Prince William Sound Ferry Terminals Environmental Assessment

Chenega, Cordova, and Tatitlek Ferry Terminals, Alaska
Federal Project #003290, 0851073, 003289 |
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Appendix E: Air Quality Data Gap Technical Memorandum

Alaska Department of Transportation & Public Facilities

September 2025

Memorandum

Date:	Wednesday, September 18, 2024
Project:	Prince William Sound (PWS) Ferry Terminals Environmental Assessment
To:	File
From:	HDR
Subject:	Air Quality Data Gap Technical Memorandum

Introduction

The Prince William Sound Ferry Terminal Project involves the replacement and upgrade of ferry terminal facilities in Cordova, Chenega, and Tatitlek, Alaska. These upgrades are necessary to accommodate the new Alaska Class Ferry (ACF) vessels and ensure continued service for these coastal communities.

The purpose of this memo is to identify data gaps that is required to conduct a quantitative air quality and greenhouse gas (GHG) assessment for the construction and operation phases of the project.

Operational Air Quality and GHG

1. Operational Year:
    - 2029 opening year
2. Will there be any overlap between operation and construction? (e.g., one dock is complete and service begins while another dock is still under construction):
    - Would complete one before moving on to the next port
    - Structure work on dolphins will occur one facility at a time
    - Dredging may happen out of sequence
3. Electrical power demand for hydraulic motors at Chenega and Tatitlek, and estimated electrical demand annually for power and lighting upgrades for all 3 docks:
    - Projected no increase in power demand
    - It will be a DOT question
4. Equipment (>50 HP) that uses fossil fuel at each terminal:
    - Emergency generators
5. Confirm project boundary: 3 miles from Alaska’s seaward boundary
6. Geographic Information System data with routes within Prince William Sound (PWS)
7. 2019–2023 port calls if available

8. The grant document cited that there were 361 annual port calls among the three terminals. Are those projected to change with the improvement? If so, how will the day boats and freight traffic change?
9. Is there a restricted speed zone within PWS? If so, what is the speed?

Day Boat Services

1. The only assumed change between the "with action" and "no action" scenarios is the Day Boat services change after replacing the Motor Vessels (MVs) *Aurora* and *LeConte* with MVs *Hubbard* and *Tazlina*
2. Existing and future planned schedule for Day Boat services across the three terminals
3. Hoteling duration for each terminal to load and unload passengers and/or freight
4. Number of main engines and auxiliary engines in each ferry (MV *Aurora*, *LeConte*, *Hubbard*, and *Tazlina*)

Construction Air Quality and Greenhouse Gases

1. Confirm project boundary: 3 miles from Alaska's seaward boundary

    - All construction materials will be coming from Seattle
    - Supply barges will come out of Seattle
    - Construction equipment (drilling equipment) will be Alaska based
    - A few rental equipment may be coming from Seattle
    - Almost everything arrives in barges
    - Some of the materials will be coming via plane

2. Construction Year(s):

    - Construction Years: spring – fall 2028, opening 2029
    - Duration (6 months) total on site time

3. County where construction occurs: Chugach, Alaska
4. Total area of disturbance (acres):

    - All job sites are on the barges; no staging area with soil disturbance

5. Staging area size if it is not included in the total area of disturbance (acres):

    - No staging area with soil disturbance
    - Dredging:

        i. 7,900 yards (yd) in Cordova
        ii. Duration: 20 days, 500 gallons (gal)/day; tug can go 1 round trip per day, including load and dump time
        iii. Transport to offshore disposal in U.S. Army Corps of Engineers-approved location within 1 mile
        iv. Barge carries 500 cubic yards (CY)
        v. Vessel type: 1 2,500-horsepower (hp) tug boat (Tier 1)

(1) Towing: burn 1,200 gal/day
(2) Generator on tug boat, burns 300 gal/day

- Fills:

i. Rip rap, shot rock, and clean rock fill sources from Valdez
ii. Total of 47,000 CY of fill
iii. Duration: 4-day round trips (2 days towing, 2 days standby)
iv. Vessel Type: 16 3,000 CY deck barges shuttle between site and Valdez
v. Vessel: 2,500-hp tug boat (Tier 1):

(1) Towing: burns 1,200 gal/day
(2) Generator on tug boat: burns 300 gal/day

6. Worker commute round trip mileage broken down for every construction year and average speed of the commute
7. Vehicle trips and fuel type for worker commute and average distance to home:

- Number of workers: 12
- Cordova has housing, crew will mobilize from Anchorage via plane, go home, then go to the next site; 1 mile from job site; 3 gas cars assumed
- Chenega camp on site, utility task vehicle (UTV) or walk to site (mobilize by float plane)
- Tatitlek camp on site, UTV or walk to site (mobilize by float plane)
- Plane on mobilization from Anchorage

8. Vehicle trips and fuel type for material hauling and average distance to haul materials:

- No trucks involved for material hauling
- All materials arrive by barges from Seattle, Valdez (rocks, aggregate)

i. Seattle 1 load (2,500-hp tug boat)
ii. Valdez 16 loads

- Very limited material (<0.2% weight) will be transported by plane, and emissions not accounted for in this analysis

9. Construction equipment list, including land side and sea side, information:

- 1 crane (dredging) (Tier 1):

i. Horsepower: 350 hp
ii. Work hours: 26x7x12 (hours [hr]/day, days/week, weeks/year [yr])
iii. Load factor: 20%

- 1 generator (Tier 2):

i. Horsepower: 200 hp
ii. Work hours: 26x7x12
iii. Load factor: 100%

- 1 pile driver (Tier 4):
  i. Horsepower: 300 hp
  ii. Work hours: 65 days x 12 hr/day
  iii. Load factor: 100%
- 1 drill (Tier 4):
  i. Horsepower: 300 hp
  ii. Hours: 45 days x 12 hr/day
  iii. Load factor: 100%
- 1 excavator in Chenega, on top of fill (Tier 3)
  i. Horsepower: 200 hp
  ii. Hours: 45 days x 12 hrs/day
  iii. Load factor: Use U.S. Environmental Protection Agency Load Factor

10. Fuel type of the construction equipment:
    - Diesel
11. Work Hours:
    - 12 hrs/day
    - 7 days/week
    - 26 weeks per yr
12. Create a table for the vessel type, activity (hr/day or hr/year), days of use (construction phase), main engine size, main engine fuel type, engine tier, auxiliary engine size, auxiliary engine fuel type