

Russia's Foreign Supply Policy in World War I: Imports of Railway Equipment

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How important were foreign supplies for Imperial Russia during the First World War? How well was the procurement process organised? And did Russia's principal allies provide the maximum possible assistance? These questions became controversial well before the Russian collapse in 1917. During 1915-16 Russian policy-makers generally perceived foreign supplies as vital, but were divided about whether the allies were doing their best to help. By contrast, the British and French governments insisted that they were sending all possible aid, that Russian policy-making was chaotic, and that the Russian demands were impracticable given the shortages of industrial capacity, materials, finance and shipping tonnage.¹ For historians, too, these questions demand attention. They pertain not just to the Alliance's history but also to the broad issue of why the Tsarist State collapsed.

The most important assessments of the foreign procurement policy differ profoundly. The Soviet historian A.L. Sidorov reiterates widespread wartime opinions within a Marxist-Leninist framework. The western allies 'did not understand or did not want to understand the significance of the Eastern Front and Russian Army in the overall course of the war...[The imperialist bourgeoisie] wanted Russia to fight and distract the major part of the German-Austrian forces. At the same time it exploited

¹ For instance, V. Sukhomlinov, *Vospominaniia*, (Berlin 1924), pp.296, 317; A.L. Sidorov, 'Otnosheniia Rossii s soiuznikami i inostrannye postavki vo vremia pervoi mirovoi voiny 1914-1917 gg.' *Istoricheskie zapiski*, 15 (1945), pp.152-63; K. Neilson, 'Russian Foreign Purchasing in the Great War: A Test Case', *Slavonic and East European Review*, 60 (1982), p.572, and his *Britain and the Last Tsar: British Policy and Russia, 1894-1917*, (Oxford 1995), p.344.

Russia. Military supplies to Russia were not a constituent part of a unified, broad military strategic plan for routing the enemy. They were seen primarily from the perspective of commercial advantage'.²

By contrast, K. Neilson offers a nuanced view of British policy towards Russia. He argues that Lord Kitchener, Secretary for War in 1914-16, tried to provide sufficient supplies but failed 'due to Russian intransigence about accepting his help and to general British inability to provide the desired supplies rather than to any lack of appreciation of Russia'. But Neilson also concludes that David Lloyd George, as Minister of Munitions, Secretary for War and ultimately Prime Minister, 'did not pursue a consistent policy with respect to providing munitions for [Russia]', and that 'there was more than a little truth in the Russian allegation that Britain would fight to the last drop of Russian blood'.³

A reassessment of Russian policy is timely for three reasons. Firstly, we still lack a comprehensive analysis of its character and effectiveness. Several memoirs have this aim, but these must naturally be treated with caution.⁴ Sidorov's contributions, though informative, are politically partisan and relatively short. Neilson's works are concerned primarily with British policy and do not use Russian unpublished sources. Stone's analysis, in his history of the Eastern Front, is trenchant but all too brief.⁵ Secondly, little attention has been given to government purchases which were not directly military in character. For instance, my preliminary work on railway equipment imports, published in 1999, was the first extended treatment on procurement for this vital sector.⁶ Yet clearly any thorough assessment of foreign procurement must include these auxiliary aspects. Thirdly, the

² Sidorov, 'Otnosheniia Rossii', p.179, and his *Ekonomicheskoe polozenie Rossii v gody pervoi mirovoi voiny*, (Moscow 1973), pp.252-332.

³ K. Neilson, *Strategy and Supply: The Anglo-Russian Alliance, 1914-17*, (London, 1984), pp.9, 308-10. See also his *Britain and the Last Tsar*, pp.341-65; 'Russian Foreign Purchasing', pp.572-90; and 'The Breakup of the Anglo-Russian Alliance: The Question of Supply in 1917', *International History Review*, 3 (1981), pp.62-75.

⁴ Examples are A.A. Manikovskii, *Boevoe snabzhenie russkoï armii v mirovuiu voynu*, 2nd edn, (Moscow 1929), and A. Zaliubovskii, *Boevoe snabzhenie*, (Belgrade, 1923).

⁵ N. Stone, *The Eastern Front*, (Abingdon 1976), especially pp.144-63.

⁶ See A.J. Heywood, *Modernising Lenin's Russia: Economic Reconstruction, Foreign Trade and the Railways*, (Cambridge 1999), pp.23-47.

improved accessibility of Russian archives means that the necessary research can now be undertaken.

As part of my attempt to address this challenge, this article discusses imports of railway equipment for the Ministry of Ways of Communication (MPS). Developing my earlier work, and using extensive further archival research, it aims not just to clarify what the MPS ordered and why, but also to assess each main stage of policy-making and implementation in terms of aims and outcomes.⁷ The first section summarises the main issues which arose from the wartime demand for railway capacity, and shows how imports formed one of several responses. The second section analyses imports planning in the context of overall railway supply planning. The remaining four sections discuss the processes of letting contracts, production quality control, shipping of supplies to Russia, and deploying the imported supplies. I argue that certain aims were achieved quite well, but that there were major domestic problems which were compounded by external factors. The great emphasis placed on large-scale imports became, at least in this sector, a distraction from potentially more effective ways to support the war effort.

1. The Railway Context

Russia's railways played a fundamental role in the war effort. Roughly one third of the public network, immediately behind the front line, came under military control. These lines were mainly concerned with moving personnel and supplies to the front and evacuating wounded troops. The rest of the network was managed by the Petrograd-based MPS. After mobilisation its principal tasks were to move personnel and supplies towards the front-line regions, evacuate wounded troops to the distant rear, deliver supplies to industry and the civilian population, and provide a public transport service. These jobs involved tremendous difficulties, notably a huge increase in transport demand and major changes in traffic flows. For instance, most imports had to travel through Archangel and

⁷ Not discussed here are railway-related orders by military authorities, which mostly comprised light rails and some narrow-gauge rolling stock.

Vladivostok, the only non-blockaded ports with established rail access.⁸

How well the railways met these challenges has been disputed. Russian military authorities cited railway problems – inadequate development and facilities, equipment shortages, obsolescence and poor organisation – as a key reason for military setbacks. In the rear, government agencies and the public blamed the railways for shortages of food and other goods. But the MPS claimed that the sector was being scapegoated for the failings of others. That said, the ministry did confirm alleged shortages of modern equipment, not least because this served its desire for modernisation and deflected attention from management issues. As for historians, many attribute the outbreak of revolution partly to the transport system's inadequacy and collapse, but others assess the wartime performance more favourably.⁹

Two points are important for present purposes. The first is that, notwithstanding the disputes, the government quickly defined the expansion of railway capacity as a military priority. Its short-term emergency measures included reduced maintenance, a 20-per-cent increase in the load limit for a standard freight wagon, and fewer public services. Also implemented were longer-term measures to improve the railways' condition and development, sometimes with elements of modernisation. Great efforts were made to order new rolling stock, build new routes, remodel junctions, add second tracks to busy routes, lay heavier rails, extend sidings, regauge narrow-gauge lines and expand workshop capacity.¹⁰

The second point is that this strategy included large-scale imports.

⁸ On wartime challenges and railway performance see, for example, M.M. Shmukker, *Ocherki finansov i ekonomiki zheleznodorozhnogo transporta Rossii za 1913-1922 gg.*, (Moscow 1923), pp.21-137; N. Vasil'ev, *Transport Rossii v voine 1914-1918*, (Moscow 1939); A.L. Sidorov, 'Zheleznodorozhnyi transport Rossii v pervoi mirovoi voine i obostrenie ekonomicheskogo krizisa v strane', *Istoricheskie zapiski*, 26 (1948), pp.18-64; J.N. Westwood, *A History of Russian Railways*, (London 1964), pp.164-77; and J.N. Westwood *et al.*, "The Railways", in R.W. Davies (ed.), *From Tsarism to the New Economic Policy: Continuity and Change in the Economy of the USSR*, (Basingstoke 1990), pp.176-8.

⁹ For example, W.B. Lincoln, *Passage Through Armageddon: The Russians in War and Revolution, 1914-1918*, (Oxford 1994), pp.24, 56-8; Stone, *Eastern Front*, pp.77, 95, 297-300; Westwood, *Railways*, pp.176-8.

¹⁰ See Heywood, *Modernising Lenin's Russia*, pp.25-6.

