



Mr. Martin Farris  
State of Alaska  
Department of Environmental Conservation  
555 Cordova Street  
Anchorage, AK 99501

Tuesday, December 27, 2011

Re: T/V Renda spot charter

Dear Mr. Farris:

Vitus Marine is chartering the T/V Renda (IMO 8129618) for a voyage to the Port of Nome, Alaska. The expected time period that the vessel will be in Alaska waters is from January 01 to January 15, 2012. The T/V Renda will be carrying a cargo of 1,062,000 gallons of Diesel #1 to the Bonanza Fuel facility in Nome, Alaska. If a waiver to the Jones Act can be obtained, the T/V Renda will stop in the Port of Dutch Harbor enroute to Nome to pick up a load of 300,000 gallons of Gasoline to be delivered to Bonanza. Vitus Marine, LLC is submitting an amendment application to ADEC to add the T/V Renda to the Vitus Marine LLC Chartered Tanker Operations Oil Spill Contingency Plan, 11-CP-5188 for the period described above.

As part of the amendment, we have included an Amendment Application, vessel Q-88, Oil Spill Response Agreement, Vessel Oil Transfer Procedures, Material Safety Data Sheets for products, Vessel Drawings, a description of the methods for containing a discharge from fuel oil tank vent overflow and fill pipes, a list of discharges greater than 55 gallons and a completed copy of Charter Vessel Requirements, which were provided to ADEC on December 14, 2011.

Vessel routing information into and out of State of Alaska waters can be found in Section 3.1.3 and Figure 3.1-3 for Nome and Figure 3.1-5 for Dutch Harbor. In addition, we have included a graphic indicating potential routes from the Far East to the ports in Alaska. The vessel is currently routing at the discretion of the Master due to weather conditions.

A description of the methods for retention and disposal of oily waste and bilge slops can be found in Section 3.1.6 of the plan. We will ensure that any waste oil that is generated on the T/V Renda will remain onboard the vessel and transported out of Alaska.

Vitus Marine has verified that the T/V Renda complies with the requirements of Section 2.1 Prevention Programs in Place of VML's Chartered Tanker Operations Oil Discharge Prevention and Contingency Plan.

USCG COTP Western Alaska and Alaska Chadux have been notified of this operation and have been involved in the planning process. Alaska Chadux will be providing normal OSRO/PRAC service to Vitus Marine as described in our contingency plan.

Due to the unique nature of the Nome Winter Fuel Delivery, Vitus Marine has reviewed its currently approved contingency plan and found areas of the plan that cannot be met during this operation. For those areas of the plan that can't be complied with, Vitus Marine proposes the use of alternative means of compliance and increased prevention measures to mitigate the risks associated with this operation.

### 2.1.5 Vessel Transfer Procedures

It will not be possible to boom the T/V Renda at the shore side facility prior to the transfer of oil. However, since the T/V Renda will be located in ice, the ice will act as a means of containment for any oil that enters the water in area of the vessel and reduce the further spread.

### 2.1.8 Emergency Tow and Escort Vessel Program

This section of the plan requires that spot chartered tankers use dedicated escort tugs while in state waters for both navigation emergencies and to provide assistance during docking operations.

Currently, there are no ice strengthened tugs that are available in Alaska. It is currently planned that the USCGC Healy will break ice and escort the T/V Renda as close to Nome as is safe for the USCGC Healy. It is anticipated that the USCGC Healy will be able to approach within approximately 1/3 mile from entrance of the Port of Nome due to draft constraints. The T/V Renda will have to transit the rest of the way to Nome on her own. This should not cause any difficulties for the T/V Renda as she is a specially built ice strengthened, double hulled tank vessel.

The T/V Renda will have the required emergency towing package onboard. If an emergency occurs in the pack ice while being escorted by the USCGC Healy, The USCGC Healy may provide assistance to the T/V Renda as needed. Once the T/V Renda departs the area of the USCGC Healy for the remaining transit to Nome, there are no vessels currently in Alaska that would be able to render any assistance. However, the owner of the T/V Renda also owns an ice tug that is currently in the Sakhalin Island region of the Russian Far East and could transit to Nome to render aid if necessary.

Escort tugs have been identified as response resources in the plan since they are required for each chartered tanker in Alaska waters. It will not be possible to use this resource during the Nome winter fuel delivery. This will not diminish the response capabilities of VML as potential spills during transfer will be to shore fast and broken ice and open water near the T/V Renda.

### 1.5.3 Deployment of VML's Response Action Contractor's Spill Response Equipment and Personnel

The deployment of Chadux in the event of a spill will occur as described in the plan. The onsite Qualified Individual will contact Chadux and request equipment and personnel resources be deployed to Nome. It is estimated that the time required to mobilize personnel and equipment is 4 to 6 hours from notification, plus the travel time required to reach Nome by chartered aircraft. The overall time required to reach Nome is 7 to 10 hours.

Vitus Marine will pre-stage response equipment that is currently available in Nome from Chadux, Bonanza Fuels, Nome Joint Utility Services, City of Nome and Crowley. Vitus Marine has arranged the use of the resources through a Statement of Contractual Terms with Bonanza Fuels, and their participation in the Nome Oil Spill Response Resources Memorandum of Understanding and Statement of Contractual Terms with participating Operators in the Nome Oil Spill Response Resources MOU.

Vitus Marine proposes the pre-staging of the following resources near the transfer facility in warm storage ready for immediate deployment.

(3) Manta Ray Skimmers            (1) Tank Truck

|                           |                                    |
|---------------------------|------------------------------------|
| (3) 3" pumps              | (4 Bls) Sorbent pads               |
| (6) Portable light stands | (4 Rls) Sorbent rolls              |
| (1) Fast tank             | (4 Bls) Sorbent boom (8" x 40')    |
| (6) Handheld VHF radios   | (1) Bobcat with qualified operator |

Containment boom will be readily available for quick deployment

Vitus Marine will verify the availability of local response personnel prior to the Renda's arrival in state waters.

In addition to the equipment identified above, the other resources locally available from MOU participants will be readily available and pre inspected prior to transfer operations. Copies of the response resources available from local operators are attached for your review. The warm storage facilities proposed consist of BFI's tank farm garages, located at the north end of the pipeline approximately ½ to ¾ of a mile from the marine header, BFI's mechanic's shop located at Bering Ave & 4<sup>th</sup> Ave.. In addition, Crowley has given BFI permission to stage the Blackmer pump and Ditch Witch in their shop adjacent to the small boat harbor. Additional heated storage could be obtained if needed.

### 1.6 Response Strategies

The Nome winter fuel delivery will require additional response techniques/tactics to be used as the operating environment will be significantly different from those described in the plan. Vitus Marine has prepared the Nome Winter Fuel Delivery – Arctic Tactics to provide a variety of proven arctic response techniques similar to those used by the operators and their response cooperative on the North Slope. A copy of this document has been provided with this submittal.

#### 1.6.9 Temporary Storage and Ultimate Disposal of Waste

In the event of a discharge, it would not be possible to utilize tank barges for temporary storage due to the presence of ice. All other temporary storage described in the plan is available and suitable for use. It is not anticipated to have a discharge to open water, rather it is more probable to have a spill to the broken ice around the vessel and/or to the surface of the ice.

Vitus Marine will initially utilize temporary storage located in Nome in the event of a discharge. Chadux has limited resources available in their Nome equipment cache ( 1 – 2,400 gal Fast tank). Vitus Marine will utilize vacuum/tank trucks owned by Bonanza Fuel in Nome. There are 8 vacuum/tank trucks available for use from Bonanza Fuel of at least 2,000 gallons or larger. In the event the Fast tank must be deployed at a distance beyond the suction capacity of the vacuum truck, BFI tank trucks have the capacity to self-load through a port on the suction side of the pumps which have a higher suction capacity than the vacuum truck at greater distances.

Bonanza Fuel will have available shore side tankage for use to store recovered liquids. Prior to the transfer of fuel there will be (3) 610,000 gallon tanks that are empty. (1) 610,000 gallon tank will remain empty after the completed fuel transfer. The Bonanza Fuels resources are made available by contract language included in the commercial contract between Vitus Marine and Bonanza Fuel and by a Statement of Contractual Terms included in this spot charter submittal.

Decanting water from temporary storage should not be required due to the availability of shore side tankage and temporary storage available locally in Nome, and available through Alaska Chadux.

### 3.4 Realistic Maximum Response Operating Limitations

*Limited Visibility or Darkness*

As discussed in the plan, during periods of darkness the use of portable lights at shoreside work locations will be used in addition to fixed lighting shore side and lighting from the T/V Renda to provide a safe work environment. The use of portable lights will be used to provide sufficient lighting on any shore fast ice across the distance of hose for the ice transfer, to ensure the ability of hose watch personnel to effectively monitor the transfer hose. Given the intended location of the Renda for discharge, the resultant distance from the City of Nome's Marine header, and the fixed and portable lighting intended to be deployed it is anticipated all portions of the transfer hose will be sufficiently illuminated to conduct inspections.

#### *Response Delay Due to Cold*

In extreme temperatures, personnel are less effective performing tasks than in warmer temperatures due to the required protective clothing that is worn and cold fatigue. However, due to Nome's historic average low temperature for January, response delay due to extremely cold temperatures should not be a factor in the anticipated environmental conditions. Response operations have been successfully conducted during extreme winter conditions on the North Slope. If temperatures drop to -15 f, the work and warm-up schedule published by ACGIH will be used to schedule breaks and personnel rotation. If temperatures reduce the available work time for personnel, the use of additional personnel will be used to maintain recovery operations.

#### *Equipment Function Ability in the Cold*

Pumping operations in cold weather conditions should not affect the normal operations of the pump. Pumps will be kept in warm storage when pre-staged or not in use. The use of heated shelter over the pump to keep the effective capacity of the pump at normal levels will be employed as needed. Pumps should not be left in the cold after it has been in use to prevent any liquids from freezing in the pump and causing damage. Maintenance of response equipment shall be performed in a warm location such as a warehouse or other location. Pumps temporarily shut down for fueling or other short period maintenance will be drained of water to prevent or reduce the potential for freezing.

There is enough equipment resource available in Nome and through Chadux to have spare equipment available to change out equipment in the field with warm replacements, as needed to keep recovery operations working.

#### Additional Spill Prevention Measures to be Taken

- The T/V Renda is an ice class, double hull tanker.
- The T/V Renda will present her own items that assist in enhancing the prevention of environmental damage. On departure from Dutch Harbor, she will have on-board storage capacity of 44,000 gallons between slop tanks 1 and 2.
- As required T/V Renda maintains Shipboard Spill Mitigation Procedures to address spills on the vessel to prevent the spillage of product overboard.
- The vessel owners have placed an additional three officers aboard; for a total crew of 21, to increase coverage and to afford extra watches on the tanker as well as to better tend to added operational duties resulting from inordinately cold temperatures.
- VML has secured and will provide two Herbert clamps to include in the pre deployed equipment. This will enable a swift response in the event of a hose rupture or connection failure.
- VML will be dispatching our two senior tankerman to assist in shoreside hose, header, pump watch and to provide on-site knowledge of VML's Tanker C-plan in the event of a spill.

- The United States Coast Guard has in addition to USCGC Healy, dedicated the following resources to enhance the safety of this operation: an onsite trained pollution responder, facility trained personnel, helicopter staged shore side, ice scouting, and continued C-130 over-flights USCGC Healy, COTP will also work with the crew of the T/V Renda to plot out the safest and quickest route through the ice to minimize risk potential.
- The National Oceanic and Atmospheric Association (NOAA) will continue to push out weather and ice reports and evaluations to ensure the best available information is at hand to make safe educated decisions about how to conduct transfer operations.

The prevention measures submitted above are complete given the anticipated environmental conditions expected during the transit and transfer in Nome.

Additional information to support the ice classification of the T/V Renda and past historical operations conducted will be included with this submission. The USCG has reviewed and accepted the information provided by the T/V Renda and the Russian Classification Society as to the ship's classification as an ice strengthened, double hulled, Tanker. Clarification of the T/V Renda's suitability to operate in arctic environment should be directed to the USCG OCMI – Western Alaska.

If you have any questions or require any additional information, please contact me at 907-278-6700.

Best Regards,



Mark Smith  
President/CEO

#### Appendices

- (A) Scenario
- (B) Arctic Tactics
- (C) Nome Oil Transfer Procedures
- (D) Voyage Routing Diagram
- (E) Renda Prior Operations Letter
- (F) Class Information for Renda



10. Applicant has completed a coastal project questionnaire for operations in the Alaska coastal zone as required by the Alaska Coastal Management Program, 6 AAC 50:

|  | YES ( ) | NO ( X ) |
|--|---------|----------|
| 11. Applicant is familiar with:  | YES     | NO       |
| a. Alaska Oil Pollution Statutes, Title 46   | ( X )   | ( )      |
| b. Alaska Oil Pollution Prevention and Control Regulations, 18 AAC 75  | ( X )   | ( )      |
| c. Alaska Financial Responsibility Regulations, 18 AAC 75, Article 2   | ( X )   | ( )      |
| d. ADEC Oil Discharge Prevention and Contingency Plan Application and Review Guidelines, including those for Best Available Technology | ( X )   | ( )      |

**B. FACILITY INFORMATION:**

- ( ) Oil Terminal  
( ) Exploration Well: ( ) Onshore ( ) Offshore  
( ) Production Facility: ( ) Onshore ( ) Offshore  
( X ) Tank Vessel ( ) Barge  
( ) Crude oil Pipeline Facility (may include oil storage tanks)  
( ) Other (specify):
- Type(s) of petroleum product handled: ( ) Crude Oil ( X ) Non-crude Oil
- If a terminal, total storage capacity in barrels is: \_\_\_\_\_
- If tank vessel or barge, total (100%) cargo volume in barrels is: 36,163 bbls
- If tank vessel or barge, areas of operations within Alaska waters: Chartered Tanker will be sailing to the Port of Nome, Alaska.

**C. CERTIFICATION:**

I, Mark Smith, certify under penalty of perjury that the above information and accompanying exhibits are true, correct and complete.

  
\_\_\_\_\_  
Applicant's Signature

December 27, 2011  
\_\_\_\_\_  
Date

INTERTANKO'S STANDART TANKER CHARTERING QUESTIONNAIRE 88 (Q88)

