

# ALASKA RAILROAD CORPORATION



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## **ARRC Implements DP Technology to Improve Train Handling and Service**

ANCHORAGE – The Alaska Railroad (ARRC) proposes to help meet the growing freight shipment needs of Alaska customers by incorporating sophisticated locomotive technology called distributed locomotive power (DP). The investment in this technology will retain the high margin of safety required when operating longer, heavier trains between the North Pole refinery and Anchorage.

The ARRC is planning to increase the use of distributed locomotive power over the next several years, allowing the railroad to run trains of up to 125 cars. This increases the current self-imposed fuel train limit by 50 more cars as specified in the ARRC's state-approved oil spill prevention and response plan. To make the change, ARRC recently applied for an amendment to the plan. The amendment is currently out for public review by the Alaska Department of Environmental Conservation (ADEC), who will require that the ARRC provide satisfactory response and cleanup capability in case of a spill.

By placing locomotives at either end (or in the middle) of a long, heavy train – essentially “distributing the power” throughout the train – there is a substantial reduction in the forces that put stress on railcar connections and that produce lateral forces on the rail. This technology has proven to reduce derailment risk throughout the country's railroads. Braking efficiency and rapid recharging of the air brake system are improved, allowing an engineer to respond more effectively to changing conditions.

“Fuel transported from Flint Hills Resources North Pole refinery – which constitutes nearly half of the railroad's freight revenue -- has increased steadily over the last five years, and state economic projections suggest the growth will continue,” said Ernie Piper, the ARRC's Assistant Vice President in charge of operating safety and environmental management. “As that business grows, so does our responsibility to search out and implement ways to improve operating safety.”

While the concept of distributed power is many years old, recent improvements in software and data communications have made “DP” an operating staple of U.S. railroads, especially when moving heavy trains through mountainous terrain.

Since last winter, a core group of ARRC locomotive engineers received special training on the ARRC's digital locomotive simulator and in the field, training on DP trains

throughout the rail system. Computer models and instrument monitored train trips confirm that DP reduces in-train forces as planned, and that locomotives actually consumed 8-10 percent less fuel in transit as well.

“It’s a win-win-win situation,” said Piper, “With DP we can maintain our high safety standards, run more efficient trains and conserve fuel while we’re at it.”

The Alaska Railroad Corporation is a self-sustaining, state-owned corporation that operates without state subsidy, and provides year round passenger and freight service to a number of rail belt communities from Seward to Fairbanks.