In early 1915 the MPS obtained permission to import 400 modern 'decapod' heavy freight locomotives, over 16,000 high-capacity waggons and about 250,000 tonnes of track supplies by the end of the year; most of the contracts were intended to strengthen the trans-Siberian route, and were placed by August 1915. In the winter of 1915-16 the MPS proposed to import a further 1,300 decapod locomotives, 35,000 Russian-type waggons and 326,000 tonnes of track supplies, although due to various problems only 300 locomotives, 6,500 high-capacity waggons and some 400,000 tonnes of track supplies were ordered by February 1917. In March 1917 the new Provisional Government authorised more expenditure, primarily for 2,000 decapod locomotives and 40,000 high-capacity waggons, but only part of this plan was implemented by October 1917. (see Table 1) Other goods ordered in bulk in 1915-17 included spare parts, workshop tooling, tools and metals. (see Table 2)

These purchases represented a significant proportion of Russia's wartime state procurement in North America.¹¹ If government contracts placed in the USA and Canada between mid-1915 and the Bolshevik revolution were worth \$1,176 million, the MPS share was just over \$167 million, or about 14 per cent of the total. Only the Main Artillery Directorate had a larger share, with contracts valued at about \$767 million, or some 65 per cent of the total.¹²

2. The Policy-Making Process

The peacetime MPS used two linked processes to clarify the railway system's annual supply requirements and how to meet them. One concerned state-owned lines, and the other the private companies which owned roughly one-third of the mileage in 1913. Each state-owned railway assessed its own needs and incorporated them in a draft annual

¹¹ The relatively small scale of MPS contracts in Britain is shown by the delivery of only 9,471 tonnes of British railway supplies to Archangel in 1915-16: *Vedomost' gruzov voennykh [?] otpravlennykh iz Anglii na severnye porty: Rossiiskii gosudarstvennyi istoricheskii arkhiv*, St Petersburg (RGIA), f.1525, op.1, d.680, l.16.

¹² List of RSC contracts to 20 January 1918: Hoover Institution Archives, Stanford, CA (HIA), Russia: *Posol'stvo (US)*, box 328, file 328-7.

TABLE 1 - Principal MPS Contracts for Imports of Locomotives, Wagons and Track Supplies, 1914-17					
Requested	Approved by Council of Ministers	Equipment ordered	Contract date, place, agency	Company	Delivery notes
30 'Mallet' locomotives, 1067 mm gauge, Archangel Railway	17 Oct 1914	30 'Mallet' locomotives	27 Oct 1914 Russia, MPS	Baldwin Locomotive Works	delivered to Russia by mid-1915
10,000 high-capacity wagons	17 March 1915	2,000 vans	18 April 1915, Russia, MPS	Eastern Car Co.	delivered to Russia 1915-16, reassembly completed autumn 1916
		1,000 vans	5 May 1915, Russia, MPS	American Car and Foundry Co.	
		2,000 vans	30 May 1915, Russia, MPS	Pressed Steel Car Co.	
		5,000 coal waggons	30 May 1915, Russia, MPS	Pressed Steel Car Co.	
400 2-10-2 locomotives	14 April 1915	50 2-10-0 locomotives	8-9 June 1915 Russia, MPS	Canadian Locomotive Company	delivered to Russia 1915-16, reassembly completed circa autumn 1916
		250 2-10-0 locomotives	10 June 1915, Russia, MPS	Baldwin Locomotive Works	
		100 2-10-0 locomotives	21 June 1915, Russia, MPS	American Locomotive Company	
		6 2-10-0 locomotives	2 March 1916 Russia, MPS	American Locomotive Company	to replace 8 locomotives lost at sea, delivered 1916-17
6,700 high-capacity wagons	14 April 1915	1,000 vans	5 May 1915, Russia, MPS	American Car and Foundry Co.	delivered to Russia 1915-16, reassembly completed circa autumn 1916
		60 flat waggons	21 June 1915, Russia, MPS	Pressed Steel Car Co.	
		2,100 vans	2 & 11 June 1915, Russia, MPS	American Car and Foundry Co.	
		155 vans	7 Jan 1916 (o.s.), Russia, MPS		

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224,200 tons of rails and fittings	circa May 1915	60,000 tons	1 August 1915, Russia, MPS	shared by nine US companies	delivered 1915-16
		65,400 tons of rails and fittings	1 August 1915, Russia, MPS		
		72,400 tons of rails and fittings	13 August 1915, Russia, MPS		
		50,000 tons of rails and fittings	16 Sept 1915, Russia, MPS		
		16,242 tons of fittings	7 contracts, 28 July-8 Sept 1915	shared by five companies	
?	?	15,000 tonnes of rails and fittings	11 Dec 1915 (n.s.?)	?	?
?	?	80 2-10-0 locomotives, second-hand	15 August 1915, Russia?	Belgian State Railways	42 delivered by 1917, balance probably cancelled
1,300 2-10-0 locomotives	7 June 1916	40 2-10-0 locomotives	8 Nov 1916, USA, Morgan	American Locomotive Company	delivered to Russia 1917
		40 2-10-0 locomotives	8 Nov 1916, USA, Morgan	Baldwin Locomotive Works	
		110 2-10-0 locomotives	5 Dec 1916, USA, Morgan	American Locomotive Company	
		110 2-10-0 locomotives	5 Dec 1916, USA, Morgan	Baldwin Locomotive Works	
		75 2-10-0 locomotives	4 April 1917, USA, Morgan	Baldwin Locomotive Works	delivered to Russia 1917-18
35,000 Russian-type waggons	7 June 1916	4,000 high-capacity waggons, second-hand	Sept 1916, USA, MPS mission, on terms agreed in Russia	Newton Erb trading company	cancelled due to non-delivery, 1916
		1,500 high-capacity coal waggons	17 Dec 1916, USA, Morgan	American Car and Foundry Co	delivered to Russia 1917-18
		1,500 high-capacity coal waggons	24 Dec 1916, USA, Morgan	Standard Steel Car Co.	

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Requested	Approved by Council of Ministers	Equipment ordered	Contract date, place, agency	Company	Delivery notes
		3,000 Russian-type vans [metal parts and wooden doors only?]	17 Dec 1916, UK, Russian Government Committee in London	Eastern Car Co. via Canadian, Imperial Munitions Board	production finished 7 months late, Feb 1918
		250 high-capacity coal waggons	18 Jan 1917, USA, Morgan	American Car and Foundry Co.	?
		250 high-capacity coal waggons	18 Jan 1917, USA, Morgan	Standard Steel Car Co.	
		2,000 Russian-type vans (metal parts and wooden doors only)	28 June 1917? (o.s.), UK, Russian Government Committee in London	Canadian Car and Foundry Co., via Canadian Imperial Munitions Board	production finished Oct 1917
326,000 tonnes of rails and fittings	7 June 1916	171,546 tons of rails and fittings	23 June 1916, Russia, MPS	US Steel . Products Co	subcontracted to various firms, and delivered 1917-18
		5,720 tons of rails and fittings	28 June 1916, Russia, MPS	Allied Co. of Contractors	
		3,558 tons of rails and fittings	30 June 1916, Russia, MPS	?	
		165,000 tons of rails and fittings	9 July 1916, Russia, MPS	Allied Co. of Contractors	
		87,827 tons of rails and fittings	12 July 1916, Russia, MPS	American Steel Export Co.	
		6,000 tons of rails and fittings	11 Aug 1916 (n.s.), USA?	US Steel Products Co.	
		600 tons of fittings	1916, USA?	Lackawanna Steel Co.	
		8,550 tons of rails and fittings	14 Nov 1916 (o.s.), Russia, MPS	Khanening Railway and Coal Co., China	
?	?	2,000 points	14 Nov 1916, Russia, MPS	Allied Co. of Contractors	delivered in 1917
[53 'Mallet' locomotives, 1067 mm gauge, for Makinskaia Railway]	?	53 'Mallet' locomotives	23 March 1917, Usa, MPS Mission	Baldwin Locomotive Works	None sent to Russia, sold elsewhere by 1926