|                             |   |  |                  |                  |                  |
|-----------------------------|---|--|------------------|------------------|------------------|
| <b>1.</b>                   | <b>VESSEL DESCRIPTION</b>   |  |                  |                  |                  |
| 1.1                         | Date updated:   | 12/6/2011  |                  |                  |                  |
| 1.2                         | Vessel's name:  | mt RENDA   |                  |                  |                  |
| 1.3                         | IMO number:   | 8129618  |                  |                  |                  |
| 1.4                         | Vessel's previous name(s) and date(s) of change:  | RENDA  |                  |                  |                  |
| 1.5                         | Date delivered:   |  |                  |                  |                  |
| 1.6                         | Builder (where built):  | Rauma-Repola,Finland   |                  |                  |                  |
| 1.7                         | Flag:   | RUSSIA   |                  |                  |                  |
| 1.8                         | Port of Registry:   | VLADIVOSTOK  |                  |                  |                  |
| 1.9                         | Call sign:  | UFFA   |                  |                  |                  |
| 1.10                        | Vessel's satcom phone number:   | 327303217/18   |                  |                  |                  |
|                             | Vessel's fax number:  | 327303219  |                  |                  |                  |
|                             | Vessel's telex number:  |  |                  |                  |                  |
|                             | Vessel's email address:   | <a href="mailto:renda@amosconnect.com">renda@amosconnect.com</a>     |                  |                  |                  |
| 1.11                        | Type of vessel:   | Chemical, FPSO, Gas, O/O,<br>OBO, <b>Oil Tanker</b> , Other          |                  |                  |                  |
| 1.12                        | Type of hull:   | Double Bottom, <b>Double Hull</b> ,<br>Double Side,Single Hull,Other |                  |                  |                  |
| <b>Classification</b>       |   |  |                  |                  |                  |
| 1.13                        | Classification society:   | RMRS   |                  |                  |                  |
| 1.14                        | Class notation:   | oil tanker KM*UL1 A1(ESP)  |                  |                  |                  |
| 1.15                        | If Classification society changed, name of previous society:  | NA   |                  |                  |                  |
| 1.16                        | If Classification society changed, date of change:  | NA   |                  |                  |                  |
| 1.17                        | IMO type, if applicable:  | I / II / III   |                  |                  |                  |
| 1.18                        | Does the vessel have ice class? If yes, state what level:   | <b>Yes</b> / No / N/A  |                  |                  |                  |
| 1.19                        | Date / place of last dry-dock:  | 6/14/2010 CHINA  |                  |                  |                  |
| 1.20                        | Date next dry dock due  | 5/27/2012  |                  |                  |                  |
| 1.21                        | Date of last special survey / next survey due:  |  |                  |                  |                  |
| 1.22                        | Date of last annual survey:   | 7/27/2011  |                  |                  |                  |
| 1.23                        | If ship has Condition Assessment Program (CAP), what is the latest overall rating:  | NO   |                  |                  |                  |
| 1.24                        | Does the vessel have a statement of compliance issued under the provisions of the Condition Assessment Scheme (CAS): If yes, what is the expiry date? | Yes / <b>No</b> / N/A  |                  |                  |                  |
| <b>Dimensions</b>           |   |  |                  |                  |                  |
| 1.25                        | Length Over All (LOA):  | 113,0 Meters   |                  |                  |                  |
| 1.26                        | Length Between Perpendiculars (LBP):  | 105,33 Meters  |                  |                  |                  |
| 1.27                        | Extreme breadth (Beam):   | 18,3 Meters  |                  |                  |                  |
| 1.28                        | Moulded depth:  | 8,5 Meters   |                  |                  |                  |
| 1.29                        | Keel to Masthead (KTM) / KTM in collapsed condition (if applicable):  | 34,96 Meters   |                  |                  |                  |
| 1.30                        | Bow to Center Manifold (BCM) / Stem to Center Manifold (SCM):   | 50,6 Meters  |                  |                  |                  |
| 1.31                        | Distance bridge front to center of manifold:  | 26,4 Meters  |                  |                  |                  |
| 1.32                        | Parallel body distances:  | Lightship  | Normal Ballast   | Summer Dwt       |                  |
|                             | Forward to mid-point manifold:  | 50,6 Meters  | 50,6 Meters      |                  |                  |
|                             | Aft to mid-point manifold:  | 62,4 Meters  | 62,4 Meters      |                  |                  |
|                             | Parallel body length:   | 46,2 Meters  | 62,4 Meters      |                  |                  |
| 1.33                        | FWA at summer draft / TPC immersion at summer draft:  | 144 millimeters  | 16,3 Metric Tons |                  |                  |
| 1.34                        | What is the max height of mast above waterline (air draft)  | Full Mast  | Collapsed Mast   |                  |                  |
|                             | Lightship:  | 35,3 Meters  |                  |                  |                  |
|                             | Normal ballast:   | 46,2 Meters  |                  |                  |                  |
|                             | At loaded summer deadweight:  | 46,2 Meters  |                  |                  |                  |
| <b>Tonnages</b>             |   |  |                  |                  |                  |
| 1.35                        | Net Tonnage:  | 1645   |                  |                  |                  |
| 1.36                        | Gross Tonnage / Reduced Gross Tonnage (if applicable):  | 5191   |                  |                  |                  |
| 1.37                        | Suez Canal Tonnage - Gross (SCGT) / Net (SCNT):   | 5661   | 3849             |                  |                  |
| 1.38                        | Panama Canal Net Tonnage (PCNT):  | 5678 / 3054  |                  |                  |                  |
| <b>Loadline Information</b> |   |  |                  |                  |                  |
| 1.39                        | Loadline  | Freeboard  | Draft            | Deadweight       | Displacement     |
|                             | Summer:   | 1,326 meters   | 7,2 meters       | 6175 Metric Tons | 9400 Metric Tons |
|                             | Winter:   | 1,476 meters   | 7,05 meters      | 5930 Metric Tons | 9155 Metric Tons |
|                             | Tropical:   | 1,176 meters   | 7,35 meters      | 6242 Metric Tons | 9467 Metric Tons |

|      |  |            |             |                  |                       |
|------|--|------------|-------------|------------------|-----------------------|
|      | Lightship:                                       | 5,9 meters | 2,63 meters |                  | 3225 Metric Tons      |
|      | Normal Ballast Condition:                        | 3,9 meters | 4,62 meters | 2359 Metric Tons | 5584 Metric Tons      |
| 1.40 | Does vessel have multiple SDWT?                  |            |             |                  | Yes / <b>No</b> / N/a |
| 1.41 | If yes, what is the maximum assigned deadweight? |            |             |                  | Metric Tons           |

#### Ownership and Operation

|      |                                   |                    |  |  |  |
|------|-----------------------------------|--------------------|--|--|--|
| 1.42 | Registered owner - Full style:    | RENDA SHIPPING LTD |  |  |  |
| 1.43 | Technical operator - Full style:  | RIMSCO             |  |  |  |
| 1.44 | Commercial operator - Full style: | RIMSCO             |  |  |  |
| 1.45 | Disponent owner - Full style:     | RIMSCO             |  |  |  |

| 2.   | CERTIFICATION  | Issued     | Last Annual or Intermediate | Expires    |
|------|--|------------|-----------------------------|------------|
| 2.1  | Safety Equipment Certificate:  | 6/14/2010  | 7/26/2011                   | 5/27/2012  |
| 2.2  | Safety Radio Certificate:  | 7/27/2011  | 7/27/2011                   | 5/27/2012  |
| 2.3  | Safety Construction Certificate:   | 6/14/2010  | 7/26/2011                   | 5/27/2012  |
| 2.4  | Loadline Certificate:  | 6/14/2010  | 7/26/2011                   | 5/27/2012  |
| 2.5  | International Oil Pollution Prevention Certificate (IOPPC):                    | 6/14/2010  | 7/26/2011                   | 5/27/2012  |
| 2.6  | Safety Management Certificate (SMC)  | 10/14/2009 |                             | 1/11/2015  |
| 2.7  | Document of Compliance (DOC):  | 2/19/2008  | 3/22/2011                   | 2/21/2013  |
| 2.8  | USCG (specify: COC, LOC or COI):   |            |                             |            |
| 2.9  | Civil Liability Convention Certificate (CLC):                                  | 1/1/2011   |                             | 12/31/2011 |
| 2.10 | Civil Liability for Bunker Oil Pollution Damage Convention Certificate (CLBC): | 1/1/2011   |                             | 12/31/2011 |
| 2.11 | U.S. Certificate of Financial Responsibility (COFR):                           |            |                             |            |
| 2.12 | Certificate of Fitness (Chemicals):  |            |                             |            |
| 2.13 | Certificate of Fitness (Gas):  |            |                             |            |
| 2.14 | Certificate of Class:  | 6/14/2010  | 7/26/2011                   | 5/27/2012  |
| 2.15 | International Ship Security Certificate (ISSC):                                | 3/25/2009  |                             | 6/22/2014  |
| 2.16 | International Sewage Pollution Prevention Certificate (ISPPC)                  | 7/6/2007   |                             | 5/27/2012  |
| 2.17 | International Air Pollution Prevention Certificate (IAPP):                     | 7/27/2011  | 7/27/2011                   | 5/27/2012  |

#### Documentation

|      |  |                       |
|------|--|-----------------------|
| 2.18 | Does vessel have all updated publications as listed in the Vessel Inspection Questionnaire, Chapter 2- Question 2.24, as applicable: | <b>Yes</b> / No / N/a |
| 2.19 | Owner warrant that vessel is member of ITOPF and will remain so for the entire duration of this voyage/contract:                     | <b>Yes</b> / No / N/a |

#### 3. CREW MANAGEMENT

|     |   |           |
|-----|---|-----------|
| 3.1 | Nationality of Master:                                      | RUSSIAN   |
| 3.2 | Nationality of Officers:                                    | RUSSIAN   |
| 3.3 | Nationality of Crew:  | RUSSIAN   |
| 3.4 | If Officers/Crew employed by a Manning Agency - Full style: | NO RIMSCO |

|     |  |                       |
|-----|--|-----------------------|
| 3.5 | What is the common working language onboard:                           | RUSSIAN               |
| 3.6 | Do officers speak and understand English:                              | <b>Yes</b> / No       |
| 3.7 | In case of Flag Of Convenience, is the ITF Special Agreement on board: | Yes / <b>No</b> / N/a |

#### 4. HELICOPTERS

|     |  |                       |
|-----|--|-----------------------|
| 4.1 | Can the ship comply with the ICS Helicopter Guidelines:  | Yes / <b>No</b> / N/a |
| 4.2 | If Yes, state whether winching or landing area provided: | Winching / Landing    |

#### 5. FOR USA CALLS

|     |   |  |
|-----|---|--|
| 5.1 | Has the vessel Operator submitted a Vessel Spill Response Plan to the US Coast Guard which has been approved by official USCG letter: | <b>Yes</b> / No / N/a  |
| 5.2 | Qualified individual (QI) - Full style:   | ECM MARITIME SERVICES,<br>LLC 64, DANBURU ROAD SUITE<br>800 WILTON, CT 06897-4406<br>tel 24 hrs +12037616030 |

|                                     |   |  |      |               |                   |
|-------------------------------------|---|--|------|---------------|-------------------|
| 5.3                                 | Oil Spill Response Organization (OSRO) - Full style:  | NATIONAL RESPONSE CORP.<br>tel 24 hrs +16312249141 |      |               |                   |
| 5.4                                 | Has technical operator signed the SCIA / C-TPAT agreement with US customs concerning drug smuggling:                        | Yes / No / N/A                                     |      |               |                   |
| <b>6. CARGO AND BALLAST HANDING</b> |   |  |      |               |                   |
| <b>Double Hull Vessels</b>          |   |  |      |               |                   |
| 6.1                                 | Is vessel fitted with centerline bulkhead in all cargo tanks:   | Yes / <b>No</b> / N/a                              |      |               |                   |
| 6.2                                 | If Yes, is bulkhead solid or perforated:  | Solid / Perforated                                 |      |               |                   |
| <b>Cargo Tank Capacities</b>        |   |  |      |               |                   |
| 6.3                                 | Capacity (98%) of each natural segregation with double valve (specify tanks):   | 1957,17 Cu.Meters                                  |      |               |                   |
| 6.4                                 | Total cubic capacity (98%, excluding slop tanks):   | 5634,44 Cu.Meters                                  |      |               |                   |
| 6.5                                 | Slop tank(s) capacity (98%):  | 217 Cu.Meters                                      |      |               |                   |
| 6.6                                 | Residual / Retention oil tank(s) capacity (98%), if applicable:   |  |      |               |                   |
| 6.7                                 | Does vessel have Segregated Ballast Tanks (SBT) or Clean Ballast Tanks (CBT):   | <b>SBT</b> / CBT                                   |      |               |                   |
| <b>SBT Vessels</b>                  |   |  |      |               |                   |
| 6.8                                 | What is total capacity of SBT?  | 1957,17 Cu.Meters                                  |      |               |                   |
| 6.9                                 | What percentage of SDWT can vessel maintain with SBT only:  | 64%  |      |               |                   |
| 6.10                                | Does vessel meet the requirements of MARPOL Annex I Reg 18.2 (previously Reg 13.2)  | <b>Yes</b> / No / N/a                              |      |               |                   |
| <b>Cargo Handling</b>               |   |  |      |               |                   |
| 6.11                                | How many grades/products can vessel load/discharge with double valve segregation:   | 300  |      |               |                   |
| 6.12                                | Maximum loading rate for homogenous cargo per manifold connection:  | 500 Cu.M/Hour                                      |      |               |                   |
| 6.13                                | Maximum loading rate for homogenous cargo loaded simultaneously through all manifolds:                                      | 500 Cu.M/Hour                                      |      |               |                   |
| 6.14                                | Are there any cargo tank filling restrictions. If yes, please specify:  | Yes / No / N/A                                     |      |               |                   |
| <b>Pumping Systems</b>              |   |  |      |               |                   |
| 6.15                                | Pumps:  | No.  | Type | Capacity      |                   |
|                                     | Cargo:  | 3+8  | 11   | FRAMO         | 190/145 Cu.M/Hour |
|                                     | Stripping:  |  |      |               |                   |
|                                     | Eductors:   |  |      |               |                   |
|                                     | Ballast:  | 1  |      | 240 Cu.M/Hour |                   |
| 6.16                                | How many cargo pumps can be run simultaneously at full capacity:  |  |      |               |                   |
| <b>Cargo Control Room</b>           |   |  |      |               |                   |
| 6.17                                | Is ship fitted with a Cargo Control Room (CCR):   | <b>Yes</b> / No / N/A                              |      |               |                   |
| 6.18                                | Can tank innage / ullage be read from the CCR:  | <b>Yes</b> / No / N/A                              |      |               |                   |
| <b>Gauging and Sampling</b>         |   |  |      |               |                   |
| 6.19                                | Can ship operate under closed conditions in accordance with ISGOTT:   | <b>Yes</b> / No / N/A                              |      |               |                   |
| 6.20                                | What type of fixed closed tank gauging system is fitted:  |  |      |               |                   |
| 6.21                                | Are overfill (high-high) alarms fitted? If Yes, indicate whether to all tanks or partial:                                   | Yes, all tanks                                     |      |               |                   |
| <b>Vapor Emission Control</b>       |   |  |      |               |                   |
| 6.22                                | Is a vapor return system (VRS) fitted:  | Yes / <b>No</b> / N/A                              |      |               |                   |
| 6.23                                | Number / size of VRS manifolds (per side):  |  |      | Millimeters   |                   |
| <b>Venting</b>                      |   |  |      |               |                   |
| 6.24                                | State what type of venting system is fitted:  | yes, Common High Velocity                          |      |               |                   |
| <b>Cargo Manifolds</b>              |   |  |      |               |                   |
| 6.25                                | Does vessel comply with the Latest edition of the OCIMF Recommendations for Oil Tanker Manifolds and Associated Equipment': | <b>Yes</b> / No / N/A                              |      |               |                   |
| 6.26                                | What is the number of cargo connections per side:   | 4PS / 4S / S                                       |      |               |                   |
| 6.27                                | What is the size of cargo connections:  | 200 Millimeters                                    |      |               |                   |
| 6.28                                | What is the material of the manifold:   | steel  |      |               |                   |
| <b>Manifold Arrangement</b>         |   |  |      |               |                   |
| 6.29                                | Distance between cargo manifold centers:  | 1200 Millimeters                                   |      |               |                   |
| 6.30                                | Distance ships rail to manifold:  | 3350 Millimeters                                   |      |               |                   |
| 6.31                                | Distance manifold to ships side:  | 1620 Millimeters                                   |      |               |                   |
| 6.32                                | Top of rail to center of manifold:  | 2946 Millimeters                                   |      |               |                   |
| 6.33                                | Distance main deck to center of manifold:   | 1620 Millimeters                                   |      |               |                   |

|  |  |                                  |                  |
|--|--|----------------------------------|------------------|
| 6.34                                     | Manifold height above the waterline in normal ballast / at SDWT condition: | 5520 Meters                      |                  |
| 6.35                                     | Number / size reducers:  | 2 / 200-250 mm<br>3 / 150-200 mm | 2 / 100-200 mm   |
| <b>Stern Manifold</b>                    |  |                                  |                  |
| 6.36                                     | Is vessel fitted with a stern manifold:                                    | <b>Yes</b> / No / N/A            |                  |
| 6.37                                     | If stern manifold fitted, state size:                                      | 200 Millimeters                  |                  |
| <b>Cargo Heating</b>                     |  |                                  |                  |
| 6.38                                     | Type of cargo heating system?  | Steam system                     |                  |
| 6.39                                     | If fitted, are all tanks coiled?   | <b>Yes</b> / No / N/A            |                  |
| 6.40                                     | If fitted, what is the material of the heating coils:                      | steel                            |                  |
| 6.41                                     | Maximum temperature cargo can be loaded / maintained:                      | - 15 deg Celsius                 | + 30 deg Celsius |
| <b>Tank Coating</b>                      |  |                                  |                  |
| 6.42                                     | Are cargo, ballast and slop tanks coated?                                  | Coated                           | Type             |
|  | Cargo tanks  | Yes / No / N/A                   | To What Extent   |
|  | Ballast tanks:   | Yes / No / N/A                   |                  |
|  | Slop tanks:  | Yes / No / N/A                   |                  |
| 6.43                                     | If fitted, what type of anodes are used:                                   |                                  |                  |
| <b>7. INER GAS AND CRUDE OIL WASHING</b> |  |                                  |                  |
| 7.1                                      | Is an Inert Gas System (IGS) fitted:                                       | Yes / No / <b>N/A</b>            |                  |
| 7.2                                      | Is IGS supplied by flue gas, inert gas (IG) generator and/or nitrogen:     |                                  |                  |
| 7.3                                      | Is a Crude Oil Washing (COW) installation fitted:                          | Yes / No / <b>N/A</b>            |                  |

|                   |                          |     |                 |           |           |                   |
|-------------------|--------------------------|-----|-----------------|-----------|-----------|-------------------|
| <b>8. MOORING</b> |                          |     |                 |           |           |                   |
| 8.1               | Mooring wires (on drums) | No. | Diameter        | Material  | Length    | Breaking Strength |
|                   | Forecastle:              | 2   | 120 Millimeters | synthetic | 56 Meters | 39 Metric Tons    |
|                   | Main deck fwd:           |     |                 |           |           |                   |
|                   | Main deck aft:           |     |                 |           |           |                   |
|                   | Poop deck:               | 2   | 110 Millimeters |           | 56 Meters | 39 Metric Tons    |
| 8.2               | Wire tails               | No. | Diameter        | Material  | Length    | Breaking Strength |
|                   | Forecastle:              | 2   | 220 Millimeters |           | 64 Meters | 48 Metric Tons    |
|                   | Main deck fwd:           |     |                 |           |           |                   |
|                   | Main deck aft:           |     |                 |           |           |                   |
|                   | Poop deck:               | 2   | 200 Millimeters |           | 64 Meters | 48 Metric Tons    |
| 8.3               | Mooring ropes (on drums) | No. | Diameter        | Material  | Length    | Breaking Strength |
|                   | Forecastle:              |     |                 |           |           |                   |

