

**02-17-15  
LUNCH & LEARN:  
LNG BY RAIL -  
CONCEPTS AND  
LOGISTICS**

<TARGET><BILL></BILL><SUBJECT>02-17-15 LUNCH and LEARN  
LNG BY RAIL - CONCEPTS AND  
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Legislature(2015 - 2016)  
**02/17/2015 12:00 PM RESOURCES**

CAPITOL 106

- \* first hearing in first committee of referral
- + teleconferenced
- = bill was previously heard/scheduled

[Schedule](#)

[Documents](#)

Document Name	Date/Time	Subjects
<a href="#">LNG by Rail Legislative Lunch and Learn.pdf</a>	HRES 2/17/2015 12:00:00 PM	





[AlaskaRailroad.com](http://AlaskaRailroad.com)



# LNG BY RAIL Concepts & Logistics

February 17, 2015



# *Alaska Railroad Commitment*

The Alaska Railroad is committed to supporting the economic development and continued growth of the State of Alaska. Providing affordable energy to Fairbanks and the Interior is of paramount importance. The Alaska Railroad stands ready to provide logistics solutions as part of the LNG supply chain.





# Presentation Agenda

1. Alaska Railroad Corporation  
Overview/Capabilities
2. LNG Logistics: key location options
  - a. Port Mackenzie
  - b. Houston
  - c. Pittman
  - d. Anchorage
  - e. Crown Point
  - f. Fairbanks
3. Asset Requirements
4. ISO Container Data
5. Concept of Operations/Logistics





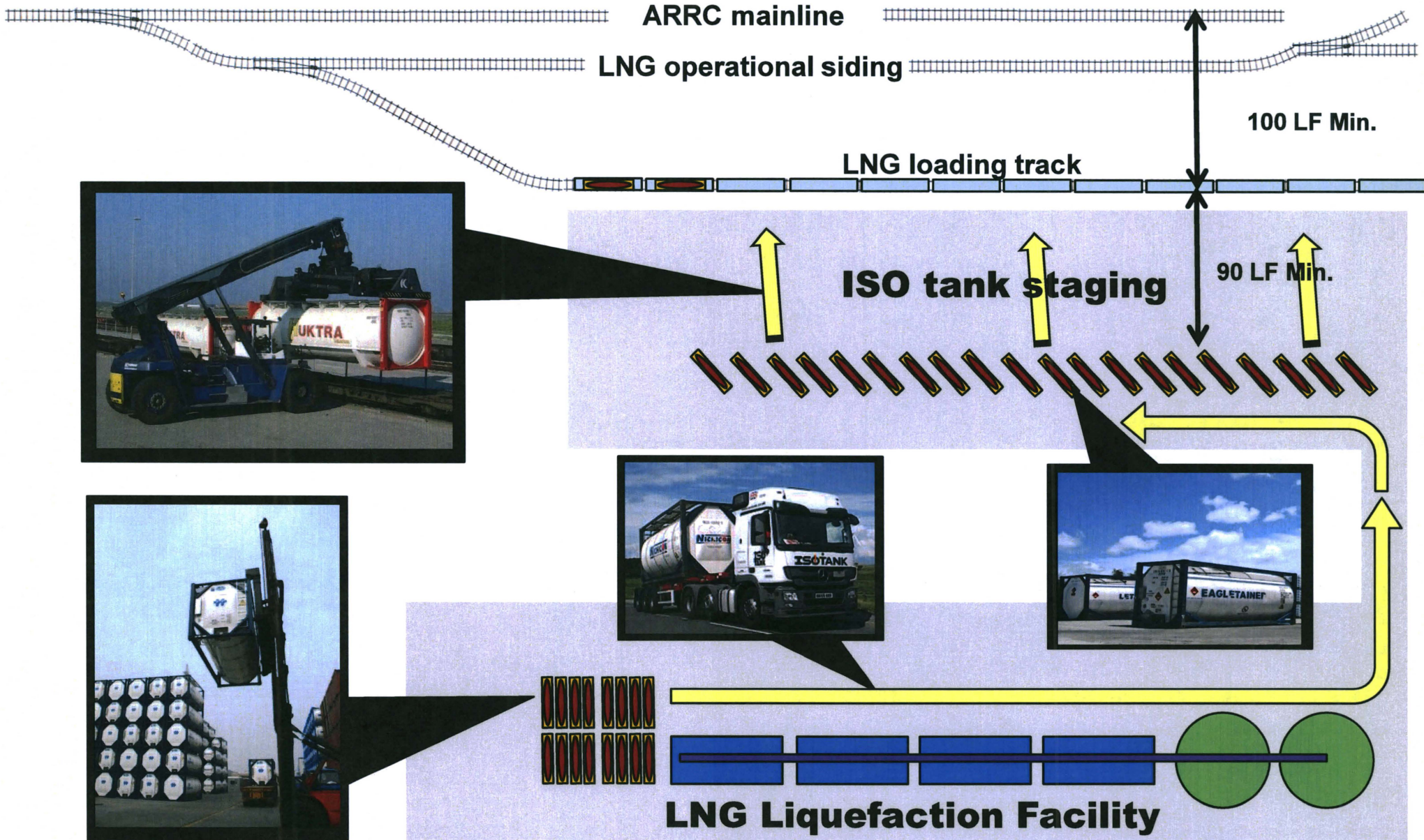
# Alaska Railroad Corporation Overview:

- A State owned corporation exclusively committed to Alaska and connected to Canada and the Lower 48 rail systems through rail barge services
- 650 miles of track from tidewater at Seward to Eielson AFB.
- Year round bi-directional freight service between Anchorage and Fairbanks five nights per week, expandable to seven days per week, as service requires.
- Extensive experience handling bulk commodities (gasoline, diesel, methanol, liquid propane, etc.)
- 4.9 million tons of freight moved annually
- Currently working with the Federal Railroad Administration to gain required approval to transport LNG in ISO containers by rail





Generic outline of LNG on rail operation





# Location Options

Fairbanks

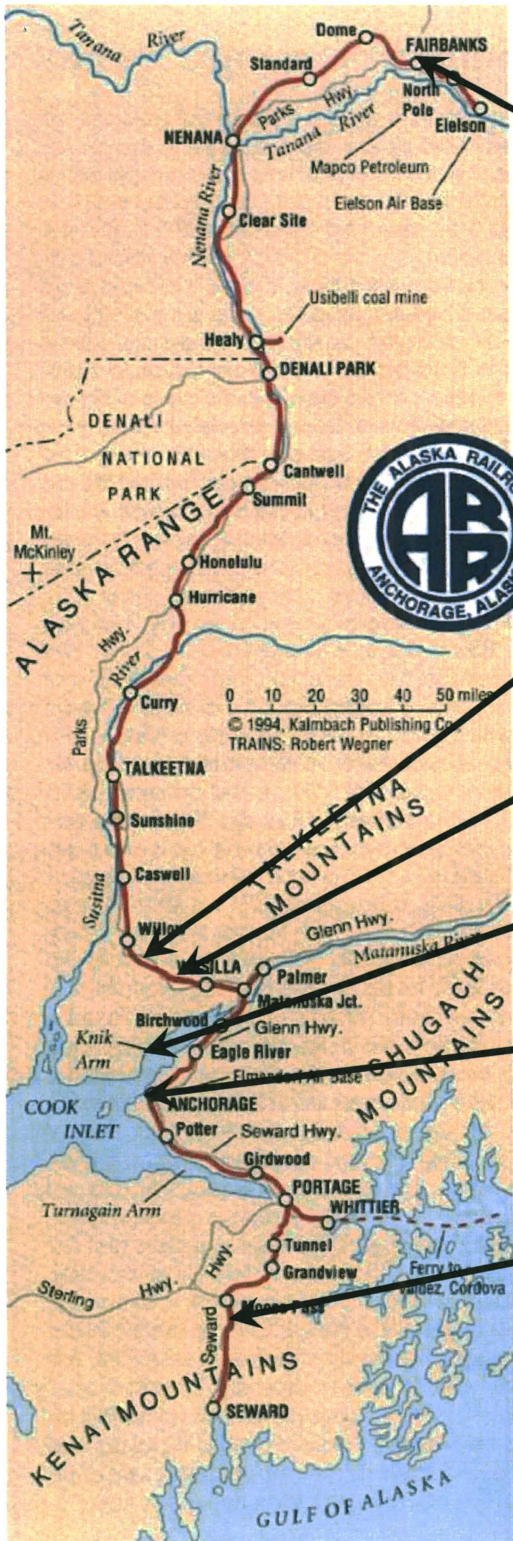
Houston

Pittman

Port Mackenzie

Anchorage

Crown Point



[AlaskaRailroad.com](http://AlaskaRailroad.com)