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2,000 2-10-0 locomotives	1 April 1917, by Prov. Govt	250 2-10-0 locomotives	22 June 1917, USA, MPS mission	Baldwin Locomotive Works	150 & 150 built in 1917-18, balances cancelled, 1918; 100 sent to Russia in 1918-20; 200 sold to US railways, 1920
		250 2-10-0 locomotives	26 June 1917, USA, MPS mission	American Locomotive Company	
40,000 Russian-type wagons	1 April 1917, by Prov. Govt Russian-type vans	6,500 Russian type vans	19 June 1917, USA, MPS mission	American Car and Foundry Co.	2,600 & 1,400 built, balances cancelled, 1918; 3,024 sent to Russia in 1918-20
		3,500 Russian-type vans	12 July 1917, USA, MPS mission	Standard Steel Car Co.	
?	?	2,000 points Russia, MPS	26 April 1917,	Allied Co. of Contractors	
?	?	2,000 points	22 June 1917 (o.s.?), Russia?, MPS?	Allied Co. of Contractors	cancelled

Note: dates are old style unless otherwise indicated. Uncertainty remains in some cases due to discrepancies between, and omissions in, the surviving sources examined to date.
Principal sources: reports to the Council of Ministers, in Russian State Historical Archive, f.1276, op.10; Svodnaia vedomost' vsehkh kontraktov po zakazam Ministerstva Putei Soobshcheniia, [n.d.]; Vedomost' kontraktov russkoi missii putei soobshcheniia, 21 September 1917; and Vedomost' kontraktov po zakazami Komissii Ministerstva Putei Soobshcheniia, provereno po 1-oe iul'ia 1917 g., 21 September 1917: all in National Archives Record Group 261, entry 24, box K179; List of Orders, 1914-17 [compiled by People's Commissariat of Ways of Communication, circa 1920]; Rossiiskii gosudarstvennyi arkhiv ekonomiki, f. 4038, op. 1, d. 45, ll. 210-17.

budget for consideration by the MPS Directorate of Railways. Supplies needed for building new railways were discussed in a similar fashion, but with the involvement of the MPS Directorate of New Railways. During this process the Ministry's technical, operations and economic (*kboziaistvennyi*) departments liaised with policy-making committees like the MPS Commission for Rolling Stock and Traction to clarify system-

wide needs, and held exploratory talks with prospective suppliers; indeed the main locomotive- and waggon-building companies sponsored and participated in the rolling stock commission. Short- and long-term plans, technical policy, factory capacity, the availability of materials, and provisional delivery terms were all discussed. The resultant draft MPS budget was then circulated to the Ministry of Finances, Ministry of Trade and Industry, State Control and other relevant ministries, state committees and the Duma. Eventually the final draft went to the Council of Ministers and thence, if approved, to the Tsar for ratification. Meanwhile the private railways handled their own procurement, though close liaison with the Directorate of Railways was mandatory to give the MPS a strategic overview of the network.¹³

Imports had only a minor place because for decades the government forced the railways to purchase most equipment from domestic manufacturers. The only significant exceptions to this political priority were patented parts or parts no longer under patent which had become widely used. True, this protectionism was relaxed in 1913 due to a shortage of metals in Russia, but only in relation to trackwork and spare parts for locomotives and wagons, not to locomotives and wagons *per se*.¹⁴

Debate about this planning system's effectiveness has reflected the divisions over the railways' pre-war condition and wartime performance. Issues have included the dual roles of the MPS as regulator and owner-operator, and obstacles to innovation. But most accounts have seen the government's policy to curtail railway expenditure as the crucial influence. Critics have argued that such political and financial constraints, and the minister's determination to observe them, left the railway system

¹³ Such discussions are described in Iu.V. Lomonosov, "Vospominaniia", 4, pp.423-4, 756, 763-4; Leeds Russian Archive, University of Leeds, MS 716 G.V. Lomonosoff Collection (LRA), MS 716.2.1.4.

¹⁴ For a summary of the issues regarding protectionism in railway procurement see Heywood, *Modernising Lenin's Russia*, pp.19-20. Examples of contemporary comments on the 'metal famine' and permission for imports in 1913 are: Rukhlov and Borisov to Council of Ministers, 17/20 May 1914 (o.s.): RGIA, f.1276, op.10, d.204, ll.15-17ob.; [Goremykin] to Rukhlov, 19 June 1914 (o.s.): RGIA, f.1276, op.10, d.204, l.18; Draft report by Trepov to Council of Ministers, 25/26 April 1916 (o.s.): RGIA, f.247, op.1, d.3, l.4ob.

underdeveloped and poorly equipped in 1914. Supporting evidence has included data showing a serious shortage of waggons in 1913 and declining orders for locomotives in 1907-13 despite strong economic growth.¹⁵ But others have defended MPS planning. It could hardly be expected to accommodate a long total war which even the military did not anticipate. The minister himself, S.V. Rukhlov, insisted that the MPS had taken appropriate steps in good time to maintain an adequate waggon stock, and that a combination of exceptional short-term factors explained the problems of 1913. As for new locomotives, the MPS had a long-term

TABLE 2 - Value of Completed and Outstanding MPS Contracts in North America for 1915-17 at 20 January 1918 (n.s.) (US Dollars)

locomotives	52,234,793.00
spare parts for locomotives	3,105,242.70
lifting cranes	373,704.00
freight waggons	55,066,970.00
spare parts for waggons	1,341,376.74
rails and fittings	41,117,122.00
wheelsets and fittings	7,061,763.60
jacks, cranes and spare parts	51,380.12
cars, tractors, machinery, with spares	538,577.70
tooling and spares	1,348,998.37
food	906,362.90
footwear & clothing for Murmansk Railway Construction project	275,000.00
food for Murmansk Railway Construction project	859,269.89
lead	396,000.00
bitumen paint	111,132.00
equipment for Vladivostok workshops	272,520.92
equipment for Vladivostok locomotive workshops	1,730,170.00
staff maintenance for Vladivostok locomotive workshops	163,000.00
pumps	21,310.00
books	110.50
telephone equipment for US personnel in Russia	136,676.19
TOTAL	167,111,580.63
Notes: This list includes some railway equipment ordered for non-MPS use, and excludes several contracts placed in August-December 1914	
Source: List of contracts on orders by the Russian Supply Committee in America to 20 January 1918: Hoover Institution Archives, Russia: Posol'stvo (US), box 328, file 328-7.	

¹⁵ For example, Shmukker, *Ocherki finansov*, pp.21-34.

plan for expanding deliveries to 1,000 powerful units per year for 1916-20 and was busy developing new designs.¹⁶

Although the war did not affect most aspects of the planning mechanism, it did generate important changes in the overall aim, responsibilities, procedures and sourcing policy. Gradually the aim was rethought – by the government, at least – in terms of identifying the railways' *minimum* needs. As for organisation, efforts were made to improve coordination within the MPS: in 1914 a deputy minister, N.L. Shchukin, was entrusted with all supply matters, reporting to the Committee of the Directorate of Railways, and in 1916 this responsibility was transferred to a new MPS Supply Committee (*Komitet Zagotovlenii MPS*), which was chaired by deputy minister E.B. Voinovskii-Kruger and serviced by a new MPS Supply Department.¹⁷ Also, consultation with domestic suppliers was enhanced through special conferences to clarify available resources and capacity.¹⁸ Inter-ministerial consultation was significantly modified in early 1915 through the creation of a Ministry of Finances special committee to assess applications by civilian ministries for emergency expenditure, and later through the formation of other coordinating bodies like the Special Council for Defence and the Committee for Metals Supply.¹⁹ The key change in MPS sourcing policy was, naturally, the decision to seek large-scale imports.

¹⁶ For instance, Rukhlov to Goremykin, 14 May 1914 (o.s.): RGIA, f.1276, op.10, d.190, ll.3-5ob.; Heywood, *Modernising Lenin's Russia*, p.22.

¹⁷ Draft report by Trepov, circa May 1916: RGIA, f.247, op.1, d.2, l.34; the details of the supply committee and department are in *Sobranie zakoneni i raspriazhenii pravitel'stva, izdavaemoe pri pravitel'stvuiushchem Senate*, 14 May 1916 (o.s.), No. 132, Section I, article 1004, pp.1242-6: RGIA, f.247, op.1, d.2, ll.1-8.

¹⁸ See for example: Council of Representatives of Locomotive-building Factories to Locomotive- and Wagon-building Factories, 24 July 1914 (o.s.): RGIA, f.120, op.1, d.289, ll.8-9; Protocol of Meeting of Council of Representatives of Locomotive-building Factories, 3 September 1914 (o.s.): RGIA, f.120, op.1, d.31, l.63; Protocol of Meeting of Special Conference on the supply of locomotive parts, 8 October 1914 (o.s.) [chaired by Shchukin]: RGIA, f.120, op.1, d.291, ll.1-5; Rukhlov to Council of Ministers, 13 April 1915 (o.s.): RGIA, f.1276, op.10, d.204, l.85.