|     |   |     |                        |                |        |                   |
|-----|---|-----|------------------------|----------------|--------|-------------------|
|     | Main deck fwd:                                    |     |                        |                |        |                   |
|     | Main deck aft:                                    |     |                        |                |        |                   |
|     | Poop deck:  |     |                        |                |        |                   |
| 8.4 | Other mooring lines                               | No. | Diameter               | Material       | Length | Breaking Strength |
|     | Forecastle:                                       |     |                        |                |        |                   |
|     | Main deck fwd:                                    |     |                        |                |        |                   |
|     | Main deck aft:                                    |     |                        |                |        |                   |
|     | Poop deck:  |     |                        |                |        |                   |
| 8.5 | Mooring winches                                   | No. | # Drums                | Brake Capacity |        |                   |
|     | Forecastle:                                       | 2   | Single, Double, Triple | 6 Metric Tons  |        |                   |
|     | Main deck fwd:                                    |     | Single, Double, Triple |                |        |                   |
|     | Main deck aft:                                    |     | Single, Double, Triple |                |        |                   |
|     | Poop deck:  | 2   | Single, Double, Triple | 6 Metric Tons  |        |                   |
| 8.6 | Mooring bitts                                     | No. | SWL                    |                |        |                   |
|     | Forecastle:                                       |     |                        |                |        |                   |
|     | Main deck fwd:                                    |     |                        |                |        |                   |
|     | Main deck aft:                                    |     |                        |                |        |                   |
|     | Poop deck:  |     |                        |                |        |                   |
| 8.7 | Closed chocks and / or fairleads of enclosed type | No. | SWL                    |                |        |                   |
|     | Forecastle:                                       | 5   | Metric Tons            |                |        |                   |
|     | Main deck fwd:                                    | 4   |                        |                |        |                   |
|     | Main deck aft:                                    | 4   |                        |                |        |                   |
|     | Poop deck:  | 9   |                        |                |        |                   |

|                                |  |  |             |
|--------------------------------|--|--|-------------|
| <b>Emergency Towing System</b> |  |  |             |
| 8.8                            | Type / SWL of Emergency Towing system forward: |  | Metric Tons |
| 8.9                            | Type / SWL of Emergency Towing system aft:     |  |             |
| <b>Anchors</b>                 |  |  |             |

|   |  |                                       |             |
|---|--|---------------------------------------|-------------|
| 8.10  | Number of shackles on port cable:  | 53 mm                                 | 495 m       |
| 8.11  | Number of shackles on starboard cable:   | 53 mm                                 | 495 m       |
| <b>Escort Tug</b>                           |  |                                       |             |
| 8.12  | What is SWL and size of closed chock and / or fairleads of enclosed type on stern:   | Metric Tons                           |             |
| 8.13  | What is SWL of bollard on poopdeck suitable for escort tug:  |                                       | Metric Tons |
| <b>Bow / Stern Thruster</b>                 |  |                                       |             |
| 8.14  | What is brake horse power of bow thruster (if fitted):   | BHP                                   | kW          |
| 8.15  | What is brake horse power of stern thruster (if fitted):   | BHP                                   | kW          |
| <b>Single Point Mooring (SPM) Equipment</b> |  |                                       |             |
| 8.16  | Does vessel comply with the latest edition of OCIMF Recommendation for Equipment Employed in the Mooring of Vessels at Single Point Moorings (SPM)?: | <b>Yes / No / N/A</b><br>380 x 270 mm |             |
| 8.17  | Is vessels fitted with chain stopper(s):   | <b>Yes / No / N/A</b>                 |             |
| 8.18  | How many chain stopper (s) are fitted:   | 2                                     |             |
| 8.19  | State type of chain stopper(s) fitted:   | steel                                 |             |
| 8.20  | Safe Working Load (SWL) of chain stopper(s):   |                                       | Metric Tons |
| 8.21  | What is the maximum size chain diameter the bow stopper(s) can handle:   | 53 Millimeters                        |             |
| 8.22  | Distance between the bow fairlead and chain stopper / bracket:   | Millimeters                           |             |
| 8.23  | Is bow chock and / or fairlead of enclosed type of OCIMF recommended size (600mm x 450mm)? If not, give details of size:                             | Yes / No / N/A                        |             |
| <b>Lifting Equipment</b>                    |  |                                       |             |
| 8.24  | Derrick / Crane description (Number, SWL and Location):  | CRANE 1,5 M.T. MAIN DECK              |             |
| 8.25  | What is maximum outreach of cranes / derricks outboard of the ship's side:   | 0,5 Meters                            |             |
| <b>Ship To Ship (STS)</b>                   |  |                                       |             |
| 8.26  | Does vessel comply with recommendations contained in OCIMF / ICS Ship To Ship Transfer Guide (Petroleum or Liquefied Gas, as applicable):            | <b>Yes / No / N/A</b>                 |             |

|                                   |  |  |                       |
|-----------------------------------|--|--|-----------------------|
| <b>9.</b>                         | <b>MISCELLANEOUS</b>   |  |                       |
| <b>Engine Room</b>                |  |  |                       |
| 9.1                               | What type of fuel is used for main propulsion?   | IFO  |                       |
| 9.2                               | What type of fuel is used in the generating plant?   | MGO  |                       |
| 9.3                               | Capacity of bunker tanks - IFO and MDO / MGO:  | IFO<br>553,1 Cu.Meters   | MGO<br>70,3 Cu.Meters |
| 9.4                               | Is vessel fitted with fixed or controllable pitch propeller(s)?  |  |                       |
| <b>Insurance</b>                  |  |  |                       |
| 9.5                               | P & I Club - Full Style:   | Russian P&I Pool   |                       |
| 9.6                               | P & I Club coverage - pollution liability coverage:  | US \$  |                       |
| <b>Port State Control</b>         |  |  |                       |
| 9.7                               | Date and place of last Port State Control inspection:  |  |                       |
| 9.8                               | Any outstanding deficiencies as reported by any Port State Control:  | Yes / No / N/A   |                       |
| 9.9                               | If yes, provide details:   |  |                       |
| <b>Recent Operational History</b> |  |  |                       |
| 9.10                              | Has vessel been involved in a pollution, grounding, serious casualty or collision incident during the past 12 months? If yes, full description:  | No   |                       |
| 9.11                              | Last three cargoes / charterers / voyages (Last / 2nd Last / 3rd Last):  | GO / GO / GO<br>VOSO / DILMAS / DILMAS<br>RUSSIA / RUSSIA / RUSSIA |                       |
| <b>Vetting</b>                    |  |  |                       |
| 9.12                              | Date / Place of last SIRE Inspection:  |  |                       |
| 9.13                              | Date / Place of last CDI Inspection:   |  |                       |
| 9.14                              | Recent Oil company inspections/screenings (To the best of owners knowledge and without guarantee of acceptance for future business)*:<br><br><i>* Blanket "approvals" are no longer given by Oil Majors and ships are accepted for the voyage on a case by case basis.</i> |  |                       |

**VESSEL PRIMARY OPERATIONAL CONTROL  
AND OIL SPILL RESPONSE AGREEMENT**

This VESSEL PRIMARY OPERATIONAL CONTROL AND OIL SPILL RESPONSE AGREEMENT ("Agreement") is entered into as of December 5, 2011 between VITUS MARINE, LLC ("VML"), an Alaska-registered entity, with its principal place of business at 113 W. Northern Lights Blvd., Suite 200 Anchorage, AK 99503 and RIMSCO ("Owner"), a corporation with its principal place of business at 1 Ekipazhnaya St., Vladivostok, Russia, 690001.

WHEREAS, the "Owner" is the owner of the M/T *Renda*, IMO No. 8129618, Call Sign UFFA and said to be of 5191 GRT, and wishes to trade in Alaska and adjacent Federal waters; and

WHEREAS, Alaska law requires that tank vessels operating in Alaska waters must have a vessel oil spill contingency plan in compliance with Alaska law; and

WHEREAS, United States law requires that tank vessels operating in federal waters within the limits of the 200 Mile Exclusive Economic Zone must have a vessel oil spill contingency plan in compliance with United States law; and

WHEREAS, a vessel oil spill contingency plan requires the identification of a response organization with the capability to respond to a vessel oil spill; and

WHEREAS, VML has entered into agreements with Alaska Chadux Corporation for oil spill response and VML is willing to utilize the benefits of these agreements to respond to oil spills from the M/T *Renda* pursuant to this Agreement; and

WHEREAS, VML wishes to act as a response organization in Central Alaska/Western Alaska/Aleutian Islands regions, and to provide all oil spill response activities for the M/T *Renda* on a one time basis on or about December 25, 2011, and

WHEREAS, the Owner wishes to grant VML primary operational control of the M/T *Renda* under the auspices of VML's Alaska Plan No. 11-CP-5188 and 18 AAC 75.400(a)(2)(D), for purposes of including the M/T *Renda* in VML's Plan; and

WHEREAS, Owner wishes VML to include the M/T *Renda* in VML's Plan as indicated above and is willing to reimburse and indemnify VML, its relevant subsidiaries and those assisting it for such activities as indicated below:

NOW THEREFORE, the parties agree as follows:

I. Definitions - As used in this agreement the following terms shall be given the following meanings:

- (a) "Central Alaska/Western Alaska/Aleutian Islands regions" means - known common definition of Alaskan coastal regions and surrounding waters extending 3 nautical miles from shore.
- (b) "Oil Spill" means an oil spill from M/T *Renda* in areas defined in Section 1 (a) of this agreement.



(c) "Exclusive Economic Zone" means the zone contiguous to territorial sea of the United States extending to a distance up to 200 nautical miles from the baseline from which the breadth of the territorial sea is measured.

(d) "Adjacent Federal Waters" means those waters in the Exclusive Economic Zone of the United States as defined by applicable International law.

II. Certification of Primary Operational Control for Inclusion of Vessel M/T *Renda* in VML's Plan

VML agrees to assume, and the Owner agrees to grant, the primary operational control, for purposes of 18 AAC 75.400(a)(2)(D), of the Owner's vessel, M/T *Renda* while in Alaska state waters, and any spill from the M/T *Renda* that has the potential of affecting Alaska state waters.

VML agrees to include the vessel M/T *Renda* in its Plan as referenced above.

VML and the Owner agree to fully implement and be subject to the Plan and all laws and requirements applicable thereto, including but not limited to, discharge prevention and response, drills, training, personnel, and on-board vessel requirements.

VML and the Owner certify that the response action plan sections of the Plan are on board the M/T *Renda*, that the crew has received instruction on the applicable procedures established under the Plan, including but not limited to the procedures for reporting any observed spills.

III. Spill Response by VML

VML, after receiving notice of an oil spill in Alaska waters, agrees to commence appropriate response actions and assume management and control of response activities for a spill from the M/T *Renda*. VML and the Owner agree that VML will act for the Owner for an oil spill and that no other entity shall be engaged by Owner for an oil spill response and cleanup without VML's prior written approval. VML shall have the right to engage others to assist VML in response and cleanup activities. The Owner shall have the right to appoint advisers, including representatives of the Owner's P&I Club, who shall have access to all relevant places and spill response information.

IV. Spill Notification

The Owner agrees to give VML immediate notice of any oil spill from the M/T *Renda* as soon as the Owner becomes aware of such a spill. Furthermore, the Owner agrees to instruct the Master and other officers of the M/T *Renda* to provide immediate notice to VML and the Owner in the event of an oil spill from the vessel. VML shall be responsible for notifying federal and state authorities about any oil spill from the M/T *Renda*.

V. Response and Cleanup Decisions

VML shall take such steps or measures, as it deems necessary and appropriate for management and control of response activities in cooperation with appropriate federal, state and local governmental agencies. The right to make decisions on response and cleanup shall be solely that of VML except where federal, state or local authorities intervene pursuant to federal, state or local law or regulations.



VI. Governmental Agency Takeover

If a federal, state or local governmental agency decides to assume management and control of an oil spill from the M/T *Renda* pursuant to federal, state or local law or regulations authorizing such a takeover, VML shall have the right, but not the obligation to be a spill contractor for the governmental entity assuming control. If VML becomes a spill contractor as indicated above, the Owner shall have the option to terminate any further reimbursement obligations to VML under Article X below for response and cleanup expenses incurred therefrom by VML by one (1) days notice to VML in writing by the Owner.

VII. Media-Relations

The Owner agrees that VML will have primary responsibility for media contacts related to spill response and cleanup following spill covered by this Agreement and further agrees to coordinate all media contacts involving the spill through VML, provided however that VML will obtain owner's approval for any media statements purporting to come from the Owner, and the Owner shall handle its own media contacts for matters other than spill response and cleanup.

VIII. Litigation

Except as provided in Article XII below, VML shall have no obligation to defend or represent the Owner in any litigation proceeding or enforcement action against the Owner which may arise as a result of an oil spill.

IX. Response and Cleanup Disputes

If the Owner considers any response or cleanup action taken or cost incurred by VML to be unreasonable, unnecessary, improper, imprudent or beyond the scope of the Owner's obligation or liability considering the facts as then known, VML shall have the right to act as VML determines is proper and the matter will be resolved thereafter as indicated in Section XIV below.

X. Reimbursement

Subject to Articles IX and XII of this Agreement, VML shall be reimbursed for those costs and expenses incurred by VML or those acting for VML for those costs and expenses for which the Owner would be liable at common law or under statute (hereinafter called "Spill Expenses") provided, however, that Spill Expenses shall include the cost of spill response and cleanup expenses (subject to Article IX and XII) incurred by VML under contract, but no other liabilities such as indemnities arising by reason of any contracts (other than this Agreement) entered into by VML. VML shall be reimbursed by Owner for Spill Expenses in the following manner. First reimbursement to the Owner under the Owner's pollution liability insurance (Appendix A) up to the limits of this insurance, subject to any applicable statutory limits of liability. Thereafter, VML shall have the same rights to seek reimbursement for Spill Expenses from the Owner as would any of the following: (1) the U.S. Government acting under federal law or (2) a state governmental entity acting under state law or (3) either pursuant to common law or (4) private parties acting under any of the above, subject to any applicable statutory limits of liability. Subject to Article IX above, the Owner agrees not to assert that VML acted as a volunteer in undertaking payment of Spill Expenses to third parties, and agrees to indemnify defend and hold VML harmless from all such third party claims..

XI Pollution Liability Insurance

A copy of Owner's pollution liability insurance agreement with its underwriter is attached as Appendix A. Owner agrees not to change, amend or terminate this insurance without prior written notification to VML.

XII. Indemnity, Responsibility and Warranty Disclaimer

VML shall indemnify, hold harmless and defend the Owner, its shareholders, officers, directors, agents, servants and employees against all additional claims, demands, causes of action and liabilities arising from or in connection with VML's gross negligence or willful misconduct resulting from VML's assuming responsibility and any control for response to an oil spill from the *M/T Renda*, except to the extent that: (1) the Owner is entitled to responder immunity under Federal or state law; (2) the liability arises from the negligence, gross negligence, willful misconduct or strict liability of the Owner; (3) VML would have been able to limit its liability; (4) VML would not have been liable if sued direct; and (5) the liability arises in respect of death or personal injury of the Owner's agents, servants, employees, contractors (excluding VML's employees) or subcontractors. As used above, the phrase "additional claims, demands, causes of action and liabilities" shall be those resulting solely and directly from VML's actions or omissions or those of VML's employees, agents, contractors or subcontractors engaged under Article III of this Agreement in carrying out spill response, and not claims, demands, causes of action or liabilities resulting from the spill occurrence. Notwithstanding the above, the Owner shall indemnify, hold harmless and defend VML, its shareholders, officers, directors, agents, servants, employees, contractors and subcontractors against all claims, demands, causes of action and liabilities (except for criminal liabilities or punitive damages) of every kind and character ("Liabilities"), asserted by any party including without limitation, employees and contractors of the Owner, VML, the United States and the State of Alaska: based on personal injury, death or loss of or damage to property or other claims pursuant to statutory or common law arising out of or relating to the services, equipment or personnel provided by VML or those acting for VML hereunder and including services, equipment or personnel provided by VML or those acting for VML hereunder in responding to a spill from the *M/T Renda* covered by this Agreement, provided any such Liabilities were not caused by the gross negligence or willful misconduct of VML in performing the services hereunder. The indemnity set forth above shall include civil but not criminal awards and judgments, court and arbitration costs, attorney's fees and other reasonable expenses associated with such claims, demands and causes.

