PORTLAND MARKET REPORT

SEPTEMBER IN VIEW

THE SURPRISING SCALE OF THE TRANSPORTATION OF OIL BY RAIL

The start of September was marked by some (albeit limited) debate in the UK around the safety and overall reasoning behind transporting large amounts of fuel by rail, through areas of both natural beauty and built-up conurbations. This followed the spectacular derailment and subsequent fire on a train carrying diesel from Wales (Milford Haven) to England (Theale). In the incident, 3 fully loaded rail cars (each carrying around 75,000 litres of diesel) were ruptured, causing a major fire that thankfully resulted in no casualties (and limited environmental damage), but nonetheless resulted in the evacuation of over 100 houses within a 1km radius of the crash site.

"RAIL TRANSPORT IS CONSIDERABLY MORE ENVIRONMENTALLY FRIENDLY THAN TRUCK MOVEMENTS"

To many non-industry observers, the fact that oil products are transported by rail at all, came as something of a surprise. The train that derailed was made up of 25 rail cars, each carrying 75,000 litres, making a total volume of 1,875,000 litres. That's a great deal of diesel to shift and who would have thought that a similar train takes the same route 2-3 times a day, as the rail-fed oil terminals of Westerleigh (for the supply of fuel into Bristol) and Theale (for Reading / West London) are kept topped up?

Primary transportation is the term used in the industry to describe the movement of oil that does not involve road transport (which in turn is referred to as Secondary Transportation). When oil consumption is close to refineries or coastal import locations (such as Milford Haven), then road transport (delivery by petrol tankers) is sufficient, because customers are close by and journey times short. However, when demand is inland and many miles from refineries and import locations, then it is far more efficient to send that product by one of the 3 forms of primary transportation: rail, pipe or barge.

In the UK, pipeline freight is the dominant form of primary transport (more of that next month), but the rail industry's contribution to oil transportation is also pretty impressive. On average, 9m tonnes of refined oil is transported across the UK per annum. That's about 30m litres per day, with the main routes being the aforementioned supply-chain from Wales into South-West and Southern England, alongside the feeding of the Kingsbury depot (Birmingham) and Jarrow (Newcastle/ Sunderland) from Immingham. Finally, Dalston (Carlisle) Oil Terminal is rail-fed from the Grangemouth Refinery in Scotland, whilst Jet Fuel is supplied to Heathrow via rail from the Thames Import Terminals.

For all the understandable concern around the risks of such large volumes of flammable liquid being transported above ground in the UK, the fact remains that rail transport is considerably more environmentally friendly than truck movements. The current daily rail throughput of 30m litres is delivered via a handful of diesel traction engines (no electric on freight routes), whereas moving the equivalent volume by truck would mean circa 825 individual petrol tanker movements. Furthermore, tanker drivers are (rightfully) limited to 11 hour driving shifts, meaning that a 5-hour outward journey is the furthest a driver can go before discharging, taking a break and driving back. In those circumstances, rail transportation for distances beyond 5 hours by truck makes considerably more sense and is almost invariably more economic.

Rail freight rates in the UK sit around the £5-10 per tonne mark (around 0.60 pence per litre) which, when you consider the hardware and hazards involved, is remarkable value. It means that, in the case of the train that recently derailed in Wales, the cost to the fuel seller of moving the cargo was only around £11,500. That is, until the 3 rail cars came off the track and 225,000 litres of duty paid diesel burst into flames. That would have cost the shipper more in the region of £200K and that's just for the product…

Looking beyond UK shores, the scale of oil rail freight is (as ever) considerably grander. The great rail hubs of North-West Europe act as conduits for imports into the wider continent and, in Germany alone, 41m tonnes (50bn litres) of oil products travel through the country by rail – a freight volume 5 times that of the UK. Of course, over the pond, things go even crazier in scale. A new record was set in Canada in January of this year (pre-Covid of course) when 400,000 barrels of oil (60m litres) per day were transported across the country. And in the USA, the last 10 years have been a boon for the rail industry as shale oil production – without easy access to pipelines – has sent the number of rail cars in operation through the roof. Last year, 125m tonnes of oil (circa 150bn litres) was transported by rail in the US, forming part of a bigger picture that makes the USA comfortably the largest rail freight market in the world (all products).

"ONE OF THE MOST COMMERCIALLY EFFECTIVE WAYS OF MOVING MASS VOLUMES ACROSS LARGE DISTANCES"

Primary transportation by rail remains one of the most commercially effective and environmentally friendly ways of moving mass volumes across large distances. It does result in the movement of large concentrations of fuel, which in turn makes the risk of large-scale accidents a reality. But the desire not to move product by road is at the hub of why primary transportation exists in the first place. Far better that the supply of oil is made up of (relatively) limited movements, compared to multiple smaller traffic journeys which would compound road congestion, pollution and the potential for more accidents. Rail is only one part of the primary transportation jigsaw though, so next month we will look at the rock and roll world of pipelines – it's going to be epic!

For more pricing information, see page 26

Portland Fuel Price Protection
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