¹⁹ The financial committee is described in *Osobyi zhurnal Soveta ministrov*, 12 December 1914 and 2 January 1915 (o.s.): US National Archives, Washington DC, Record Group (NARG) 261, entry 24, box K116, file 7.

Nonetheless serious problems persisted or emerged in three broad areas of MPS planning: coordination; identification of needs; and clarification of likely production capacity and delivery shortfalls. Coordination between the ministry's three main directorates suffered in 1914-16 from Shchukin's tendency to concentrate on the Directorate of Railways; matters improved with the creation of the MPS Supply Committee and Supply Department in 1916, but communication delays persisted.²⁰ As for defining needs, there is evidence of serious problems. For instance, for reasons as yet unclear in prioritising the needs of state lines over private railways, the ministry seemingly failed to plan for the network as a whole.²¹ Moreover, it apparently used imported supplies on construction projects which were not essential for the war effort.²² And it also overstated its minimum needs, as shown by its admission in May 1916 that its demand for 11,000 *versts* (11,660 km) of new rail could be reduced to about 2,500 *versts* (2,650 km).²³ Doubtless here the MPS was making a time-honoured planning assumption that other authorities would enforce cuts, but this tactic risked delaying other war orders and antagonising Allied governments, and as will be shown below, it backfired badly in 1916.

The MPS did achieve notable improvements in clarifying domestic production capacity and likely deliveries. The new system of special conferences facilitated the rapid identification of, for example, measures to substitute home-produced equivalents for products normally imported.²⁴ Moreover, in 1916 the Supply Department managed quickly to assess MPS requirements for metal, review deliveries since 1906, analyse the

²⁰ Mitinskii to Directorate of Railways, June 1916 and late June 1916: RGIA, f.247, op.1, d.2, ll.12-ob and d.1, ll.32-ob; Protocols of Supply Committee meetings, circa July 1916: RGIA, f.247, op.1, d.1, ll.53-ob, 54.

²¹ For example, a report about locomotive orders for 1917-19 used information about state contracts to identify the 'balance' of capacity available for private orders: Report to Council of Representatives of Locomotive-building Factories, 7 February 1917 (o.s.): RGIA, f.120, op.1, d.67, ll.180-4.

²² For British allegations of such usage see Heywood, *Modernising Lenin's Russia*, pp.33-5.

²³ Protocol and stenogram of meeting of Committee for Metallurgical Industry Affairs, 13 May 1916 (o.s.): RGIA, f.31, op.1, d.5, ll.175, 187-8.

²⁴ See Minutes of meeting chaired by Mikhin, 8 August 1914 (o.s.): RGIA, f.120, op.1, d.32, ll.21-ob.

production environment at each locomotive- and wagon-building factory, compile five-year supply plans, and submit detailed plans for constructing four state-owned factories.²⁵ However, the Ministry badly underestimated the likely disruption to domestic production in 1914-15. Furthermore, doubtless mainly because of financial constraints, until late 1916 the MPS did not follow the military's practice of offering large advances and long-term contracts to secure capacity.²⁶ And when, in 1916, the Supply Committee and Department did recommend large advances, long-term contracts, production reorganisation and the construction of new factories, these ideas could not be implemented quickly.²⁷

In this context, MPS imports planning was undoubtedly effective in the sense that few if any formal applications were refused or even substantially amended by the Council of Ministers. But the policy-making process proved difficult to operate. There were serious problems both within the ministry and in consultations with other government departments.

Initially this planning was a matter of hasty opportunism *vis-à-vis* two major proposals. One was an idea to import 10,000 freight waggons, to help expand the stock quickly; however, the Ministry of Trade and Industry objected that production capacity was available within Russia, and the MPS retreated.²⁸ The politics behind this retreat most likely concerned the pre-war structures for protecting domestic industry, and almost certainly stimulated MPS pressure for a more liberal system. The second proposal, dating from mid-October 1914, was to import 30 locomotives for the vital Archangel Railway. The Petrograd-based Putilov company had already tendered for this work, and the idea of imports arose simply because the Baldwin Locomotive Company's vice-president, Samuel Vauclain, arrived in Petrograd seeking orders, and promised much quicker delivery than

²⁵ See report by the MPS Supply Department at RGIA, f.247, op.1, d.1, ll.1-2, 10, 13-28, 62-5, 93, 119-25; Approximate cost of a state waggon-building factory, and breakdown of costs: RGIA, f.247, op.1, d.1, ll.80-83, 90; Report to Trepov, December 1916: RGIA, f.247, op.1, d.1, ll.106-7.

²⁶ It is unclear whether the MPS deplored the practice *per se*, or simply lacked the resources for it.

²⁷ See, for example, the account of discussions about the new metallurgical factory in: Report by Supply Department, 12 October 1916: RGIA, f.247, op.1, d.1, ll.62-4.

²⁸ See MPS to Council of Ministers, 11 October 1914 (o.s.): RGIA, f.1276, op.10, d.204, ll.32ob-33.

Putilov. Interestingly, the government awarded Vauclain the contract,²⁹ prioritising urgency over industrial protection for the first time.

A more systematic approach, using predictions of shortages, was developed from late 1914. Amid growing concern about the war's duration, the MPS began to fear that domestic manufacturing capacity would be insufficient, notwithstanding denials by industry representatives.³⁰ Hence, MPS planners sought to estimate likely shortfalls and decide the best way to cover them. Here the ministry faced a strategic choice: whether to seek imports or the expansion of domestic capacity. It opted for imports, and won government support against the advice of the Ministry of Trade and Industry on the grounds that protectionism was inappropriate once demand exceeded domestic production capacity. It thereby ensured that large-scale railway imports would form a significant part of wartime foreign expenditure.

In its formal applications to the Council of Ministers for funds for imports during 1915-16 the MPS simply stressed the urgent military need for this equipment and the impossibility of obtaining it locally by the required time.³¹ But there were other reasons too. One was the desire to have modern foreign equipment available for evaluation in Russian conditions for future modernisation plans.³² Another was the fact that most local locomotive-builders wanted to continue making outdated types so as to avoid any major retooling.³³ A probable third reason was a certain distaste among MPS officials for local private enterprise, including suspicions of profiteering, and a desire to strengthen the ministry's negotiating position *vis-à-vis* domestic suppliers.³⁴ In effect, one might argue, the MPS was

²⁹ MPS to Council of Ministers, 11 October 1914 (o.s.): RGIA, f.1276, op.10, d.491, l.10; S. M. Vauclain, *Steaming Up!*, (San Marino, CA, 1973), pp.233, 236-45.

³⁰ See Heywood, *Modernising Lenin's Russia*, pp.27-30.

³¹ See, for instance, Rukhlov to Council of Ministers, 11 March and 13 April 1915 (o.s.): RGIA, f.1276, op.10, d.204, ll.73-78ob., 84-92; MPS to Council of Ministers, 2 June 1916 (o.s.): NARG 261, entry 24, box K116, file 7.

³² *Otchet o deiatel'nosti Russkogo zagotovitel'nogo komiteta*, Part II, Vol.3, Komissiiia putei soobshcheniia, pp.3-4; NARG 261, entry 26, box L 37; Heywood, *Modernising Lenin's Russia*, pp.30-2.

³³ For instance, Protocol of Meeting of Council of Representatives of Locomotive-building Factories, 17 September 1914 (o.s.): RGIA, f.120, op.1, d.31, ll.65ob-66.

³⁴ On this relationship see Heywood, *Modernising Lenin's Russia*, pp.19-20, 27-29.

tempted into planning large-scale imports by the apparent possibility of obtaining a lot of modern equipment without undue difficulty.

Having defined a need to import a given product, the MPS had to clarify how it could be obtained. On each of the three constituent issues – finance; foreign industrial capacity; and shipment to Russia – the MPS planning process was inadequate. With regard to finance, the scope for manoeuvre was perhaps limited, but improved definition of overall needs would probably have permitted lower cost estimates for imports. As for identifying foreign capacity, the MPS could easily obtain detailed information once it had its own representatives abroad from mid-1915, yet it sometimes cut this corner, either for an easier life or due to tight planning deadlines. Similarly, though for reasons as yet unclear, the MPS generally ignored the shipping tonnage question until its imports proposals were substantially complete. For example, not until mid-May 1916 did the MPS inform its chief representative in North America about its proposal to purchase 1,300 locomotives, 42,000 waggons, 370,010 tons of track supplies and up to 41,000 tons of workshop equipment for delivery from September 1916.³⁵ Had the planners considered capacity and tonnage availability at the outset, as indeed the British authorities wanted, perhaps many of their calculations would have been simpler; in practice, they preferred to formulate a strong argument of need, and hope for the best.