VML shall have no liability to the Owner for damages to third parties, arising out of acts within the scope of this Agreement or any other agreement under which VML renders response services, except as provided above to the extent solely caused by VML's gross negligence or willful misconduct. VML shall be entitled to the benefits of the provisions of OPA 90 and any applicable state statute providing for responder immunity. VML shall have no liability to the Owner under this liability provision for damages which, including the total aggregate of all liabilities incurred in respect of the incident for which VML responds, exceed its respective limit of club cover.

Neither VML nor any of its vessels shall be in any event responsible to Owner or the *M/T Renda* for any indirect or special damages, including without limitation extra expense, loss of profits, loss of use of property, delay or damages consequential upon loss of use, whether arising in whole or in part from (i) the active, passive or gross negligence of VML; (ii) acts or omissions of VML for which it is strictly liable; or (iii) other fault of VML or its vessels, including without limitation breach of this Contract or otherwise resulting from performance of salvage services or environmental response efforts contemplated herein, even if the possibility of such damages is foreseeable by Owner, the *M/T Renda*, VML, VML's vessels or any other person, entity or vessel at the time this Contract is executed.



WARRANTIES. EXCEPT AS PROVIDED FOR ELSEWHERE IN THIS CONTRACT, VML MAKES NO WARRANTIES OF ANY KIND, WITH RESPECT TO THE VESSELS, EQUIPMENT, LABOR AND SERVICES PROVIDED HEREUNDER AND VML HEREBY EXPRESSLY DISCLAIMS AND REJECTS ANY WARRANTIES, INCLUDING WITHOUT LIMITATION, CONDITION, FITNESS FOR A PARTICULAR PURPOSE, WORKMANLIKE PERFORMANCE AND ANY ABSOLUTE OR CONTINUING WARRANTY OF SEAWORTHINESS.

Owner shall have full responsibility for complying with all United States and state laws with respect to wrecked or stranded vessels, and Owner agrees to indemnify VML against any and all judgments, fines, costs and expenses (including reasonable attorneys' fees) for any failure by Owner to comply with said laws.

XIII. Term

The term of this Agreement shall commence on the date first written above and continue until such time as (i) it is terminated by mutual agreement between the parties or (ii) is terminated in accordance with Section XIX below, whichever first occurs.

XIV. Dispute Resolution

Any disputes arising out of this Agreement shall be resolved by arbitration in Anchorage, Alaska. The arbitration will be conducted under the rules specified in Appendix B.

XV. Independent Contractor

The parties agree that VML is an independent contractor for all response, cleanup and claims activities performed under this Agreement.

XVI. Governing Law

The provisions of this Agreement will be interpreted under and governed by the laws of the State of Alaska.

XVII. Notices

Any notice, communication or statement required or permitted to be given hereunder shall be in writing and deemed to have been sufficiently given when delivered in person or sent by telex, wire, or by certified mail to the address of the parties set forth below or to such other address for either party as that party may be written notice designate. Notification to VML as required under Section IV above shall be given by telephone and confirmed by telex or fax.

All other notices shall be given in writing to the parties at the following addresses:

VML:  
Email: [Michail.Shestakov@vitusmarine.com](mailto:Michail.Shestakov@vitusmarine.com)  
Fax No.: +1 (907) 278-6701  
Telephone No.: +1 (907) 278-6700  
Attn: Michail Shestakov

Owner:  
Email: [Menshikova@rimseo.ru](mailto:Menshikova@rimseo.ru)  
Fax No: +7 (4232) 261-973  
Telephone No.: +7 (4232) 221-022  
Attn: Elena Menshikova



XVIII. Assignment

The rights and obligations of any parties to this agreement may not be assigned without prior written consent of the other party.

XIX. Termination

(a) Either VML or the Owner may terminate this Agreement at any time with five (5) days after written notice.

(b) VML shall have the right to terminate this Agreement, without prejudice to any other rights or remedies available to it hereunder, upon giving Owner a notice of termination in writing under the following circumstances:

- 1) The Owner has or is going into bankruptcy or liquidation or enters into an arrangement with creditors for restructuring debts already owed, or
- 2) The Owner fails to reimburse VML for response or cleanup as agreed hereunder within 7 business days after notice from VML, or
- 3) The Owner is in breach of their obligations under this Agreement with said breach being unremedied within 7 business days after a notice of breach from VML., or
- 4) The Owner changes, modifies or terminates the insurance agreement attached as Appendix B without VML's consent.

XX. Experts

The Owner agrees to make its oil spill response and cleanup experts or advisors available to VML as Consultants for activities under this Agreement.

XXI. Entire Agreement

This written Agreement shall constitute the entire Agreement of the parties hereto. No modifications, waivers or other deviation herefrom shall be valid unless agreed to in writing by the parties hereto. There are no oral promises, warranties or representations and evidence of the same or any prior writing shall have no effect on this agreement.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their respective duly authorized representations as of the date first above written.

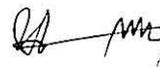
For and on behalf of VML:

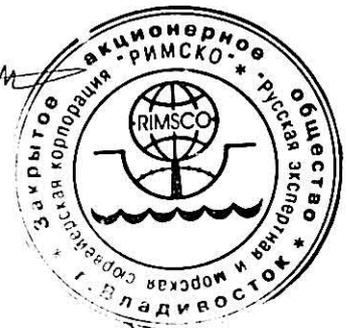
VITUS MARINE, LLC

By:   
Title: CEO

For and on behalf of the Owner:

RIMSCO

By:   
Title: President



ATTACHMENT A

PROOF OF FINANCIAL RESPONSIBILITY FOR ENTRY INTO ALASKAN WATERS AND OTHER REQUIREMENTS

A. OWNER WARRANTS THAT THEY HAVE IN PLACE WITH THEIR P&I CLUB THE STANDARD OIL POLLUTION COVER OF USD ONE BILLION OIL POLLUTION INSURANCE COVER AVAILABLE THROUGH THEIR P&I CLUB OR THROUGH UNDERWRITERS PROVIDING FIRST CLASS SECURITY.

B. THE OWNER WILL PROVIDE TO VML NO LESS THAN TEN (10) DAYS BEFORE THE VESSEL'S ARRIVAL IN ALASKAN WATERS A COPY OF THE INSURED'S CERTIFICATE OF ENTRY DOCUMENTING THE OIL POLLUTION COVERAGE MENTIONED IN (A) ABOVE WHICH IS ISSUED BY THE P&I CLUB.

C. THE OWNER WARRANTS THAT DURING THE TERM OF THIS AGREEMENT, THE PREMIUMS FOR P&I COVERAGE ARE FULLY PAID, AND THE VESSEL IS PROPERLY ENTERED IN THE P&I CLUB, WITH COVER FOR OIL POLLUTION LIABILITY UNDER FEDERAL AND ALASKA STATE LAW.

D. OWNER WARRANTS (A) THAT THE OWNER OR OPERATOR HAS SUBMITTED TO THE U.S. COAST GUARD FOR APPROVAL A RESPONSE PLAN FOR THE VESSEL ("VRP") WHICH MEETS THE REQUIREMENTS OF THE U.S. OIL POLLUTION ACT OF 1990, THE GOVERNMENTAL REGULATIONS ISSUED THEREUNDER, THE U.S. COAST GUARD NAVIGATIONAL AND VESSEL INSPECTION CIRCULAR NO. 8-92 AND ANY RULE OR REGULATIONS IN SUBSTITUTION OF, OR SUPPLEMENTARY TO, SUCH CIRCULAR AS IN EFFECT ON THE DATE OF THIS AGREEMENT (COLLECTIVELY "VRP REQUIREMENTS"). (B) THAT THE VRP SHALL BE APPROVED, AND THAT THE VESSEL OPERATED IN COMPLIANCE THEREWITH, AND (C) THAT THE OWNER SHALL ENSURE THAT THE OWNER OR OPERATOR OF THE VESSEL AND THE VESSEL FULLY MEET ALL OTHER REQUIREMENTS OF OPA '90 AND ANY GOVERNMENTAL REGULATIONS OR GUIDELINES ISSUED THEREUNDER AS IN EFFECT AS OF THE DATE OF THIS AGREEMENT.

E. VESSEL TO PROCEED INTO AND OUT OF ALASKAN WATERS AS THE MASTER DEEMS NECESSARY FOR THE SAFETY OF THE VESSEL.

IN ACCORDANCE WITH THE WARRANTS OUTLINED IN (A), (C) AND (D) ABOVE, OWNER HEREBY CONFIRMS COMPLIANCE AS REQUESTED:

RIMSCO



BY: FAZIL ALIEV  
TITLE: PRESIDENT

For

APPENDIX A

**OWNER'S POLLUTION LIABILITY INSURANCE AGREEMENT**

APPENDIX B

**ARBITRATION RULES**

1) Any and all differences and disputes of whatsoever nature arising out of this Agreement shall be put to arbitration in the City of Anchorage, Alaska pursuant to the laws relating to arbitration there in force, before a board of three persons, consisting of one arbitrator to be appointed by the Owner, one by VML, and one by the two so chosen. The arbitrators shall be commercial men conversant with shipping matters. The decision of any two of the three on any point or points shall be final. Until such time as the arbitrators finally close the hearings, either party shall have the right by written notice served on the arbitrator and on an officer of the other party to specify further disputes or differences under the Agreement for hearing and determination. The arbitrators may grant any relief which they, or a majority of them, deem just and equitable and within the scope of the agreement the parties, including, but not limited to, specific performance. Awards pursuant to this Clause may include costs, including a reasonable allowance for attorneys' fees, and judgement may be entered upon any award made hereunder in any Court having jurisdiction in the premises.

2) Any arbitration shall be conducted under maritime arbitration rules of the Society of Maritime Arbitrators, Inc.

A handwritten signature in black ink, appearing to be the initials 'MS' or similar, located below the second paragraph of text.

### 3.2.2. Tank Overflows

|     | <b>ACTION</b>  | <b>Person Responsible</b>             |
|-----|--|---------------------------------------|
| 1.  | Stop all handling pumps and shut down all valves to stop the transfer. Operations should not be restarted until the fault has been rectified and all hazards from the released oil have been eliminated. | Duty Engineer                         |
| 2.  | Inform the shore station. Inform the Master.   | Duty Officer<br>Duty Engineer         |
| 3.  | Activate the on board Emergency Organization. Clean up team will wear appropriate protective clothing, masks and /or breathing apparatus.  | Duty Officer                          |
| 4.  | If spilled oil is contained on board, use sorbents and permissible solvents to clean up spill.   | On board<br>Emergency<br>Organization |
| 5.  | Prepare portable pumps for transfer of oil into empty or slack tank.   | On board<br>Emergency<br>Organization |
| 6.  | Consider whether to stop air intake into accommodation or non essential air intake into engine room.   | Chief Engineer                        |
| 7.  | Transfer the oil from the overflow area to a sludge tank or drum.  | On board<br>Emergency<br>Organization |
| 8.  | The recovered oil and the used clean up material should be retained on board in proper containment units until it can be discharged to a reception facility.   | Chief Officer<br>Chief Engineer       |
| 9.  | Provide as much information as possible on the <i>IMO Incident Report Form A.851(20)</i> which can be found at the end of Chapter 2.   | Master                                |
| 10. | Send the supplementary and/or continuation information as provided on the Follow Up Report in Chapter 2.5.   | Master                                |
| 11. | Obtain permission to resume operations.  | Master                                |

**Figure 3.1-2**  
**CHARTER VESSEL REQUIREMENTS**  
**VITUS MARINE,LLC.**

The following requirements are applicable to all VML chartered petroleum tank vessels that transport bulk refined petroleum products. These requirements result from state and federal regulations as well as VML policy.

If there are any questions regarding these requirements, please contact:

Mr. Mark Smith  
Vitus Marine, LLC  
113 W. Northern Lights Blvd., Ste. 200  
Anchorage, AK 99503 USA  
Telephone: 907-278-6700  
Cell phone: 907-351-9745  
Facsimile: 907-278-6701  
Email: marks@vitusmarine.com

**ATTACHMENTS**

1. Copy of the Vitus Marine Chartered Tanker Operations Oil Discharge Prevention and Contingency Plan.

Vessel operators are required to read, understand, and comply with all provisions of this plan. The attached copy of this plan **MUST** be on board of the tank vessel prior to entering into state waters (three mile limit). In particular, operators are encouraged to carefully review the following sections:

- Section 1.1 – Emergency Action Checklist. This Section provides a list of immediate actions that should be taken in the event of an oil spill from your vessel. You will note that the actions to be taken in the event of a spill in open waters differ from that of a spill at the dockside.
- Section 1.2 – Reporting and Notifications. This section describes the reporting and notification requirements in the event of an oil spill including contact information.
- Section 2.1 Prevention Programs in Place. This section describes oil spill prevention measures that are required.
- Section 2.5 Discharge Detection Systems. This section describes minimum oil discharge detection systems that must be employed during tank vessel operations.
- Section 3.1 – Vessel Description and Operational Overview. This section describes the information that must be provided to the Alaska Department of Environmental Conservation as well as selected minimum standards for tank vessels.

2. State of Alaska Spill Reporting Placards.

One copy of these placards **MUST** be posted in a conspicuous location on board the tank vessel.

**INFORMATION AND DATA REQUIRED**

The following information and data is required to be provided to VML for each chartered vessel:

**Name of Qualified Individual:**  
 Company Name: ECN Maritime Services  
 Address: 3959 Electric Road SW - Ste. 200 VA 24018  
 Telephone: +1 540 400 6412  
 Facsimile: +1 540 400 6757  
 Emergency Contact Information: +1 203 857 0444

**Certification of Substance Abuse and Medical Monitoring Program:** All crewmembers involved with navigation, spill prevention, or spill response are enlisted in a Substance Abuse and Medical Monitoring Program by the tank vessel company that complies with the Vitus Marine, LLC Oil Discharge Prevention and Contingency Plan (See Sections 2.1.2 and 2.1.3 of this Plan). The program requires that tank vessel operational personnel undergo a medical examination prior to employment to verify that all personnel are medically fit to perform their prescribed duties. Crewmembers are subjected to random, unannounced substance abuse testing. All crewmembers are subject to substance abuse testing in accordance with USCG regulations including 33 CFR Section 16.240.

YSC "RIMS CO" \_\_\_\_\_ RA AM \_\_\_\_\_ December 12, 2011  
 Company Authorized Company Representative Date

**Certification of On-Board Copy of Vitus Marine Chartered Tanker Operations Oil Discharge Prevention and Contingency Plan:** A copy of the VML Oil Discharge Prevention and Contingency Plan, April, 2011, has been provided to the tank vessel company and will be placed on board the chartered tank vessel prior to entering and while operating in State of Alaska Waters. Tank Vessel Officers have reviewed the provisions and requirements of this plan and understand the spill notification, response operations, and prevention procedures listed within.

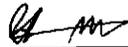
\_\_\_\_\_  
 Company Authorized Company Representative Date

**Certification of On-Board Copy of Alaska Department of Environmental Conservation's Discharge Reporting Placards:** A copy of the Alaska Department of Environmental Conservation's Discharge Reporting Placards has been provided to the tank vessel company and will be posted on board the chartered tank vessel prior to entering and while operating in State of Alaska Waters.

YSC "RIMS CO" \_\_\_\_\_ RA AM \_\_\_\_\_ December 12, 2011  
 Company Authorized Company Representative Date

**Certification of Fire Plan:** Chartered vessels maintain a fire plan that is meets or exceeds VML requirements (See Section 1.6.2 of the VML Oil Discharge Prevention and Contingency Plan) and a copy of this plan will be onboard the chartered vessel prior to entering State of Alaska waters.

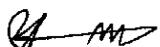
YSC Rimsco  
Company

  
Authorized Company Representative

December 12, 2011  
Date

**Certification of Established Methods to Stop a Discharge of Oil from the Chartered Vessel:** Chartered vessels maintain a vessel specific plan for stopping the discharge of oil from the vessel in the event of grounding or other accidents and incidents.

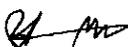
YSC Rimsco  
Company

  
Authorized Company Representative

December 12, 2011  
Date

**Certification of Vessel Inspection Program:** Chartered vessels undergo inspections that comply with United States Coast Guard, SOLAS requirements, and provisions established in the VML Oil Discharge Prevention and Contingency Plan. Chartered vessel owner must provide a detailed list of inspections (including the type of inspection and last date of inspection) to Vitus Marine, LLC.

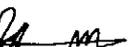
YSC Rimsco  
Company

  
Authorized Company Representative

December 12, 2011  
Date

**Certification of Oily Wastes Management:** The charter vessel owner certifies that oil wastes, including but not limited to slops and bilge oils, will not be discharge to State of Alaska waters nor transferred to shore side facility locations while at Alaska ports. Storage locations on board the chartered vessels (slop tanks and other storage areas) have been identified on the submitted vessel diagrams.

YSC Rimsco  
Company

  
Authorized Company Representative

December 12, 2011  
Date

**Certification of English Speaking Master:** The charter vessel owner certifies that while the vessel is laden with oil and underway in State of Alaska waters, or during the transfer of oil at the facility, the Master of the vessel will be fluent in the English language or will be accompanied by a person who is fluent in the Master's language and the English language.

