

## Statement of Purpose and Need

ETS seeks authorization to ship LNG via rail in DOT-113C120W tank cars in shipment configurations that could range from single to multiple tank cars (blocks) in general manifest trains, and, depending upon demand, up to unit train configurations consisting of up to 100 tank cars. ETS anticipates that at any given time, regardless of the train configuration, tank cars could be loading in preparation for transportation; in transportation to destination; at destination unloading; and/or in transportation as empty/residue shipments on a return trip. If this special permit is approved, shipments of LNG in DOT-113C120W would be subject to requirements that govern all current shipments of that approved packaging—specifically, all applicable provisions of 49 C.F.R Parts 172 and 173, including in particular 49 C.F.R. § 173.319, which regulates tank car shipments of cryogenic liquids.

PHMSA is responding to ETS's request for a special permit to use DOT-113C120W tank cars for the transportation of LNG by rail. Authorizing ETS to transport LNG in DOT-113C120W tank cars by rail as an alternate packaging to MC-338 cargo tanks and UN ISO portable tanks, could provide for a more cost-efficient mode of transport. Therefore, this EA preliminarily finds that rail transportation would reduce the environmental impact of transporting LNG.

In ETS's request for a special permit, it stated that it hoped to transport UN1972, Methane, refrigerated liquid, a Division 2.1 flammable gas material in unit train configurations. Unit train configurations typically consist of 70 or more cars transporting a single material. Based on the projected liquification capabilities of the proposed LNG facility that will originate the shipments for this special permit, the production capabilities of the manufacturers of cryogenic tank cars, and the actual market demands for LNG, it is projected that it will likely take ETS years to reach the liquification capacity to ship LNG at the rates indicated in their application, as well as for the tank car manufacturers to produce the tank cars needed to support such volumes. The special permit will not limit the number of cars in a unit train or the number of daily shipments. Nonetheless, it is important to understand how the quantity of rail tank cars in transportation could change over time as capacity, demand, and production change.

## 3 Proposed Action and Alternatives

Transport of LNG in MC-338 cargo tanks is currently authorized by the HMR. Transport of LNG in ISO portable tanks is also authorized by highway and is authorized by rail under approval from the FRA. In responding to the special permit application, PHMSA is considering the following two alternatives:

**(1) Proposed alternative:** Grant ETS's special permit application to allow ETS to offer LNG for transportation in DOT-113C120W tank cars.

A number of different specifications govern the design and manufacture of DOT-113C120W tank cars.<sup>4</sup> DOT 113 specification rail tank cars are built to a double vessel design with the commodity

---

<sup>4</sup> See, e.g., 49 C.F.R. Part 179, Subpart F and TC regulation TC14877E, Section 8.6 in addition to industry standards set by the American Association of Railroads.