More obstacles awaited the ministry in its consultations with other government departments. As a civilian ministry the MPS had to follow the normal time-consuming procedure, which included the cautious and increasingly beleaguered Ministry of Finances; by contrast, the War Ministry's Military Council could quickly authorise expenditure without consultation.³⁶ Inevitably, as the Ministry of Finances tried to limit foreign expenditure and Russia's financial resources became increasingly stretched, the MPS encountered ever greater opposition.³⁷

³⁵ Voinovskii-Kruger to Shulenburg, received 13 May 1916 (n.s.): NARG 261, entry 24, box K32, file 4.

³⁶ The War Ministry's procedures are described in Sukhomlinov to Council of Ministers, 5 March 1915 (o.s.): RGIA, f.1276, op.11, d.234, ll.17-18.

³⁷ For examples of the new currency committee's influence over MPS proposals see Rukhlov to Council of Ministers, 11 March 1915 (o.s.), and *Osobyi zhurnal Soveta ministrov*, 10 July 1915 (o.s.): RGIA, f.1276, op.10, d.204, ll.75ob., 99ob.

The approval process was further complicated by tension with the British government. Whereas the MPS orders of 1914-15 could be funded by special ruble credits in Petrograd, British credit was essential for contracts proposed for 1916. However, the ministry's failure to provide detailed information about its needs and priorities complicated liaison between the UK authorities and the MPS representatives in Britain and North America.³⁸ It also prompted the British to suspect that some of the proposed imports were not vital for the war effort. Consequently, in spring 1916 the British rejected a draft MPS plan for new foreign contracts, and insisted on strict observance of the agreed procedure for placing orders on British credit, which included a British right to veto any proposal. When the MPS responded by ordering rails unilaterally, ignoring the regular procedure on the grounds of extreme urgency, the British refused to fund these rails and hesitated over the rest of the MPS imports plan despite endorsement of it by the Council of Ministers in June 1916.³⁹ In short, the MPS contrived to compound the very problem it hoped to avoid.

3. The Placement of Foreign Contracts

The MPS employed three methods to secure contracts as quickly and cheaply as possible. Some agreements were negotiated with manufacturers' agents or trading companies within Russia by the MPS main directorates. Others were agreed by ministry representatives abroad, principally in the MPS Commission in North America, or by the J.P. Morgan bank, which, as the British government's North American agent, handled all UK-funded contracts; these contracts were normally signed with manufacturers or their agents. Additionally, the MPS Commission in North America oversaw the placement of some orders by officials of the Murmansk Railway construction project.

The signing of contracts in Russia possessed several advantages. One was potential speed, thanks to the experience of staff and the relative

³⁸ See, for example, Kemmer (MPS representative, London) to Voinovskii-Kruger, no date (No. 439): RGIA, f.247, op.1, d.3, l.21.

³⁹ For details see Heywood, *Modernising Lenin's Russia*, pp.33-35.

ease of resolving queries; the example of the Archangel locomotives, which were contracted in October 1914 and delivered punctually in early 1915, appeared to endorse this point. Also, these contracts could be valued in rubles, which the MPS could obtain more easily than foreign currency. However, the MPS could not arrange competitive tendering, and the vendors usually pressed for rapid decisions.⁴⁰ Occasionally the negotiations required a long time, especially concerning price and the responsibility for shipment to Russia.⁴¹ The use of traders meant higher prices than manufacturers might quote, and caused disappointment if agents defaulted on their promises. Perhaps most importantly, this practice was denigrated by the British authorities, who saw centralised supply planning as cheaper and easier; precisely this issue underlay the above-mentioned clash over track supplies in 1916.

Many contracts were finalised by MPS representatives abroad, mostly by the MPS Commission in North America in 1915-16. This commission was formed under Count S.A. Shulenburg in April-May 1915 to manage the quality-control inspection and shipment of goods on North American contracts, but Shchukin soon empowered Shulenburg to sign contracts.⁴² The probable aim was to save time and money by bypassing intermediaries and having competitive tenders; the MPS simply indicated a maximum acceptable price, and Shulenburg could settle at this price or lower without further consultation.⁴³ A further possible aim was to facilitate shipping arrangements. However, the payments had to be made abroad in foreign currency, which could cause long delays.

From early 1916 the Morgan bank signed all MPS contracts in North America which were funded by British government credit, as part of a general Russo-British agreement about funding Russian foreign procurement. Each MPS purchase instruction had to be vetted by a Russian government committee in London in conjunction with the

⁴⁰ See Report by Trepov, 14 July 1916 (o.s.): RGLA, f.247, op.1, d.2, l.16.

⁴¹ *Otchet o deiatel'nosti Russkogo zagotovitel'nogo komiteta*, Part II, Vol.3, *Komissiiia putei soobshcheniia*, pp.4-6.

⁴² *Ibid.*, pp.7, 21.

⁴³ *Ibid.*, p.21.

British authorities, including discussion of price and tonnage availability; if agreed, the proposal went to Morgan, which finalised the contract in cooperation with the MPS commission. This method gave the MPS access to British credit, without which large-scale railway imports were impossible by 1916. But the MPS was loath to accept the British rules. It was furious when the British questioned Shchukin's plan to import 1,300 more locomotives, 35,000 waggons and 326,000 tons of track supplies in spring 1916, and in June–July 1916 it ordered over 400,000 tons of rails without consulting London. As mentioned above, the British side refused to fund these orders and deferred decisions on other MPS proposals for locomotives and waggons. Nevertheless, the MPS continued to flout the rules, such that in December 1916 the British imposed a moratorium on funding more MPS contracts.⁴⁴

Whichever method was used, a frequent problem was delay in receiving authorised funds.⁴⁵ During 1915 the principal reason was the Russian government's shortage of funds abroad, which explains why only about 13,000 high-capacity waggons could be ordered in 1915 despite formal authorisation for 16,500. The delays were cited by Rukhlov's successor, A.F. Trepov, as a key reason why the MPS imports plan for 1916 should be implemented without waiting for London's agreement.⁴⁶ However, Trepov's argument was misleading because the main cause of delay here was the ministry's failure to convince the British authorities that its requirements were essential. The fact that the Council of Ministers did authorise this expenditure on 7 June 1916 was, in the event, insufficient to change the British opinion. Thus, the subsequent MPS decision, apparently with the Tsar's approval, to place orders unilaterally merely compounded the delays with British funding.

⁴⁴ See Voinovskii-Kriger to Shulenburg, 3 October 1916 (o.s.); Kemmer to Shulenburg, received 13 November 1916 (n.s.); Trepov to Shulenburg, received 4 December 1916 (n.s.); Shulenburg to Trepov, 4 December 1916 (n.s.); Shulenburg to Kemmer, 18 December 1916: all in NARG 261, entry 24, box K32, file 3; Heywood, *Modernising Lenin's Russia*, p.35.

⁴⁵ *Otchet o deiatel'nosti Russkogo zagotovitel'nogo komiteta*, Part II, Vol.3, *Komissiiia putei soobshcheniia*, pp.4-6.

⁴⁶ Sidorov, "Zheleznodorozhnyi transport", p.58.

4. Quality Control of Supplies

The MPS regarded quality control as a fundamental part of the supply process. Like other ministries, it had a quality-control department which employed engineer-inspectors to check products at factories, workshops and mines. With heavy equipment like locomotives inspectors were present throughout the production process, stamping the materials and parts as accepted or rejected, and eventually signing an acceptance document for the whole engine. The same procedures were normally used for peacetime imports. However, there was little inspection activity abroad on the war's eve because the volume of MPS imports was low and the MPS did not send inspectors to highly respected suppliers.⁴⁷

The war affected this work in two ways. Firstly, it prompted the MPS to ease its requirements for domestic suppliers so as to quicken output.⁴⁸ Secondly, it forced the MPS to reconsider how supplies being purchased abroad would be inspected. Expecting high quality, the ministry did not relax its standards here, but it did want increased inspection due to its unfamiliarity with British and American suppliers. In practice its solution for the Archangel locomotives in October 1914 was hurried and simple: an English-speaking inspector, A.G. Pevtsov, was despatched to the USA at forty-eight hours' notice. Since this contract's payments were made in Petrograd and Baldwin arranged shipment to Vladivostok, Pevtsov's job was purely technical in the usual manner. However, a major rethink was necessitated in spring 1915 by the large scale of the proposed new contracts in North America, the need to make the payments abroad, and the suppliers' refusal to handle shipment to Russia. The result was the establishment of the MPS Commission in North America to finalise the technical specifications, conduct inspections, make payments and ship the supplies. As for MPS contracts elsewhere, their overall volume was

⁴⁷ Protocol of Meeting of Special Conference on the supply of locomotive parts, 8 October 1914 (o.s.): RGIA, f.120, op.1, d.291, l. 1ob.