YSC Rimsco  
Company

  
Authorized Company Representative

December 12, 2011  
Date

**Certification of Emergency Towing Package:** An emergency towing system is onboard the charter vessel which meets or exceeds SOLAS standards, a description of which will be provided to VML.

JSC "Rimseo"  
Company

[Signature]  
Authorized Representative

December 12, 2011  
Date

**Name of Oil Spill Prevention and Response Officer:**

Name: PYOLR P. BULNOV  
Address: 1, EKIPAZHNAYA STREET, OLBIVOSTOK, RUSSIA  
Telephone: +7 (423) 222-10-22  
Facsimile: +7 (423) 226-19-73  
Emergency Contact Information: +7 (423) 222-10-22

**Name of Tank Vessel Security Officer:**

Name: Sergey S Kopylov  
Address: \_\_\_\_\_  
Telephone: \_\_\_\_\_  
Facsimile: \_\_\_\_\_  
Emergency Contact Information: \_\_\_\_\_

**Certification of Air Monitoring Equipment:** A portable air monitoring instrument capable of measuring the level of flammable vapors (LEL) and percent oxygen (O2) in the air is onboard the charter vessel.

JSC "Rimseo"  
Company

[Signature]  
Authorized Company Representative

December 12, 2011  
Date

**OIL SPILL HISTORY**

Vessel Name: MT "Renda"

Below, list all oil spills for this vessel that have been greater than 55 gallons in size, including date, location, cause of spill, and remedies implemented to prevent further oil spills. Attach additional sheets as necessary.

*[Handwritten scribbles on lined paper]*

*This response scenario has been developed for the T/V Renda Nome winter fuel delivery spot charter. This represents a hypothetical response to a large (Response Planning Standard sized) oil spill scenarios from the T/V Renda. The scenario is presented to demonstrate the potential spill response activities that might occur following incidents of this nature and to demonstrate access to the necessary equipment resources. The actual response to any oil spill and the performance of the response systems will be largely dependent on actual incident characteristics and environmental conditions at the time of the incident.*

**VML Nome Winter Fuel Delivery - RPS 5,400 BARRELS DIESEL FUEL NO. 1**

This spill scenario presents the hypothetical oil spill response for a large oil spill originating from the T/V Renda while preparing to conduct over ice transfer operations to the SE of the breakwater. In this scenario, the spill occurs to the waters of Norton Sound. This scenario results in an oil spill that is above the Response Planning Standard of 5,400 barrels. It is designed to demonstrate the ability of VML to respond to an event of this size and magnitude in winter ice conditions.

| <b>RESPONSE TYPE:</b>  | <b>TYPE / AMOUNT:</b>  |
|--|--|
| On ice, under ice and water Response: VML/Nome Operators / Alaska Chadux | Cargo On Board: Diesel Fuel #1 – 36,163 bbls<br>RPS Volume Spilled: 5,400 bbls<br>Potential Spill Volume: 8,714.5 bbls (100% of #2 deep and wing tank) |

**INCIDENT CAUSE / SOURCE**  
While preparing to offload to the Bonanza Fuel Terminal from shore fast ice east of the breakwater, the tanker loaded with No. 1 Diesel cargo, strikes an unknown submerged object. Oil is seen bubbling to the surface on the port side. Oil is spilling from multiple tanks into the water.

|                    |            |                           |   |
|--------------------|------------|---------------------------|---|
| <b>TIME:</b>       | 0900       | <b>WIND:</b>              | 5 S.W.  |
| <b>SEASON:</b>     | Winter     | <b>TEMPERATURE:</b>       | -4 to 12 Degrees  |
| <b>ICE TYPE:</b>   | Shore Fast | <b>AVG. ICE THICKNESS</b> | 24-36 inches  |
| <b>VISIBILITY:</b> | 10 nm      | <b>LOCATION:</b>          | 900 ft SE of Nome City Dock on east side of breakwater. |

- ASSUMPTIONS:**
- Ice conditions will be evaluated prior to the arrival of the T/V Renda.
  - Safe to commence response operations after initial evaluation.
  - Ice evaluation conducted prior to vessels arrival in Nome.
  - Shore fast ice condition is safe for equipment and personnel operations.
  - The cause of the spill has no impact on the size or duration of the spill event.
  - Evaporation and emulsification are not considered.
  - No injuries are associated with the incident.
  - Quantity of oil to the Ice, under the ice and Water: 6,971.6 barrels of No. 1 diesel oil is spilled from the cargo tanks directly onto the ice and open water from forward of the tankers manifold during the first 12 hours of the incident.
  - Recovered liquid storage will utilize empty Bonanza Fuel tank farm tankage. Prior to the transfer of fuel, (3) 610,000 tanks will be available, at the completion of the transfer (1) 610,000 tank will remain empty and available for storage.

## **Sea Ice Formation**

As the ocean water begins to freeze, small needle-like ice crystals form called frazil form. These crystals are typically 3 to 4 millimeters in diameter. Because salt doesn't freeze, the crystals expel salt into the water, and frazil crystals consist of nearly pure fresh water.

Sheets of sea ice form when frazil crystals float to the surface, accumulate and bond together. Depending on the climatic conditions, sheets can develop from grease and congelation ice, or from pancake ice.

## **Ice Types**

### **Blue Ice**

Blue Ice is the natural thickening of ice through a normal freezing process. Blue ice is clear in texture and has the maximum allowable bearing capacity of all ice.

### **White Ice**

White Ice can occur naturally or is produced by flooding. White ice is white in texture and is considered to have only 50% of the load bearing capacity of blue ice.

### **Grey Ice**

Grey Ice forms from thawing and indicates the presence of water running through the ice and should not be trusted as a load bearing surface.

## **Ice Thickness**

Three types of ice may typically be encountered. 1) Blue Ice, which is strongest. 2) White Ice is less dense and, therefore, weaker than blue ice. 3) Grey Ice, which is indicative of thawing ice and water. Grey ice is not considered load-bearing ice. Only the thickness of largest continuously frozen ice layer is to be considered in determining the ice thickness. The maximum thickness to be used for determining bearing capacity is the minimum thickness determined during sampling.

Ice thickness is calculated by using blue ice as the reference. Ice thickness is determined by adding the full thickness of blue ice to half the thickness of white ice. For example: a sample indicates 6 inches of blue ice and 10 inches of white ice. The equivalent thickness of blue ice would be 6 inches of blue ice plus 5 inches (half the 10 inches of white ice) for a total of 11 inches.

## **Bearing Capacity of Ice**

Cracks in the ice can affect its bearing capacity. A wet crack indicates a shearing or fracture of the ice through to the water below. Conversely, dry cracks have not penetrated the ice through to the water.

Filling in with water or slush can repair dry cracks. Wet cracks are already filled in with water and can refreeze as strong as the original ice. Sampling should be conducted to determine the depth of healing of wet cracks when they refreeze.

### Minimum Ice Thickness Required to Support a Load

| Load (tons) | Required Ice Thickness (inches) | Distance Between Loads (feet) |
|-------------|---------------------------------|-------------------------------|
| 0.1         | 2                               | 17                            |
| 1           | 4                               | 34                            |
| 2           | 6                               | 48                            |
| 3           | 7                               | 58                            |
| 4           | 8                               | 67                            |
| 5           | 9                               | 75                            |
| 10          | 13                              | 106                           |
| 20          | 18                              | 149                           |
| 30          | 22                              | 183                           |
| 40          | 26                              | 211                           |

Source: US Army Cold Regions Research and Engineering Laboratory

| Safe Load              | Operation     | Fresh Ice | Sea Ice |
|------------------------|---------------|-----------|---------|
| One person             | At rest       | 8 cm      | 13 cm   |
| 0.4 ton                | Moving slowly | 10 cm     | 18 cm   |
| 2 ton vehicle          | Moving slowly | 25 cm *   | 40 cm * |
| 10 ton tracked vehicle | Moving slowly | 43 cm     | 66 cm   |
| 13 ton aircraft        | Parked        | 61 cm     | 102 cm  |

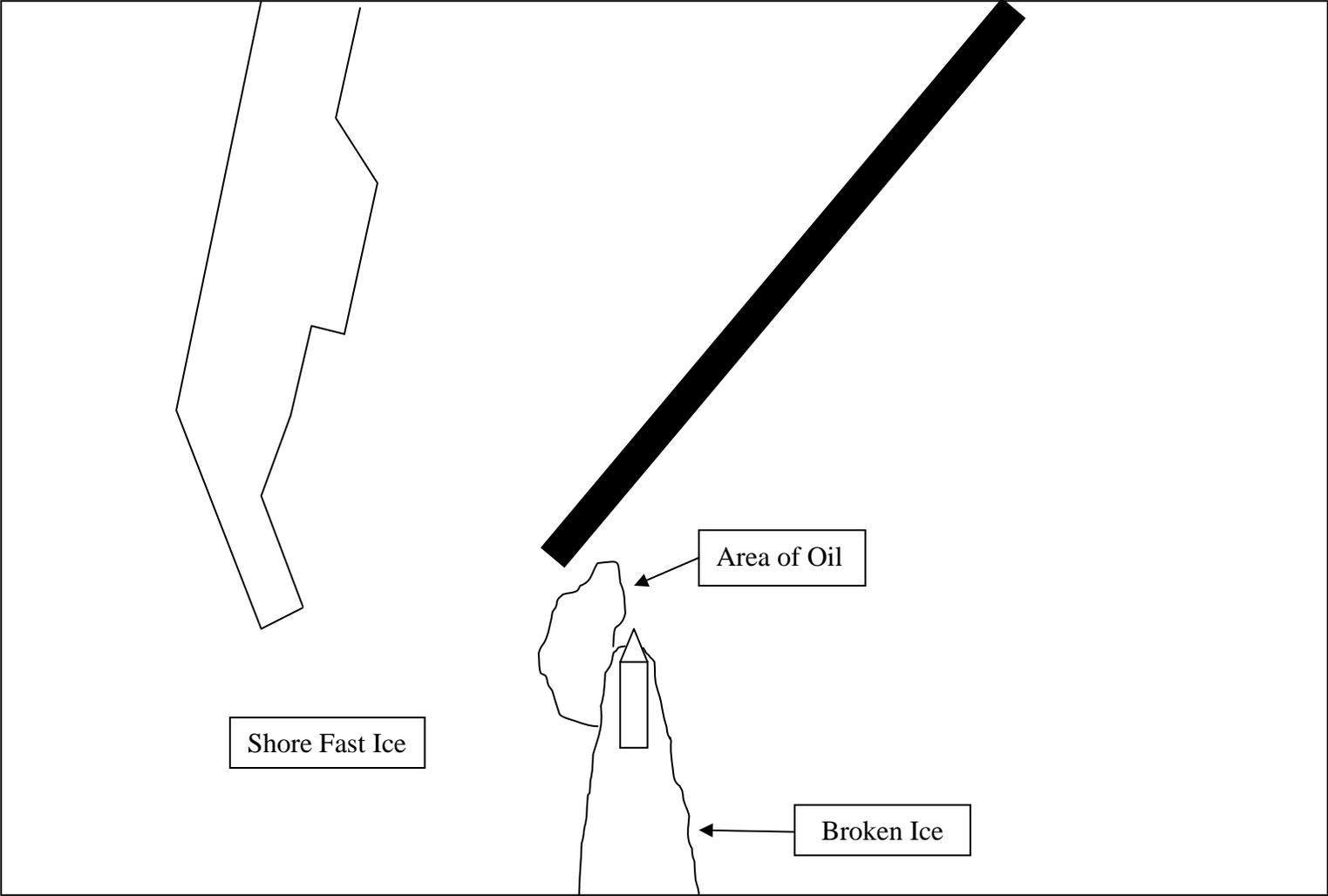
\*estimated numbers, not provided in original table

Source: E.R. Pounder

## General Response Objectives and Strategies

| Objectives                               | Strategies   |
|--|--|
| Safety                                   | <ul style="list-style-type: none"> <li>• Ensure safety of all responders</li> <li>• Ensure safety of vessel and crew</li> <li>• Secure response area (Air and Water)</li> <li>• Empower workers to take actions to ensure safety.</li> </ul>   |
| Source Control                           | <ul style="list-style-type: none"> <li>• Secure tank vessel and oil leakage</li> <li>• Identify onboard oil quantity</li> <li>• Evaluate cargo transfer opportunities (lightering/internal transfer)</li> </ul>  |
| Containment, Control and Recovery of Oil | <ul style="list-style-type: none"> <li>• Maximize mechanical containment, control and recovery of oil</li> <li>• Control of source</li> <li>• Minimize impact</li> <li>• Prepare required permitting</li> </ul>  |
| Protection of Sensitive Resources        | <ul style="list-style-type: none"> <li>• Identify, prioritize and protect sensitive resources in the spill area</li> <li>• Minimize oiling of sensitive areas</li> <li>• Protect wildlife resources and haze if necessary.</li> <li>• Confer with the State Historic Preservation Officer on work areas to identify potential culturally sensitive areas.</li> </ul> |
| Public Outreach                          | <ul style="list-style-type: none"> <li>• Communicate with affected community</li> <li>• Utilize local media to distribute information</li> <li>• Establish claims process</li> </ul>   |
| Others if/as necessary                   |  |

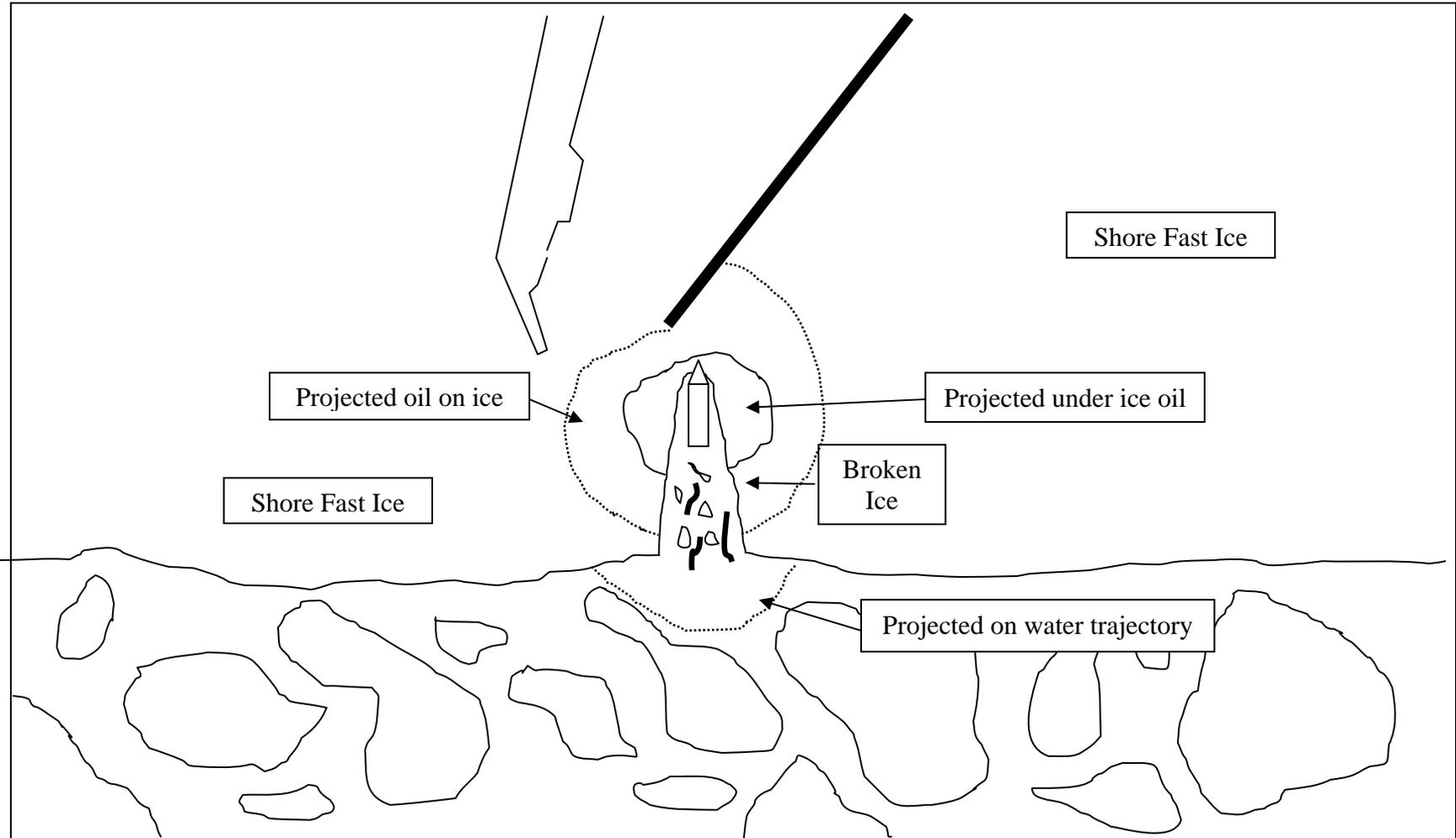
**SPILL LOCATION CHART**  
**0900 hours Day 1**



