Early Diesels of the Sunrise Trail

By: Kyle Mullins

In February of 1925, the LIRR briefly tested Ingersoll-Rand diesel demonstrator number 8835 at the request of the Pennsylvania Railroad. Impressed by its thermal efficiency (30% versus 6%-8% from a steam locomotive), the PRR contracted a team consisting of representatives from General Electric, Ingersoll-Rand, and ALCO to produce diesel locomotive serial number 6605, which would become LIRR #401. The locomotive was completed in 1926 right around the time that the LIRR was due to receive a trainload of spare parts from the GE plant in Erie, PA. For reasons lost to history, there would have been some significant delay in getting the locomotive and parts to Long Island if the LIRR waited to receive the train at an interchange, so they opted to dispatch their own crew to Erie to bring back the parts behind the new diesel. By doing this, the LIRR became the first railroad in the world to operate a diesel in road service.

LIRR #401 was not an ideal road service locomotive, however. As a boxcab locomotive, the first point of contact in a collision would be the engineer's control room (to call it a cab would be a stretch!). As a result, the next few years saw the development of three other kinds of diesel locomotive: the switcher, the road switcher, and the cab unit (or carbody diesel).

The ALCO S-1, a switcher type locomotive, was the first locomotive order in bulk for the LIRR. The first S-1 was delivered to Long Island in 1945. They were numbered 413 through 421 and delivered wearing the standard black Pennsylvania paint. The S-1 boasted a 660 h.p. engine and claimed a tractive effort rating of 29, 200 kN. The LIRR would own other switchers, including several Baldwin units, but in terms of appearance and performance, they were much the same as the S-1. What distinguished the S-1 and these others as switchers was the long hood situated in front of a cab with a flat panel behind it. This gave the engineer an ideal view of cars behind him for coupling to and then switching cars. Running the locomotive "glass-out," however, did not offer much, if any, protection in the event of a collision.

Partly in response to this, ALCO developed its road switcher series, which was suited for switching cars but also boasted the motive power and safety specifications to work in main line service. The road switcher with an additional short hood behind the cab,that according to ALCO, offered an equivalent amount of protection to the long hood. The practice, however, was still to run these locomotives long hood forward because several of the LIRR units had a Vapor-Clarkson steam generator, for heating coaches, installed in the short hood. The RS-1s, first delivered to the LIRR in 1948, brought a 1,000 h.p. engine and a tractive effort of 34,000 kN. Numbered 461 through 469, they were delivered in the same Pennsy-style scheme as the S-1s. These would be complemented by the purchase of the RS-3s (numbered 1551 through 1560) in 1955, which featured 1,600 h.p. and a tractive effort of 46,000 kN. Then, the LIRR made some mistakes.

1951 saw the purchase of the Fairbanks-Morse H16-44, a road switcher type locomotive that brought 1,600 h.p. and a tractive effort of 36,600 kN to the already impressive LIRR fleet. These were followed by the purchase of F-M's C-liner locomotives, which

were carbody diesels. The design, pioneered by EMD in 1939 with its FT-series of locomotive, situated the engine behind the cab such that running this locomotive in reverse operation for road service was impossible. The CPA20-5s, numbered 2001 through 2008, combined 2,000 h.p. with 36,000 kN of tractive effort. They were followed by the CPA24-5s, which featured 2,400 h.p.. These were numbered 2401 through 2404.

All of the F-M locomotives were notorious gas and oil guzzlers and featured still-unproven locomotive technology. The "revolutionary" opposed-piston engine F-M installed was not well-tested in locomotives and, in part because of this, the C-Liners were essentially the DMs of the 1950s, requiring bail outs more often than they completed their trips. F-M ceased locomotive manufacture in 1958, which is a large part of the reason that the LIRR sold off or traded all of these locomotives by the early 1960s. Several went to ALCO to cover part of the cost of the C420s and others were sold off to various places. The most interesting home a C-Liner would find was a merchant marine ship - at least one of the engines from a CPA24-5 found a new home powering a small merchant marine vessel, which was (and still is) the ideal home for an F-M opposed piston engine. Something tells me the DMs won't find such interesting homes after LI is rid of them...