⁴⁸ See Council of Representatives of Locomotive-building Factories to All Factories, 19 July 1914 (o.s.): RGIA, f. 120, op. 1, d. 289, l.1-ob.

sufficiently small that they could be managed without any distinct inspection group.⁴⁹

The commission's initial organisation reflected both a shortage of qualified Russian engineers and confidence that American quality would be high. Pevtsov was joined in June–July 1915 by just nine colleagues, led by Shulenburg, an assistant of the inspection department's chief engineer. This small contingent could not undertake all the quality inspections, even without their important financial and shipping responsibilities, so inspection work was mostly contracted to the Robert Hunt Company and the Pittsburgh Testing Laboratories, while the MPS engineers performed a supervisory role.⁵⁰

Subsequently, there were several organisational changes. As the volume of work burgeoned, the commission expanded to over 200 employees by mid-1917, while continuing to employ the inspection companies.⁵¹ Meanwhile, during 1916 the commission was incorporated into the Russian Supply Committee (RSC), which was a state organisation created in 1915 to manage the Russian government's military procurement in North America, and based in New York.⁵² The RSC took over some of the commission's functions, notably overall responsibility for shipment, as will be shown below. However, the commission retained powers to sign contracts and organise quality inspection. Later, in mid-1917, Shulenburg was replaced by Iu.V. Lomonosov, a former deputy head of the Directorate of Railways. Lomonosov renamed the commission as the MPS Mission in North America, reorganised it with a departmental structure, and asserted its independence from the RSC, which caused great friction with the RSC and the Russian ambassador.⁵³

⁴⁹ *Otchet o deiatel'nosti Russkogo zagotovitel'nogo komiteta*, Part II, Vol.3, *Komissiaia putei soobshcheniia*, pp.6-7. Shchukin ensured that Pevtsov remained in the USA pending the signing of the 1915 contracts: *ibid.*, p.7.

⁵⁰ *ibid.*, pp.7, 10-13.

⁵¹ *Lichnyi sostav Missii P.S. v Amerike*, 20 December 1917 (n.s.): NARG 261, entry 24, box K61, file 10.

⁵² *Otchet o deiatel'nosti Russkogo zagotovitel'nogo komiteta*, Part 1, Chapter 5, p.11: NARG 261, entry 26, box L37; Shulenburg confirmed the reorganisation in a telegram to the MPS: Shulenburg to Voinovskii-Kruger, 27 Sept 1916 (n.s.): NARG 261, entry 24, box K32, file 3.

⁵³ Lomonosov described his tenure at the MPS mission at length in his *Vospominaniia*, 6: LRA, MS 716.2.1.6.

In quality control the supplier-customer relationship was fraught throughout the war. The Russian inspectors frequently rejected the materials and workmanship, and they particularly criticised the boiler work. The manufacturers regarded the Russians as unreasonably stringent, and complained that, for example, significant delays were caused by the long intervals between the visits of the assigned Russian inspector. Caught in the middle were the American inspection companies, who were paid to enforce the Russian standards yet who were used to local customs and expectations. As if these problems were insufficient, railway officials in Russia were quick to fault manufacturers and inspectors alike once the supplies started to enter service.

The validity of these complaints and recriminations may be elucidated with the example of the decapod locomotives, because these were potentially dangerous high-cost products and because a good variety of evidence survives regarding their construction and early service. At the factories the Russian inspectors took such a strict line that even the American inspectors lost patience in 1917.⁵⁴ Significantly, not until this point did the Russians moderate their standards regarding matters not pertinent to operating capability and safety.⁵⁵ In Russia many railwaymen gave these locomotives a cool reception, and engineers of the MPS Technical Department shared some of the concerns, especially about the quality of boiler and firebox construction. However, the MPS was sufficiently impressed with the first arrivals to plan supplementary orders in 1916, albeit with many modifications. In the early 1920s Soviet traction engineers even described the decapods as the best type in service in Siberia, and recommended them as the basis for new designs. But perhaps the most telling evidence is the series of assessments provided in 1918-19 by American railway companies which were using 1917-built decapods on loan. Various design features were criticised, but there

⁵⁴ Pittsburgh Testing Laboratory to Vorontsov, 13 Aug 1917, and Ellis to Lipets, 30 August 1917: NARG 261, entry 24, box K37, file 584.

⁵⁵ Circular to heads and assistant heads of locomotive inspection teams, circa summer 1917: NARG 261, entry 24, box K197, file 23.

was no mention of poor workmanship or materials, and the overall verdicts were positive.⁵⁶

That extreme distrust became the fundamental issue in quality control may be attributed to several factors. Arguably the starting point was the unrealistically high level of initial Russian expectations. Inevitably, their rapid replacement by profound scepticism and suspicion is difficult to assess. The law of averages suggests that at least some companies did try to deliver sub-standard goods, and the Russian doubts were probably fuelled by the suspicion that many of the contracts agreed in Petrograd and through London were over-priced. Wounded national pride and a determination not to lose face were also influential. Finally, a significant role was played by differences in engineering practice and culture, which neither side anticipated. For example, Shulenburg later noted that the Americans operated a continuous production line, not stopping work for inspections, whereas in Russia everything had to be inspected before it could proceed to its next stage. Moreover, American and Russian standards differed: in Shulenburg's view, Russian standards were higher for locomotive and waggon work, but lower for rails. Also, many Russian components like buffers and screw handbrakes were unfamiliar in America, where they had long been superceded.⁵⁷ The results, inevitably, were confusion and delay.

5.The Shipment of Supplies to Russia

This task was, like quality control, mainly a function of North American contracts. Here Shulenburg's commission managed the job

⁵⁶ For example, MPS, Inzhenernyi sovet: Zhurnal komissii podvizhnogo sostava i tiagi, No. 17/488 (15 July 1916) and attached list of design comments (copy in Russian State Library); *XXXIII soveshchatel'nyi s'ezd inzhenerov podvizhnogo sostava i tiagi v Moskve, 18 iunია 1923 goda*, (Moscow 1924), pp.167-77; *Trudy XXXIV soveshchatel'nogo s'ezda inzhenerov podvizhnogo sostava i tiagi v Moskve s 1-go po 9-oe aprelia 1925 goda*, (Moscow 1926), p.192; correspondence of Lipets with US Railroad Administration Southern Territory, Atlantic Coast Line Railroad Company, Southern Railway System, and Seaboard Air Line, 1918-19: NARG 261, entry 24, box K202, files 742/1 and 742/II; Discussion of Report of Standing Committee on Front Ends, Grates and Ash Pans, 11th Annual Convention of the International Railway Fuel Association, Chicago, 19-22 May 1919, *Proceedings*, pp.393-8: copy in NARG 261, entry 24, box K202, file 742/1.

⁵⁷ *Otchet o deiatel'nosti Russkogo zagotovitel'nogo komiteta*, Part II, Vol.3, Komissia putei soobshcheniia, pp.13-15.

from mid-1915 until its incorporation into the RSC in October 1916. Thereafter a division of labour was operated whereby the RSC organised all transatlantic traffic to Murmansk and Archangel while the MPS commission organised its own transpacific traffic to Vladivostok.⁵⁸ MPS shipments from western Europe were evidently managed with military shipments from the outset.