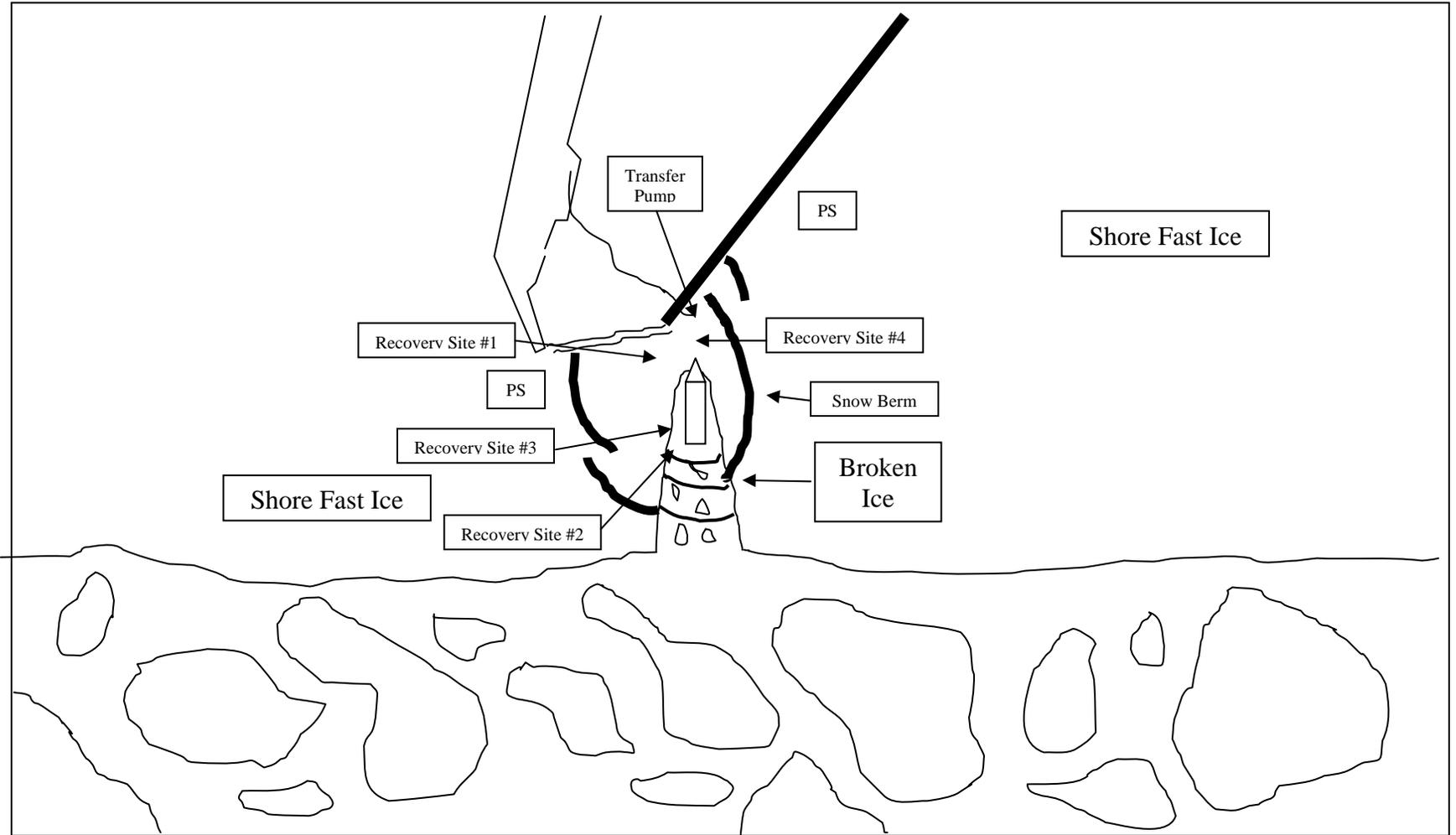
**SPILL TRAJECTORY/OVERFLIGHT CHART**

**1300 hours Day 1 Over Flight**

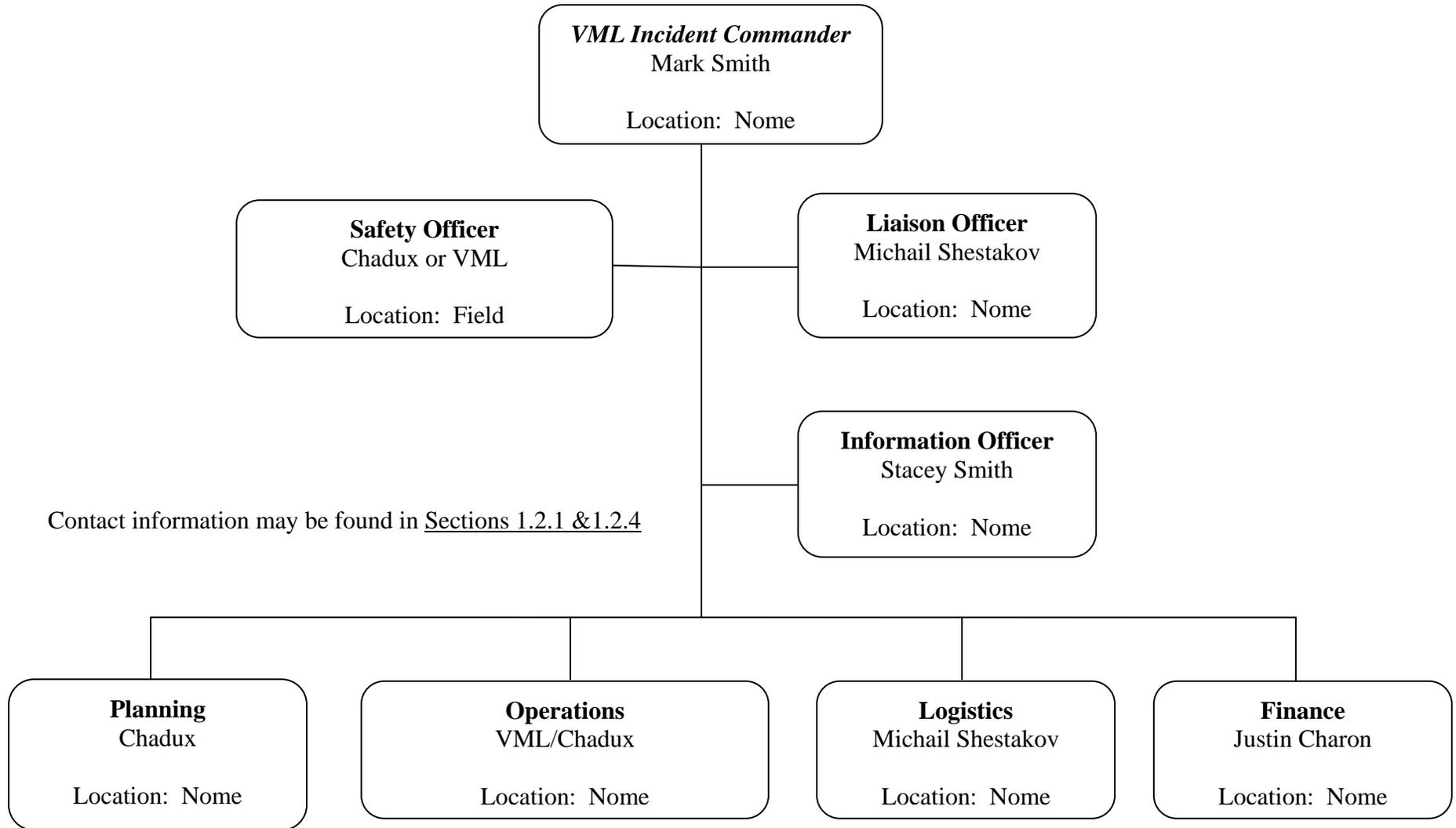
**24 hour Spill Trajectory**



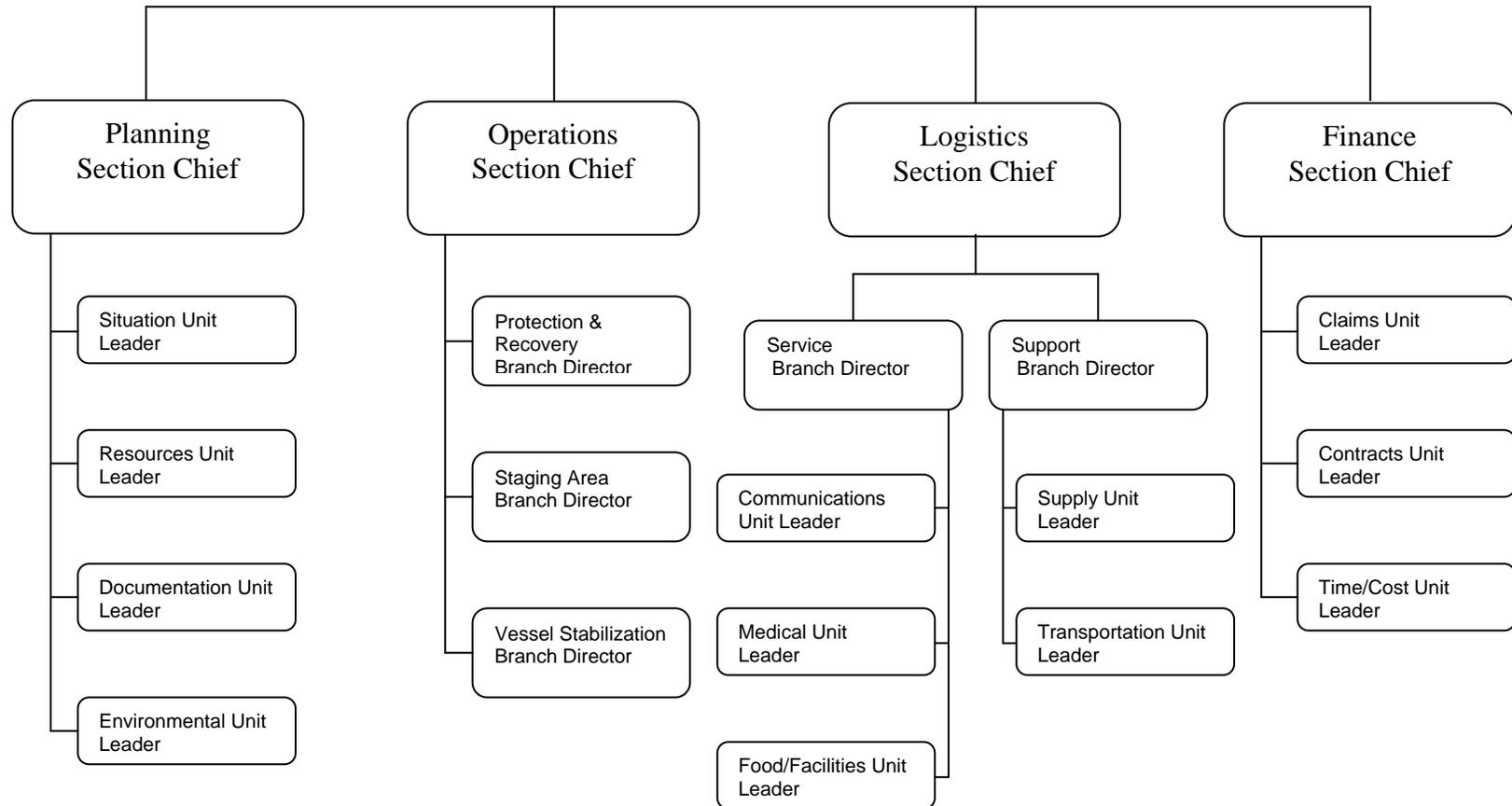
# DEPLOYMENT LOCATIONS



## INCIDENT MANAGEMENT TEAM



## INCIDENT MANAGEMENT TEAM (Continued)



## TACTICAL OBJECTIVES – DAY 1

| <b>Command and Command Staff</b> |   |   |
|----------------------------------|---|---|
|                                  | <b>0900 - 1200 hours</b>  | <b>1200 – 1800 hours</b>  |
| Unified Command                  | <p>Activate VML IMT.<br/>                     Establish Unified Command in Nome.<br/>                     Brief personnel on situation.<br/>                     Develop priorities and objectives<br/>                     Ensure effective oil containment, control, and recovery</p> | <p>Develop priorities and objectives.<br/>                     Ensure effective oil containment, control, and recovery.<br/>                     Communicate changes of plans and priorities with IMT and field.</p>                                  |
| Liaison                          | <p>Ensure affected communities are notified of spill.<br/>                     Ensure additional agencies are notified of spill.</p>  | <p>Identify stakeholder contacts.<br/>                     Establish contact list and schedule.<br/>                     Continue community and stakeholder updates.<br/>                     Conduct agency updates.</p>                             |
| Public Information               | <p>Prepare public information release for approval of UC.<br/>                     Establish internal/external information procedures..</p>   | <p>Establish Joint Information Center for distribution of information.<br/>                     Schedule media briefing.<br/>                     Prepare UC for media briefings.<br/>                     Conduct UC media briefings.</p>            |
| Safety                           | <p>Conduct initial site survey.<br/>                     Develop site safety plan.<br/>                     Provide safety briefing to all personnel</p>  | <p>Provide safety briefing to all personnel.<br/>                     Continue to monitor safety of personnel.<br/>                     Establish emergency medical service.<br/>                     Submit site safety plan to UC for approval.</p> |

| <b>Planning Section</b> |  |  |
|-------------------------|--|--|
|                         | <b>0900 - 1200 hours</b>   | <b>1200 – 1800 hours</b>   |
| Planning Section        | <p>Identify and request required permits.<br/>                     Prepare permit application for decanting and submit for approval.</p> | <p>Establish meeting schedule.<br/>                     Start the development of Incident Action Plan.<br/>                     Facilitate meetings.</p>   |
| Documentation Unit      |  | <p>Establish records procedures.<br/>                     Begin collection of documentation.<br/>                     Begin historical recording of activities.</p>  |
| Resource Unit           |  | <p>Identify resource needs and potential sources.<br/>                     Complete Org Chart (ICS 207)<br/>                     Develop personnel and equipment tracking procedures.<br/>                     Maintain master list of resources checked in.</p> |
| Situation Unit          |  | <p>Establish information protocols.<br/>                     Start Situation board.<br/>                     Post and manage displays.</p>   |
| Environmental Unit      | <p>Identify and prioritize environmentally sensitive areas.</p>  | <p>Prepare permit applications in support of UC objectives.<br/>                     Request trajectory assistance from NOAA.</p>  |

| <b>Operations Section</b>   |   |
|---|---|
| <b>0900 - 1200 hours</b>  | <b>1200 – 1800 hours</b>  |
| <p>Deploy 3 strings of containment in the open water behind the T/V Renda.<br/>           Build snow berms to contain oil on the snow and ice.<br/>           Establish open water recovery operation at T/V Renda.</p> | <p>Conduct over flights.<br/>           Continue containment operations.<br/>           Establish Recovery Site #1 at spill site.</p> |

| <b>Logistics Section</b>  |  |
|---|--|
| <b>0900 - 1200 hours</b>  | <b>1200 – 1800 hours</b>   |
| <p>Mobilize Chadux equipment and personnel in Anchorage.<br/>           Establish staging area in Nome.<br/>           Establish ordering procedures.</p> | <p>Establish Incident Command Post in Nome.<br/>           Establish housing in Nome.<br/>           Establish meal services.<br/>           Establish port-a-potty rental for field use.<br/>           Establish transportation contract for mini bus service.<br/>           Develop communications plan.</p> |

| <b>Finance Section</b>   |  |
|--------------------------|--|
| <b>0900 - 1200 hours</b> | <b>1200 – 1800 hours</b>   |
|                          | <p>Begin tracking all expenditures.<br/>           Prepare contracts/agreements for vendors.<br/>           Contact insurance carrier.</p> |

| <b>Command and Command Staff</b> |  |   |
|----------------------------------|--|---|
|                                  | <b>1800 - 0000 hours</b>   | <b>0000 – 0600 hours</b>  |
| Unified Command                  | Develop priorities and objectives.<br>Ensure effective containment, control and recovery.<br>Communicate changes of plans and priorities with IMT and field. | Develop priorities and objectives.<br>Ensure effective containment, control and recovery.<br>Communicate changes of plans and priorities with IMT and field.<br>Approve Incident Action Plan for next operational period. |
| Liaison                          | Continue community and stakeholder updates.<br>Maintain contact list and schedule.   | Continue community and stakeholder updates.<br>Maintain contact list and schedule.  |
| Public Information               | Schedule media briefings.<br>Prepare UC for media briefings.<br>Conduct UC media briefings.  | Schedule media briefings.<br>Prepare UC for media briefings.<br>Conduct UC media briefings.   |
| Safety                           | Provide safety briefing to all personnel.<br>Continue to monitor safety of personnel.  | Provide safety briefing to all personnel.<br>Continue to monitor safety of personnel.<br>Submit site safety plan to UC for approval.  |

| <b>Planning Section</b> |   |   |
|-------------------------|---|---|
|                         | <b>1800 - 0000 hours</b>  | <b>0000 – 0600 hours</b>  |
| Planning Section        | Maintain meeting schedule.<br>Facilitate meetings.  | Maintain meeting schedule.<br>Facilitate meetings.<br>Submit Incident Action Plan (IAP) for UC approval.  |
| Documentation Unit      | Maintain all spill documents and files.   | Maintain all spill documents and files.<br>Distribute IAP   |
| Resource Unit           | Maintain Personnel and equipment tracking.<br>Maintain master list of resources.<br>Prepare requisitions.   | Maintain Personnel and equipment tracking.<br>Maintain master list of resources.<br>Prepare requisitions.   |
| Situation Unit          | Maintain and update situation board.<br>Post and manage displays.   | Maintain and update situation board.<br>Post and manage displays.   |
| Environmental Unit      | Maintain communications with permitting agencies.<br>Continue review of permits and applications.<br>Work with the City of Nome to identify other potential areas of concern. | Maintain communications with permitting agencies.<br>Continue review of permits and applications.<br>Work with the City of Nome to identify other potential areas of concern. |

| <b>Operations Section</b>   |  |
|---|--|
| <b>1800 - 0000 hours</b>  | <b>0000 – 0600 hours</b>   |
| Continue containment and recovery operations.<br>Establish portable heated shelter at spill site. | Continue containment and recovery operations.<br>Establish on water recovery operations (Recovery Site #2 & #3). |

| <b>Logistics Section</b>  |   |
|---|---|
| <b>1800 - 0000 hours</b>  | <b>0000 – 0600 hours</b>  |
| Provide personnel transportation between housing and staging area.<br>Operate staging area and provide equipment maintenance, resupply, and field services.<br>Receive personnel and equipment. | Provide personnel transportation between housing and staging area.<br>Operate staging area and provide equipment maintenance, resupply, and field services. |

| <b>Finance Section</b>  |   |
|---|---|
| <b>1800 - 0000 hours</b>  | <b>0000 – 0600 hours</b>  |
| Prepare contracts/agreements for vendors.<br>Maintain time records. | Prepare contracts/agreements for vendors.<br>Contact insurance carrier.<br>Maintain time records. |