# Locations Served within Alaska

- Port Mackenzie – rail line under construction
  - 32 miles from Houston to Port Mackenzie
  - Easy access to existing Fairbanks Natural Gas LNG facility ★
  - Potential new LNG facility at port
  - Project completion date is funding dependent





# Locations Served within Alaska

- Houston

- 5 miles north of Wasilla at the junction of the mainline and Port Mac Rail Ext.
- 10,000 feet of track space available
- Will require relatively minor site improvements to support loading and unloading ISO tanks



- Pittman

- 15 miles north of Wasilla on the mainline
- 8,900 feet of track space available
- Road accessible
- Will require leasing land from Quality Asphalt Paving





# Locations Served within Alaska

- Anchorage
  - Central point of railroad operations and headquarters
  - Full service maintenance facility
  - Potential location of an LNG liquefaction facility
- Crown Point
  - 25 miles north of Seward on the mainline
  - 3,700 feet of track space available
  - Road accessible





# Locations Served within Alaska

- Fairbanks
  - Northern operations center
  - Rail access adjacent to new planned FNG storage tank
  - Service industries in Fairbanks and North Pole





# Assets Required

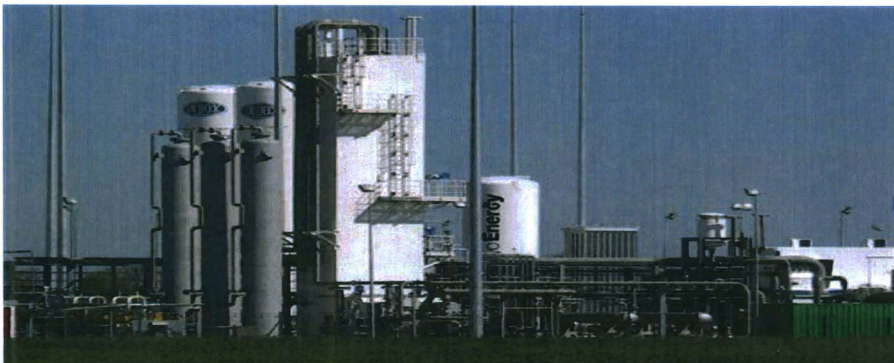
## Alaska Railroad Requirements

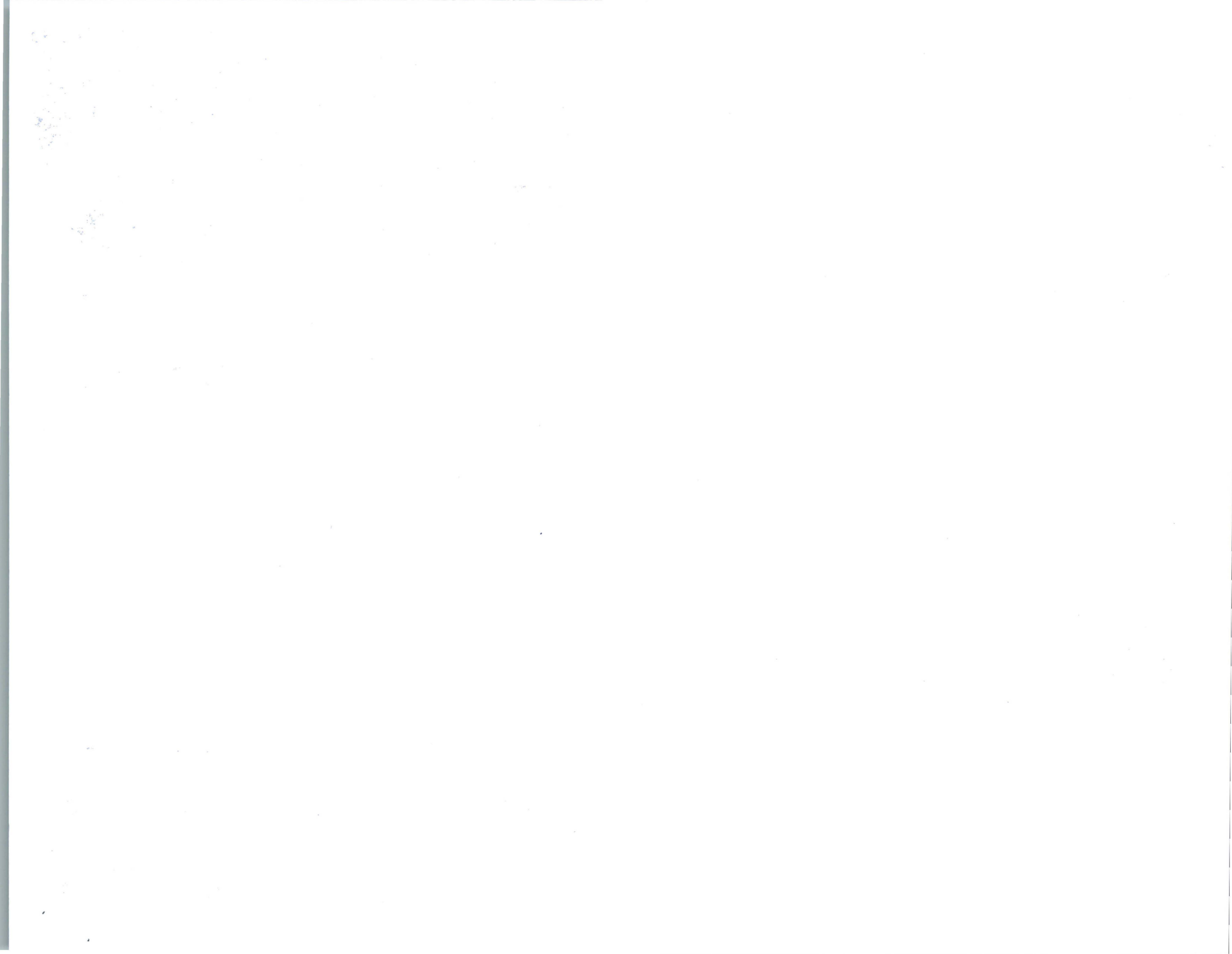
- Service start up volumes with current equipment
- To meet 2017 full demand
  - Sixty-six 89' flatcars to carry ISO containers (purchase or lease)
  - Three additional locomotives



## Shipper Requirements

- Liquefaction plant