Aside from the general question of tonnage availability, the consignment of MPS goods to Vladivostok had advantages and disadvantages. It involved little risk of enemy action, and hence insurance premiums were lower than for the Atlantic. But most MPS production was in the continent's north-eastern quadrant, which raised the question of whether to use east coast ports and the Panama Canal or send goods overland to west coast ports. No sooner had the commission chosen the east coast than landslides closed the canal for almost a year from mid-September 1915 (n.s.). Also, uncertainty and delay were caused, ironically, by pressure from the RSC, British government and Petrograd for greater inter-departmental coordination in shipping operations. The tonnage problem has been discussed elsewhere; however, these other issues require comment.⁵⁹

The commission responded well to its Panama crisis. On 8 October (n.s.) Shulenburg warned Shchukin that affected ships were being diverted via the Suez Canal or the Cape of Good Hope, and that the cost of rail shipment to the Pacific coast was being investigated in case of need.⁶⁰ And when the canal failed to reopen quickly, the commission decided in early 1916 to redirect its goods through Vancouver and Seattle, using the Canadian Pacific Railway on account of its worldwide agency network and its British connection.⁶¹ Although overall shipping costs were consequently higher, this change ensured that the process was quicker

⁵⁸ *Ibid.*, p.39.

⁵⁹ See Neilson, *Strategy and Supply*, especially pp.176-81, 194-200, 266-8.

⁶⁰ Shulenburg to Shchukin, 8 October 1915 (n.s.): NARG 261, entry 24, box K32, file 3.

⁶¹ Otchet o deiatel'nosti Russkogo zagotovitel'nogo komiteta, Part II, Vol.3, Komissiiia putei soobshcheniia, pp.44, 50-52.

and safer than would otherwise have been the case. Also, given the shorter sea passage, the west coast option probably became more economical as the scarcity and price of tonnage increased through 1916.⁶²

These tonnage problems inspired the RSC's request in late 1915 for the non-military purchasing agencies to work with its own shipping department.⁶³ They also persuaded the British government and the Russian government committee in London to recommend the elimination of departmental distinctions in shipping operations as a means to maximise capacity usage.⁶⁴ But the MPS officials cherished their autonomy. Shchukin feared that such coordination could delay MPS shipments, and Shulenburg wanted to time-charter ships for MPS use. Shulenburg also objected that RSC shipments were mostly consigned to Archangel, that they comprised only 150,000 tonnes in 1915 compared to 900,000 tonnes of MPS goods on 1915 orders, and that they were more expensive; hence, he concluded, the RSC should manage Atlantic operations and the MPS should handle the Pacific traffic.⁶⁵

The resultant compromise did not suit the MPS in the longer term. The Russian and British governments agreed to fund the time-charters, but also required the MPS commission to join the RSC for better coordination and unification of the activities of government plenipotentiaries in North America.⁶⁶ The reorganisation did ensure that many RSC goods reached Vladivostok, but only at some cost to MPS shipments. The MPS commission was sucked into the mire of inter-Allied tonnage debates, which caused uncertainty about where to consign MPS goods and, after the end of the time-charters in mid-1917, substantial delays in obtaining new tonnage. Backlogs of shipments did occur from

⁶² A Vancouver–Vladivostok round trip took 75–85 days, compared to 50–60 days for New York–Vladivostok one way: *ibid.*, pp.44, 50-2, 54.

⁶³ Goleevskii to Shulenburg, December 1915/January 1916: NARG 261, entry 24, box K32, file 3.

⁶⁴ Goleevskii to Shulenburg, 22 January 1916 (n.s.), and Shchukin to Shulenburg, received 24 March 1916 (n.s.): NARG 261, entry 24, box K32, file 3.

⁶⁵ Shulenburg to [MPS], 8 February 1916 (n.s.); Shchukin to Shulenburg, received 24 March 1916 (n.s.); and Shulenburg to Shchukin, 26 March 1916 (n.s.): NARG 261, entry 24, box K32, file 3.

⁶⁶ Shchukin to Shulenburg, received 13 March 1916 (n.s.); Plakida to Shulenburg, received 15 May 1916 (n.s.): NARG 261, entry 24, box K32, file 3.

the winter of 1915-16, but according to Shulenburg, mid-1917 was the first occasion of significant delay to MPS shipments apart from the Panama Canal diversions. One senses truth in Shulenburg's later complaint that he had been prevented from planning ahead to avoid this problem.⁶⁷

Nonetheless, the amount of MPS goods shipped to Russia was substantial. According to MPS data, goods weighing 1,408,650 tons were shipped from North America between spring 1915 and the cessation of shipments in late 1917. Included in these figures were 695 locomotives (198,750 tons), 13,100 waggons (589,000 tons), waggon spare parts (60,100 tons), track components (385,000 tons) and miscellaneous items (175,000 tons). The recorded value was 87,615,252.93 rubles, or about 52.5 per cent of the total value of MPS contracts signed by the October revolution.⁶⁸ Given that deliveries on the large locomotive and waggon contracts of June-July 1917 did not begin until late 1917, these figures represent, in the circumstances, a fairly good result.

6. The Deployment of Imported Supplies

The MPS recognised quickly that the deployment of imported supplies would present a huge challenge. Some of the items would need to be moved to European Russia, and this exercise would depend on the imported locomotives and waggons. But having been disassembled for shipment, this rolling stock would require reassembly and testing before entering traffic. Unfortunately Vladivostok's workshop facilities were negligible. MPS planners tried hard to cope, but were badly hampered by various problems.

Technically the locomotives and waggons could be shipped in assembled condition. But towing stock across the American continent on special transporter wheels would be slow and costly, if indeed the hard-pressed railways agreed. Alternatively, a reassembly operation on the American west coast would require workshops to be hired or built,

⁶⁷ *Otchet o deiatel'nosti Russkogo zagotovitel'nogo komiteta*, Part II, Vol.3, Komissliia putei soobshchennia, pp.55-7.

⁶⁸ *Ibid.*, pp.37, 61.

and operating costs would probably be higher than in Russia. Crucially, more ships would be needed, and special modifications to them required, at a time of shortage. Thus, reassembly in the Far East was probably the only viable option. In July 1915, therefore, the MPS obtained some 14.2 million rubles for expanding the port facilities and establishing temporary workshops at Vladivostok. The idea was to reassemble the waggons at Vladivostok and the locomotives at the main Harbin workshops of the Chinese Eastern Railway, some 350 miles to the west. This scenario was not ideal, especially as scarce locomotives, waggons and line capacity would be needed to ferry the locomotive parts to Harbin. But it avoided the need to send the parts further west on the congested trans-Siberian route, and the completed equipment could help move goods from Vladivostok.⁶⁹

Needless to say, this compromise proved tough to implement. The construction of the Vladivostok works was hindered by a severe labour shortage and delays in importing the equipment.⁷⁰ Moreover, the Vladivostok and Harbin workshops had insufficient capacity. Although the commissioning of the first locomotives and waggons by late 1915 was no mean achievement in the circumstances, the reassembly process was slower than expected. The last of the waggons ordered in summer 1915 did not enter service until autumn 1916, nearly a year late.⁷¹

Aware of these shortcomings, the MPS did everything possible to improve matters when planning new large orders in 1916-17. It proposed to build a new facility at Vladivostok for erecting ten locomotives per day, and to expand the daily output of the wagon works to 200. Once the new locomotive plant was commissioned, the Harbin shops would concentrate on maintenance work. To aid

⁶⁹ Osobyi zhurnal Soveta Ministrov, 10 July 1915 (o.s.): RGIA, f.1276, op.10, d.204, ll.99-100.

⁷⁰ MPS to Council of Ministers, 21 August 1915 (o.s.): RGIA, f.1276, op.10, d.204, ll.106-7; Osobyi zhurnal Soveta Ministrov, 28 August 1915 (o.s.): RGIA, f.1276, op.10, d.204, ll.109-ob; Heywood, *Modernising Lenin's Russia*, pp.41-4.