## TACTICAL OBJECTIVES – DAY 2

| <b>Command and Command Staff</b> |  |  |
|----------------------------------|--|--|
|                                  | <b>0600 – 1800 hours</b>   | <b>1800 – 0600 hours</b>   |
| Unified Command                  | Develop priorities and objectives.<br>Ensure effective oil containment, control, and recovery.<br>Communicate changes of plans and priorities with IMT and field.<br>Approve Incident Action Plan for next operational period. | Develop priorities and objectives.<br>Ensure effective oil containment, control, and recovery.<br>Communicate changes of plans and priorities with IMT and field.<br>Approve Incident Action Plan for next operational period. |
| Liaison                          | Continue community and stakeholder updates.<br>Conduct agency updates.<br>Maintain contact list and schedule.  | Continue community and stakeholder updates.<br>Conduct agency updates.<br>Maintain contact list and schedule.  |
| Public Information               | Schedule media briefings.<br>Prepare UC for media briefings.<br>Conduct UC media briefings.  | Schedule media briefings.<br>Prepare UC for media briefings.<br>Conduct UC media briefings.  |
| Safety                           | Provide safety briefing to all personnel.<br>Continue to monitor safety of personnel.<br>Review and revise safety plan as necessary.   | Provide safety briefing to all personnel.<br>Continue to monitor safety of personnel.<br>Review and revise safety plan as necessary.   |

| <b>Planning Section</b> |  |   |
|-------------------------|--|---|
|                         | <b>0600 – 1800 hours</b>   | <b>1800 – 0600 hours</b>  |
| Planning Section        | Maintain meeting schedule.<br>Facilitate meetings.<br>Submit Incident Action Plan (IAP) for UC approval.   | Maintain meeting schedule.<br>Facilitate meetings.<br>Submit Incident Action Plan (IAP) for UC approval.  |
| Documentation Unit      | Maintain all spill documents and files.<br>Distribute IAP  | Maintain all spill documents and files.<br>Distribute IAP   |
| Resource Unit           | Maintain personnel and equipment tracking.<br>Maintain master list of resources.<br>Prepare requisitions.  | Maintain personnel and equipment tracking.<br>Maintain master list of resources.<br>Prepare requisitions.   |
| Situation Unit          | Maintain and update Situation Board.<br>Post and manage displays.  | Maintain and update Situation Board.<br>Post and manage displays.   |
| Environmental Unit      | Maintain communications with permitting agencies.<br>Continue review of permits and applications.<br>Work with the City of Nome to identify other potential areas of concern.<br>Develop Wildlife Protection Plan. | Maintain communications with permitting agencies.<br>Continue review of permits and applications.<br>Work with the City of Nome to identify other potential areas of concern. |

| <b>Operations Section</b>   |  |
|---|--|
| <b>0600 – 1800 hours</b>  | <b>1800 – 0600 hours</b>   |
| <p>Continue containment, recovery and transfer operations.<br/>           Establish on ice recovery operation at spill site (Recovery Site #4)<br/>           Clear and stack snow from ice at Recovery Site #1 to enhance oil drainage.<br/>           Create recovery trench and sump at Recovery Site #1 using tactic #4.<br/>           Establish recovery operation at trench using tactic #11</p> | <p>Continue containment, recovery and transfer operations.<br/>           Create contaminated snow storage area at the BFI tank farm.<br/>           Begin removing lightly to moderately contaminated snow from spill area.</p> |

| <b>Logistics Section</b>   |  |
|--|--|
| <b>0600 – 1800 hours</b>   | <b>1800 – 0600 hours</b>   |
| <p>Receive personnel and equipment. Provide job assignments and briefing.<br/>           Maintain meals and lodging.<br/>           Maintain staging areas and dispatch equipment and personnel as necessary.<br/>           Maintain and expand transportation resources to meet needs.</p> | <p>Receive personnel and equipment. Provide job assignments and briefing.<br/>           Maintain meals and lodging.<br/>           Maintain staging areas and dispatch equipment and personnel as necessary.<br/>           Maintain and expand transportation resources to meet needs.</p> |

| <b>Finance Section</b>  |  |
|---|--|
| <b>0600 – 1800 hours</b>  | <b>1800 – 0600 hours</b>   |
| <p>Prepare contracts/agreements for vendors<br/>           Begin processing damage claims.<br/>           Maintain time records</p> | <p>Prepare contracts/agreements for vendors<br/>           Process damage claims.<br/>           Maintain time records</p> |

## TACTICAL OBJECTIVES – DAY 3

| <b>Command and Command Staff</b> |  |  |
|----------------------------------|--|--|
|                                  | <b>0600 – 1800 hours</b>   | <b>1800 – 0600 hours</b>   |
| Unified Command                  | Develop priorities and objectives.<br>Ensure effective oil containment, control, and recovery.<br>Communicate changes of plans and priorities with IMT and field.<br>Approve Incident Action Plan for next operational period. | Develop priorities and objectives.<br>Ensure effective oil containment, control, and recovery.<br>Communicate changes of plans and priorities with IMT and field.<br>Approve Incident Action Plan for next operational period. |
| Liaison                          | Continue community and stakeholder updates.<br>Conduct agency updates.<br>Maintain contact list and schedule.  | Continue community and stakeholder updates.<br>Conduct agency updates.<br>Maintain contact list and schedule.  |
| Public Information               | Schedule media briefings.<br>Prepare UC for media briefings.<br>Conduct UC media briefings.  | Schedule media briefings.<br>Prepare UC for media briefings.<br>Conduct UC media briefings.  |
| Safety                           | Provide safety briefing to all personnel.<br>Continue to monitor safety of personnel.<br>Review and revise safety plan as necessary.   | Provide safety briefing to all personnel.<br>Continue to monitor safety of personnel.<br>Review and revise safety plan as necessary.   |

| <b>Planning Section</b> |   |   |
|-------------------------|---|---|
|                         | <b>0600 – 1800 hours</b>  | <b>1800 – 0600 hours</b>  |
| Planning Section        | Maintain meeting schedule.<br>Facilitate meetings.<br>Submit Incident Action Plan (IAP) for UC approval.  | Maintain meeting schedule.<br>Facilitate meetings.<br>Submit Incident Action Plan (IAP) for UC approval.  |
| Documentation Unit      | Maintain all spill documents and files.<br>Distribute IAP   | Maintain all spill documents and files.<br>Distribute IAP   |
| Resource Unit           | Maintain personnel and equipment tracking.<br>Maintain master list of resources.<br>Prepare requisitions.   | Maintain personnel and equipment tracking.<br>Maintain master list of resources.<br>Prepare requisitions. |
| Situation Unit          | Maintain and update Situation Board.<br>Post and manage displays.   | Maintain and update Situation Board.<br>Post and manage displays.   |
| Environmental Unit      | Maintain communications with permitting agencies.<br>Continue review of permits and applications.<br>Develop Waste Management Plan for UC approval. | Maintain communications with permitting agencies.<br>Continue review of permits and applications.         |

| <b>Operations Section</b>  |   |
|--|---|
| <b>0600 – 1800 hours</b>   | <b>1800 – 0600 hours</b>  |
| Continue containment, recovery and transfer operations.<br>Identify areas of oil under ice and map for future recovery operations. | Continue containment, recovery and transfer operations.<br>Develop plan for the recovery of oil trapped under ice based on the results of sampling and mapping. |

| <b>Logistics Section</b>  |   |
|---|---|
| <b>0600 – 1800 hours</b>  | <b>1800 – 0600 hours</b>  |
| Receive personnel and equipment. Provide job assignments and briefing.<br>Maintain meals and lodging.<br>Maintain staging areas and dispatch equipment and personnel as necessary.<br>Maintain and expand transportation resources to meet needs. | Receive personnel and equipment. Provide job assignments and briefing.<br>Maintain meals and lodging.<br>Maintain staging areas and dispatch equipment and personnel as necessary.<br>Maintain and expand transportation resources to meet needs. |

| <b>Finance Section</b>   |  |
|--|--|
| <b>0600 – 1800 hours</b>   | <b>1800 – 0600 hours</b>   |
| Prepare contracts/agreements for vendors<br>Begin processing damage claims.<br>Maintain time records | Prepare contracts/agreements for vendors<br>Begin processing damage claims.<br>Maintain time records |

**NOME WINTER SCENARIO STRATEGY – DAY 1**

| ADEC Requirement<br>18 AAC<br>75.425(e)(1)(F) | Timeline – Actions Taken<br>Day 1<br>0900 -1200 hours   | VML<br>CPLAN<br>Section<br>Reference   | Timeline – Actions Taken<br>Day 1<br>1200 – 1800 hours   | VML<br>CPLAN<br>Section<br>Reference |
|---|---|--|--|--------------------------------------|
| Safety  | <ul style="list-style-type: none"> <li>• Master sounds general alarm</li> <li>• Master accounts for the safety of all hands</li> <li>• VML Tankerman on-site acts as Safety Officer.</li> <li>• Conduct Initial Safety Assessment – Site was found to be safe.</li> <li>• Develop site safety plan.</li> <li>• Conduct initial safety briefing</li> <li>• Ensure all personnel working on ice have PFDs.</li> </ul>   | 1.1.1<br>1.3.3<br>1.3.4<br>Fig. 1.3-1  | <ul style="list-style-type: none"> <li>• Provide briefing to all new personnel.</li> <li>• Ensure personnel on ice and in small boats have PFD's.</li> <li>• Monitor safety of personnel.</li> <li>• Submit safety plan to Unified Command for approval.</li> <li>• Review safety plan and make adjustments as necessary.</li> </ul> |                                      |
| Notification                                  | <ul style="list-style-type: none"> <li>• VML QI/Representative notified by tanker's Master</li> <li>• VML QI/Representative activates the VML IMT.</li> <li>• NRC &amp; ADEC Notified by VML QI/Representative</li> <li>• Bonanza Fuel notifies Nome Responders and Operators and request assistance through the Nome Oil Spill Response Resources Memorandum of Understanding. Vitus Marine and Bonanza Fuel have contract for response as contained in SOCT.</li> <li>• Chadux Notified by the VML QI/Representative, request for equipment, personnel, and management resources.</li> <li>• VML QI/Representative notifies ship's Salvage and Marine Firefighting Provider of incident and that additional assistance will be required.</li> <li>• Notification of City of Nome</li> </ul> | 1.2.1<br>1.2.3<br>1.2.4.4<br>Fig.1.2-1<br>Fig. 1.2-2<br>Fig. 1.2-3<br>Fig. 1.2-4 | <ul style="list-style-type: none"> <li>• Follow up information request will be handled by Liaison.</li> </ul>  |                                      |
| Stopping Discharge at Source and Lightering   | <ul style="list-style-type: none"> <li>• Secure all vessel tank valves</li> <li>• Evaluate plugging vents and all other control options</li> <li>• Chief Mate and Deckhand sound tanks – The #2 PS and #2 Deeptank are damaged. Oil continues to leak from damaged tanks.</li> <li>• Chief Mate and Deckhand transfer as much oil as possible from damaged tanks.</li> <li>• Engineer and Deckhand perform damage assessment and perform initial stability calculations.</li> <li>• Request tanker stability report from salvage services provider.</li> </ul>  | 1.6.1  | <ul style="list-style-type: none"> <li>• Continue to sound tank regularly.</li> <li>• Oil is continuing to leak from damaged tanks.</li> </ul>   | 1.6.1                                |

|   |  |                       |   |       |
|---|--|-----------------------|---|-------|
| Preventing or Controlling Fire Hazards                                    | <ul style="list-style-type: none"> <li>Secure potential ignition sources.</li> <li>Prepare firefighting equipment.</li> <li>Monitor air levels for flammable vapors.</li> </ul>  | 1.6.2                 | <ul style="list-style-type: none"> <li>Monitor air levels for flammable vapors</li> </ul>   | 1.6.2 |
| Surveillance and Tracking of Oil; Forecasting Shoreline Contact Points    | <ul style="list-style-type: none"> <li>Tanker crew conducts visual surveillance from the bridge.</li> <li>Request NOAA provide assistance with developing a trajectory forecast for oil in open water and under ice.</li> </ul>  | 1.6.3.1<br>Fig. 1.6-9 | <ul style="list-style-type: none"> <li>Visual surveillance is conducted from bridge of tanker.</li> <li>Conduct over flight. Over flights can only be conducted during day light hours for safety. <ul style="list-style-type: none"> <li>Large amount of oil near the tanker, which is partially being contained by the ice and boom deployed aft of the tanker.</li> <li>Uncontained oil appears to be moving to the NW towards the entrance of the Harbor and to the NE on top of the ice. Oil is visible at the stern of the T/V Renda in the open water and broken ice. Containment boom appears to be collecting the majority of the oil on the water. Streamers of heavy sheen are visible beyond the boom.</li> </ul> </li> </ul>   |       |
| Protection of Environmentally Sensitive Areas and Areas of Public Concern | <ul style="list-style-type: none"> <li>Establish contact with ADF&amp;G and USFWS to identify and prioritize possible ESA's affected. <ul style="list-style-type: none"> <li>No ADF&amp;G MESA areas near Nome.</li> <li>No ADF&amp;G Protected or Controlled use areas near Nome.</li> <li>No Endangered Species identified near Nome in winter.</li> </ul> </li> <li>Contact the City of Nome to assist in identifying areas of public concern.</li> </ul>   | 3.10.3                | <ul style="list-style-type: none"> <li>Confer with local seal hunters and ice crabbers to identify any potential populations or areas that could be affected by the spill. Identify any recent wildlife observations, the species observed, amount of current hunting activity and historical subsistence hunting in area of the spill.</li> </ul>  |       |
| Spill Containment and Control Actions & Spill Recovery Procedures         | <ul style="list-style-type: none"> <li>16 Nome Responders are mobilized to Bonanza Fuel Tank Farm Garage for briefing and assignments. 10 responders from BFI, 2 responders from City of Nome, 2 responders from Crowley and 2 tankermen from VML. Mobilization time is estimated at 1 hour.</li> <li>Deploy containment boom at the rear of the T/V Renda in the open water. String 3 booms with 50 ft between each. This will require 900 ft of boom from the Chadux Nome inventory, BFI snowcat and large cargo sled and 6 responders. Rebar spikes are used as ice anchors to hold boom in place. Drive the rebar into the ice approximately 5 feet from the ice edge and use line to tie boom to rebar. Mobilization time estimated at 1 hour. Deployment time estimated at 1.5 hours. Driving</li> </ul> |                       | <ul style="list-style-type: none"> <li>1 st Cargo aircraft being loaded with equipment in Anchorage.</li> <li>Deployment of 3 400' sections of 4" cargo hose from the T/V Renda from the spill site to the shoreside header. The T/V Renda will use its midships crane to lower the hose sections to the snowcat trailer on the Stbd side of the vessel. The responders will lay the hose sections from the spill site, over the breakwater to the shoreside header. Each hose connection will be inspected to ensure gaskets are in good condition and tighten threaded connections hand tight and then tighten with a wrench. This task will require the use of the BFI snowcat with trailer and 4 responders. Estimated time to mobilize is 45 minutes. Estimated time to deploy is</li> </ul> |       |