- ISO containers
- Material handling equipment (Forklift/Top Pick)





# ISO Container Data

Transport containers for moving LNG

## ISO container

- 39,958 lbs. payload
- 11,000 gallons
- Cost of ISO tank container is \$135,000 to \$145,000
- 18 months manufacturing time
- Can move 2 ISO containers on an 89' flatcar





# Logistics

## Assumptions:

- Fairbanks annual gas demand in 2016 of 2.10 BCF and 4.38 BCF in 2017 (excluding existing FNG)
- Fairbanks annual gas demand in 2016 of 2.85 BCF and 5.18 BCF in 2017 (Including existing FNG)

## Concept of Operations:

- Minimum of 60 ISO containers per train, from all locations except Anchorage
  - Operates every 4 days
- ISO containers from Anchorage moved in scheduled freight service to Fairbanks



# Logistics

## Concept of Operation (Cont.):

- LNG ISO containers trucked to Houston/Pittman from Port Mackenzie/FNG plant, if rail extension not complete, transload to rail
- LNG ISO containers trucked to Crown Point from Nikiski, transload to rail
- Shipper responsible for loading and unloading ISO containers





# Summary

- ✓ Alaska Railroad has significant existing infrastructure and capacity
- ✓ Extensive experience in moving bulk commodities
- ✓ Highly cost-effective option vs. truck shipments
- ✓ Safe, off highway transportation network
- ✓ ISO tanks offer effective asset utilization and resale option
- ✓ Available Alaska Railroad real estate
- ✓ Near-term logistics solution
- ✓ Optimistic that Alaska Railroad will gain approval in near-term from regulators to move LNG in ISO tanks by rail



