for 1943 season</u>,

Minute of meeting 12 May 1943. Figures refer to wagons per day.

Coal

Castlecomer 30.

Arigna 30.

Ballylinan 6.

Rossmore / Carlow 3.

Slievarda ex Laffansbridge 2.

Company Briquette distribution 35.

Other priority traffic liable to disruption by the turf programme

Phosphate ex Ennistymon 12.

Machinery ex Wexford15

Sand ex Newbridge 24

Sand ex Courtmacsherry 10

Scrap iron 5

Hides and skins 5

Round timber 35

Firewood 25

Appendix two
Arrangements for evacuation of rolling stock[1174]

Southern Command

Limerick: all stock from as far west as Tralee, Foynes and Bruree to travel East through Limerick itself and concentrate in Roscrea.

Cork: On West Cork line all traffic to stop on the code word and to go eastward picking up stock and then cross the city to Glanmire station before going northwards. Other Cork lines (Cobh and Youghal to be cleared northwards to Cashel branch. Fermoy loco to clear to Mallow and Northwards

Kerry. All westward traffic to stop and return picking up stock. Tralee and Fenit stock to go to Limerick via Newcastle West. Killarney Cahirciveen and Kenmare trains to head eastwards loading stores in Killarney if possible, trains to be held in Mallow beet sidings then northwards. Tralee and Dingle to go to Tralee where locos would be immobilised.

Western Command

All stock on the lines to concentrate in Claremorris or Ballinasloe depending on their location. 'The narrow gauge lines in Leitrim and Donegal are now so little used that it is scarcely worthwhile taking action'.

Eastern Command.

The direction of the invasion made planning difficult, but it was proposed to concentrate as much as possible in Kingscourt. As to the GNR, it was indicated that action would be taken in Dundalk through the LDF, and that: 'It is not proposed to take up the matter with the GNR owing to the particular circumstance of that company'

Curragh command.

All stock from Waterford, Wexford and Rosslare was to move to Bagenalstown and Kilkenny. No engine to be kept in steam overnight in Dungarvan. Locomotives to be always in steam in Waterford, Wexford and Rosslare, placed to leave at short notice hauling all other mobile locomotives. All rolling stock east of the Slaney to move to Wicklow.

[1174] MA EDP 66, Memo –Railway rolling stock removal and immobilisation, 5 Mar. 1942.