⁷¹ On the works capacity see His Britannic Majesty's Consul, Railway Bulletin No. 11: Memorandum on Present Condition of Port of Vladivostok, 4 October 1917: NARG 43, Entry 838-A, Box 7, files of American Railroad Commission to Russia: Alphabetised Correspondence, P-Q.

unloading operations, two special berths were constructed near the new workshop, and access tracks were laid. And realising that the necessary machinery would have to be imported, the MPS was quick to seek funding, which was eventually assigned from a new American loan of May 1917.⁷²

But these measures were badly constrained by two further problems. Firstly, labour issues became acutely difficult in 1917. The delay in placing more orders in 1916 had caused the Vladivostok workforce to be laid off in autumn 1916, and a year later the local British consul doubted that the new workforce would be as productive. Meanwhile the Harbin works could no longer employ Chinese workers due to an upsurge of anti-Chinese feeling – a fact which, for the British consul, explained why Harbin was erecting two, not four, locomotives per day. Secondly, the machinery contracts were delayed while the US authorities reconsidered whether to release more funds for Russia and whether the new rolling stock orders and assembly facilities were really necessary.⁷³

⁷² Memorandum on Present Condition of Port of Vladivostok: NARG 43, Entry 838-A, Box 7, files of American Railroad Commission to Russia: Alphabetised Correspondence, P-Q; MPS Technical Department to Special Conference for Discussing and Unifying Measures regarding shipments of Fuel, Food and Military Goods, February 1917: NARG 261, entry 24, box K116, file 7. See also Stevens to Willard (Council for National Defense), 7 July 1917: NARG 39, (Country files), box 177, file RS-212.20(b) 'Russian Railways: General – US Railroad Commission to Russia'.

⁷³ On the labour question see especially Memorandum on Present Condition of Port of Vladivostok: NARG 43, Entry 838-A, Box 7, files of American Railroad Commission to Russia: Alphabetised Correspondence, P-Q. On the US Government and Vladivostok works see, for instance, Stevens to Willard, received 8 June 1917: NARG 39, (Country files), box 177, file RS-212.20(b) 'Russian Railways: General – US Railroad Commission to Russia'; Willard to Secretary of War, 3 August 1917: NARG 39, (Country files), box 177, file RS-212.21(c) 'Russian Railways: Various Types of Equipment, etc: Car Contracts'; Memorandum [by B.A. Bakhmet'cv? to Secretary of the Treasury], 31 July 1917, and Secretary of War to Secretary of the Treasury, 1 August 1917, both in NARG 39, (Country files), box 177, file RS-212.21(b) 'Russian Railways: General – Various Types of Equipment, etc: Locomotive Contracts'; Willard to Stevens, 12 June 1917: NARG 39, (Country files), box 177, file RS-212.21(b) 'Russian Railways: General – Various Types of Equipment, etc'; Willard to Stevens, 14 July 1917: NARG 39, (Country files), box 177, file RS-212.20(b) 'Russian Railways: General – US Railroad Commission to Russia'; Johnson (Baldwin) to Felton (Director General, Military Railroads), 24 January 1918, and Vauclain to Uget, 1 March 1918: NARG 39, (Country files), box 177, file RS-212.21(b) 'Russian Railways: Locomotive Contracts: Baldwin Locomotive Works'. A monograph on US railroad assistance to Russia in 1917-22 is being prepared by C. M. Foust.

The delays in ordering and erecting waggons affected the deployment of the other MPS imported supplies, as well as military and private imports. Writing on 4 October 1917 (n.s.) the British consul in Vladivostok attributed the vast accumulation of goods at the port during 1916 mainly to insufficient waggons reaching the east and the uneconomical use of available stock, and concluded: '[The present situation] might, indeed, have been entirely averted had it been possible to keep up a continuous supply of new arrivals of rolling stock. This would, moreover, have allowed the resources actually in the possession of the railway to be kept in a better state of repair than is the case now (it would also have had considerable influence upon the food shortage in Russia).'⁷⁴

Needless to say, MPS imports were caught in this mire. For all its haste to order track supplies in summer 1916, together with waggons to carry them, the MPS actually had little chance of quickly using the materials that reached Russia. No less than 700,000 tons of military, railway and other goods were stockpiled at Vladivostok by summer 1917 when the rails were due to begin arriving, and in any case deliveries on these contracts were delayed.⁷⁵

Although the contribution of the MPS imports to the war effort is beyond the scope of this article, a few brief remarks are appropriate as a postscript. Most of the goods ordered in 1914 and 1915 were delivered in 1915-16 and entered service, albeit with delays in most cases. The locomotives and waggons gradually became well accepted, and evidently took a fair share of the strain throughout Siberia as well as in parts of European Russia. Later orders fared less well. Since the 1916 plan was only partially funded after a prolonged delay, these goods did not begin to reach Russia in quantity until mid-1917, by which time the war effort was unravelling, shipping problems were

⁷⁴ Memorandum on Present Condition of Port of Vladivostok: NARG 43, Entry 838-A, Box 7, files of American Railroad Commission to Russia: Alphabetised Correspondence, P-Q.

⁷⁵ Memorandum on the question of new orders in connection with shipping tonnage and stockpiles of goods, circa September 1917: NARG 261, entry 24, box K12, file 12; *Otchet o deiatel'nosti Russkogo zagotovitel'nogo komiteta*, Part II, Vol. 3, *Komissiiia putei soobshcheniia*, pp.27-8.

affecting MPS orders, and Vladivostok was badly congested. Thus, the contribution of these goods to the war effort was the use of the latest waggons and locomotives to begin ferrying imports westward from Vladivostok. The contribution of the 1917 orders was negligible since very little was delivered before the Bolshevik revolution.

7. Conclusions

The decision in early 1915 to seek large-scale imports of equipment represented a major change in railway procurement policy. Given that imports would be hindered by the enemy blockade and the scarcity of Russian financial resources abroad, it highlights the strategic importance of the railways. Its implementation ensured that MPS imports formed a significant proportion of Russia's wartime foreign procurement in both weight and value. Overall, however, the operation's effectiveness was mixed. Certain aims were achieved quite well, but there were so many difficulties that probably the majority of goods ordered after 1915 did not greatly assist the war effort before October 1917.

Certain aspects of policy-making *vis-à-vis* imports functioned well. The job of defining requirements was incorporated systematically within the normal planning process, and the Council of Ministers approved most or all of the MPS formal proposals. But most aspects of policy-making were problematic. Only gradually did the ministry improve its internal coordination. MPS planners struggled to predict requirements accurately, which almost certainly contributed to the shortages of 1915-16, and, by failing to help expand domestic production capacity in the winter of 1914-15, they had no reserve for the possibility of further delays. They concentrated on forming the most persuasive argument of need for imports in order to get finance authorised, and hoped for the best. Ironically, this as yet unexplained tactic undermined the ministry's credibility as money, foreign industrial capacity and shipping tonnage became scarce, and it very possibly undermined the completion of war work for other ministries by occupying capacity.

The quality of policy implementation was patchy. The available methods for letting contracts were not ideal, but the ministry contrived to make matters worse. Most importantly, by antagonising the British authorities, it caused substantial delays in the placement of more rolling stock contracts in 1916. The quality control operation evidently achieved its primary aim, notwithstanding some grumbles in Russia. However, its effectiveness was undermined by mutual distrust between supplier and customer, and especially by Russian demands which, given the easing of criteria for Russian factories in 1914, were probably excessive. These problems caused the duplication of inspection work, increased overall costs, and delayed the completion of at least some orders. As for shipping MPS goods to Russia, this exercise was relatively successful, at least to mid-1917. It achieved the aim of moving a large quantity of goods fairly promptly at prices which Shulenburg felt were generally reasonable and which were lower than those being paid by the RSC. Only after mid-1917, when the time-charters ended and the MPS commission had little real control over the hiring of ships, did large stocks of MPS goods quickly accumulate at Seattle and Vancouver. Finally, with regard to deploying the imports, MPS planners were badly hampered by problems which were mostly not of their making, notably shortages of appropriate infrastructure and labour. That said, the MPS was largely responsible for the lull in deliveries which caused severe disruption to the reassembly operation and the westward shipment of goods from Vladivostok.

Underlying these issues is the general question of whether a realistic alternative to imports existed. It seems clear that the MPS opted for a quick fix in the winter of 1914-15 instead of supporting efforts to expand industrial capacity – for instance, with imported tooling and materials – and that its attempt from mid-1916 to make up this ground was too late. One is thus tempted to conclude that, on balance, the policy of large-scale imports became a distraction from the keys tasks of improving railway management and increasing domestic industrial capacity. To declare, as did the Special Council for Defense in late 1916, that the last hopes for improvement in transport rested on new orders for locomotives and wagons in America was simply self-

delusion.⁷⁶ In reality, imports could not bring survival, let alone rapid recovery.

Notes

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Dates are shown as (o.s.) for the 'old style' Julian calendar used in Russia to February 1918 and (n.s.) for the 'new style' Gregorian calendar used in the West. The difference between these calendars in the twentieth century was thirteen days.

⁷⁶ Heywood, *Modernising Lenin's Russia*, p.35.