|  |  |  |  |  |
|--|--|--|--|--|
|  | <p>over ice is limited to 10 mph to prevent the generation of waves below the ice. Snowcat is to stay at least 20 feet from ice edge for safety.</p> <ul style="list-style-type: none"> <li>• Establish Unified Command at the Old St. Joe's Civic Center.</li> <li>• Construct snow berms for containment of the oil on the snow and ice using tactic #3 with 2 crews. Utilize the 2 BFI Bobcat loaders with buckets. Mobilization time estimated at 45 minutes. Completion time is estimated at 1 to 2 hours. Bobcats work from opposite ends of the spill area and work towards the center. All over ice driving is to be limited to 10 mph to prevent wave generation below the ice. Bobcats are to stay 50 ft from ice edge for safety.</li> <li>• Chadux mobilizes C-130 aircraft for equipment transport. Mobilization time for aircraft and crew is estimated at 3 to 4 hours.</li> <li>• Chadux mobilizes SAAB aircraft for initial personnel transport. Mobilization time is estimated at 2 to 3 hours.</li> </ul> |  | <p>1.5 hours.</p> <ul style="list-style-type: none"> <li>• Deploy the 4" Blackmer Oil Transfer Pump to spill site with Bonanza Fuel Snowcat and large sled, 150' of 3" suction hose, cam loc reducer and 4 responders. Connect the 4" transfer hose to the discharge of the pump, connect the 3" suction hose to the pump suction. Estimated time for mobilization is 1.25 hours. Estimated time to deploy is 1.5 hours.</li> <li>• Establish on ice recovery site (recovery site #1) near edge of spill site using tactic #10 (Recovery by direct suction). Equipment required: BFI snowcat with trailer, Fast tank from Chadux Nome, 3" pump, Manta Ray skimmer head, 25' 3" suction hose, 150' discharge hose, and hand shovels from BFI and 4 responders. Use hand shovels to clear snow from ice surface to create clear area for Manta Ray. Place skimmer head on ice and pump to fast tank. Mobilization time is estimated at 1 hour. Deployment time is estimated at 1 hour. Operation will require 3 responders.</li> <li>• Deploy lighting at spill site to provide illumination at the recovery site and Blackmere transfer pump. 2 light stands, 2 100' extension cords and a generator from NJUS, and 2 responders on snow machines with sled to transport and set up lighting. Estimated mobilization time is 30 minutes. Estimated deployment time is 1 hour.</li> <li>• Chartered passenger aircraft departs Anchorage with 24 Responders, 3 Chadux Managers and 3 Vitus Marine Personnel.</li> <li>• Begin recovery operations at recovery site #1. (1600)</li> <li>• Begin recovered liquid transfer operations using the CMS Blackmere pump. This operation will require 1 – VML Tankerman and 2 CMS responders. Tankerman will conduct transfer DOI with the dockside PIC prior to the start of transfer operations, and remain in constant radio communications during transfer. (1615)</li> <li>• 1 st Cargo aircraft departs Anchorage</li> <li>• Chartered passenger aircraft arrives in Nome with 24 Chadux Responders, 3 Chadux Managers and 3 VML Responders. (1630) <ul style="list-style-type: none"> <li>○ Personnel are provided initial status and safety briefing.</li> </ul> </li> </ul> |  |
|--|--|--|--|--|

|  |  |                |  |        |
|--|--|----------------|--|--------|
|  |  |                | <ul style="list-style-type: none"> <li>○ Personnel assignments made.</li> <li>● 1 st Cargo aircraft arrives in Nome (1730)</li> </ul>                          |        |
| Transfer and Storage or Recovered Oil/Water; Volume Estimating Procedure | <ul style="list-style-type: none"> <li>● Sound tanks</li> <li>● Transfer cargo to undamaged tanks/voids by means of over the top transfer.</li> </ul>  |                | <ul style="list-style-type: none"> <li>● Sound recovery tank in BFI tank farm each shift. Use water cut paste to estimate oil and water quantities.</li> </ul> |        |
| Plans, Procedures and Locations for Temporary Storage and Disposal       | <ul style="list-style-type: none"> <li>● Permit for decanting recovered water back into containment area is prepared and submitted to ADEC. At this time there is no plan to decant recovered water due to the availability of temporary storage tanks.</li> <li>● Identify required permits and begin permit applications.</li> </ul> | 1.6.8<br>3.3.2 | <ul style="list-style-type: none"> <li>● Identify required permits and begin permit applications.</li> </ul>   |        |
| Wildlife Protection Plan   | <ul style="list-style-type: none"> <li>● Establish contact with resource agencies</li> <li>● Identify environmentally sensitive areas</li> </ul>   | 1.6.10         | <ul style="list-style-type: none"> <li>● Monitor wildlife in spill area</li> </ul>   | 1.6.10 |
| Shoreline Cleanup  |  |                |  |        |
| Non-mechanical Response  | N/A  | 1.7            | N/A  | 1.7    |

| ADEC Requirement<br>18 AAC<br>75.425(e)(1)(F)   | Timeline – Actions Taken<br>Day 1<br>1800 -0000 hours   | VML<br>CPLAN<br>Section<br>Reference | Timeline – Actions Taken<br>Day 1<br>0000 – 0600 hours   | VML<br>CPLAN<br>Section<br>Reference |
|---|---|--------------------------------------|--|--------------------------------------|
| Safety  | <ul style="list-style-type: none"> <li>• Provide briefing to all new personnel.</li> <li>• Ensure personnel on ice have PFD's.</li> <li>• Monitor safety of personnel.</li> <li>• Review safety plan and make adjustments as necessary.</li> </ul>  |                                      | <ul style="list-style-type: none"> <li>• Provide briefing to all new personnel.</li> <li>• Ensure personnel on ice have PFD's.</li> <li>• Monitor safety of personnel.</li> <li>• Review safety plan and make adjustments as necessary.</li> </ul>   |                                      |
| Notification  | <ul style="list-style-type: none"> <li>• Follow up information request will be handled by Liaison.</li> </ul>   |                                      | <ul style="list-style-type: none"> <li>• Follow up information request will be handled by Liaison.</li> </ul>  |                                      |
| Stopping<br>Discharge at<br>Source and<br>Lightering                                  | <ul style="list-style-type: none"> <li>• Continue to sound tanks regularly.</li> <li>• Oil is continuing to leak from damaged tanks.</li> </ul>   | 1.6.1                                | <ul style="list-style-type: none"> <li>• Continue to sound tanks regularly.</li> <li>• Oil is continuing to leak from damaged tanks.</li> </ul>  | 1.6.1                                |
| Preventing or<br>Controlling Fire<br>Hazards  | <ul style="list-style-type: none"> <li>• Monitor air levels for flammable vapors</li> </ul>   | 1.6.2                                | <ul style="list-style-type: none"> <li>• Monitor air levels for flammable vapors</li> </ul>  | 1.6.2                                |
| Surveillance and<br>Tracking of Oil;<br>Forecasting<br>Shoreline Contact<br>Points    | <ul style="list-style-type: none"> <li>• Visual surveillance is conducted from bridge of tanker.</li> </ul>   |                                      | <ul style="list-style-type: none"> <li>• Visual surveillance is conducted from bridge of tanker.</li> </ul>  |                                      |
| Protection of<br>Environmentally<br>Sensitive Areas<br>and Areas of<br>Public Concern | <ul style="list-style-type: none"> <li>• Develop list of potentially concerned community groups.</li> </ul>   |                                      | <ul style="list-style-type: none"> <li>• Develop plan to track wildlife in area during over flights.</li> </ul>  |                                      |
| Spill Containment<br>and Control<br>Actions &<br>Spill Recovery<br>Procedures         | <ul style="list-style-type: none"> <li>• Offload 1<sup>st</sup> cargo flight and store equipment in the BFI tank farm garages. 1 BFI and 1 NJUS Flatbed truck will be used to transport response equipment from Nome airport to the staging area at the BFI tank farm garages. Use 1 BFI bobcat with forks to assist with offloading and moving response equipment. Personnel include 8 Chadux responders (2 drivers, 6 laborers) and 1 BFI Responder (bobcat operator). Mobilization time is estimated at 30 minutes. Completion of offloading operations is estimated at 3 hours.</li> <li>• Chartered Passenger aircraft departs Nome.</li> <li>• Cargo aircraft departs Nome returning to Anchorage to refuel and load out response equipment.</li> </ul> |                                      | <ul style="list-style-type: none"> <li>• Continue containment and recovery operations.</li> <li>• Establish on water recovery operation at spill site (Recovery Site #2). Deploy Elastec TD 136 skimmer from CMS, Hose kit, 3" diaphragm pump, 3 Fast tanks from Chadux, Hand tools from BFI and the rescue boat from the T/V Renda. Transport equipment and personnel with the BFI snowcat. Deployment will require 5 personnel. 3 Responders from Chadux, and the Snowcat operator and 1 BFI responder. The recovery site will require 3 personnel for continued operations. Estimated mobilization time is 1 hour, deployment time is estimated at 1 hour.</li> <li>• Begin recovery operations at Recovery Site #2 (0230)</li> </ul> |                                      |

|  |  |     |   |     |
|--|--|-----|---|-----|
|  | <ul style="list-style-type: none"> <li>• Deploy portable shelter to spill site to be used for personnel and equipment warm up. Use the BFI snowcat with sled to transport equipment and personnel to the spill site. 1 – Chadux portable shelter, 1 – Chadux portable heater, 1 – NJUS 500 watt Light stand and 1- NJUS Suzuki 3000 watt generator. 6 personnel required for set up. 4 Chadux responders, BFI snowcat operator and 1 BFI responder. Mobilization time is estimated at 45 minutes, deployment time is estimated at 3 to 4 hours.</li> </ul> |     | <ul style="list-style-type: none"> <li>• Establish on water recovery operation at spill site (Recovery Site #3). Deploy Elastec TD 118, Hose kit, 3” diaphragm pump, 3 Fast tanks from Chadux, hand tools from BFI. Establish Recovery Site #3 in same area as Recovery Site #2. Transport equipment and personnel with the BFI snowcat. Deployment will require 5 personnel. 3 Responders from Chadux, and the Snowcat operator and 1 BFI responder. The recovery site will require 3 personnel for continued operations. Estimated mobilization time is 1 hour, deployment time is estimated at 1 hour.</li> <li>• 2<sup>nd</sup> Chartered passenger aircraft departs Anchorage.</li> <li>• Begin recovery operations at Recovery Site #3 (0530)</li> <li>• 2<sup>nd</sup> Cargo flight arrives in Nome. (0530)</li> </ul> |     |
| Transfer and Storage or Recovered Oil/Water; Volume Estimating Procedure | <ul style="list-style-type: none"> <li>• Sound recovery tank in BFI tank farm each shift. Use water cut paste to estimate oil and water quantities.</li> </ul>   |     | <ul style="list-style-type: none"> <li>• Sound recovery tank in BFI tank farm each shift. Use water cut paste to estimate oil and water quantities.</li> </ul>  |     |
| Plans, Procedures and Locations for Temporary Storage and Disposal       | <ul style="list-style-type: none"> <li>• Recovered liquids are being transferred to BFI tank farm through marine header at dock.</li> <li>• On-site temporary storage is provided by the use of Fast tanks.</li> </ul>   |     | <ul style="list-style-type: none"> <li>• Recovered liquids are being transferred to BFI tank farm through marine header at dock.</li> <li>• On-site temporary storage is provided by the use of Fast tanks.</li> </ul>  |     |
| Wildlife Protection Plan   | <ul style="list-style-type: none"> <li>• Monitor wildlife in spill area</li> </ul>   |     | <ul style="list-style-type: none"> <li>• Monitor wildlife in spill area</li> </ul>  |     |
| Shoreline Cleanup  |  |     |   |     |
| Non-mechanical Response  | N/A  | 1.7 | N/A   | 1.7 |

## NOME WINTER SCENARIO STRATEGY – DAY 2

| ADEC Requirement<br>18 AAC<br>75.425(e)(1)(F)   | Timeline – Actions Taken<br>Day 2<br>0600 -1800 hours  | VML<br>CPLAN<br>Section<br>Reference   | Timeline – Actions Taken<br>Day 2<br>1800 – 0600 hours   | VML<br>CPLAN<br>Section<br>Reference   |
|---|--|--|--|--|
| Safety  | <ul style="list-style-type: none"> <li>• Provide briefing to all new personnel.</li> <li>• Monitor safety of personnel.</li> <li>• Ensure personnel working on ice have PFDs.</li> <li>• Revue safety plan and make adjustments to as necessary.</li> </ul>  | 1.1.1<br>1.3. 3<br>1.3.4<br>Fig. 1.3-1 | <ul style="list-style-type: none"> <li>• Provide briefing to all new personnel.</li> <li>• Monitor safety of personnel.</li> <li>• Ensure personnel working on ice have PFDs.</li> <li>• Revue safety plan and make adjustments to as necessary.</li> </ul>  | 1.1.1<br>1.3. 3<br>1.3.4<br>Fig. 1.3-1 |
| Notification  | <ul style="list-style-type: none"> <li>• Follow up information request will be handled by Liaison.</li> </ul>  |  | <ul style="list-style-type: none"> <li>• Follow up information request will be handled by Liaison.</li> </ul>  |  |
| Stopping Discharge<br>at Source and<br>Lightering                                     | <ul style="list-style-type: none"> <li>• Continue to sound tanks regularly.</li> <li>• Oil has stopped leaking from damaged tanks. An estimated 6,972 bbls has been released.</li> </ul>   | 1.6.1                                  | <ul style="list-style-type: none"> <li>• Continue to sound tanks regularly.</li> </ul>   | 1.6.1                                  |
| Preventing or<br>Controlling Fire<br>Hazards  | <ul style="list-style-type: none"> <li>• Monitor air levels for flammable vapors</li> </ul>  | 1.6.2                                  | <ul style="list-style-type: none"> <li>• Monitor air levels for flammable vapors</li> </ul>  | 1.6.2                                  |
| Surveillance and<br>Tracking of Oil;<br>Forecasting<br>Shoreline Contact<br>Points    | <ul style="list-style-type: none"> <li>• Visual surveillance is conducted from the bridge of the tanker.</li> <li>• Over flights continue during daylight hours if weather conditions permit.</li> </ul>   | 1.6.3.1                                | <ul style="list-style-type: none"> <li>• Visual surveillance is conducted from the bridge of the tanker.</li> </ul>  | 1.6.3.1<br>Fig. 1.6-9                  |
| Protection of<br>Environmentally<br>Sensitive Areas and<br>Areas of Public<br>Concern | <ul style="list-style-type: none"> <li>• Work with the community of Nome to identify areas of concern that may need protection.</li> </ul>   |  | <ul style="list-style-type: none"> <li>• Work with the community of Nome to identify areas of concern that may need protection.</li> </ul>   |  |
| Spill Containment<br>and Control Actions<br>&<br>Spill Recovery<br>Procedures         | <ul style="list-style-type: none"> <li>• Continue containment, recovery and transfer operations.</li> <li>• Offload 2nd cargo flight and store equipment in the BFI tank farm garages. 1 BFI and 1 NJUS Flatbed truck will be used to transport response equipment from Nome airport to the staging area at the BFI tank farm garages. Use 1 BFI bobcat with forks to assist with offloading and moving response equipment. Personnel include 8 Chadux responders (2 drivers, 6 laborers) and 1 BFI Responder (bobcat operator). Mobilization time is estimated at 30 minutes. Completion of offloading operations is estimated at 3 hours.</li> </ul> |  | <ul style="list-style-type: none"> <li>• Continue containment, recovery and transfer operations.</li> <li>• Establish recovery operation at trench using tactic #11 at Recovery Site #1. Use existing pump, hoses, and fast tanks and personnel that are at Recovery Site #1. There is no mobilization time as all equipment and personnel are on site. Deployment time is estimated at 30 minutes.</li> <li>• Establish 2<sup>nd</sup> heated portable shelter on the NE side of the snow berm. Utilize the Chadux portable shelter and heater and 6 respondersto set up. Transport equipment and personnel with the</li> </ul> |  |

|  |  |  |   |  |
|--|--|--|---|--|
|  | <ul style="list-style-type: none"> <li>• 2<sup>nd</sup> Chartered passenger flight with 24 Chadux responders arrives from Anchorage. (0730) <ul style="list-style-type: none"> <li>○ Personnel are provided initial status and safety briefing.</li> <li>○ Personnel assignments made.</li> </ul> </li> <li>• Deploy 3 port-a-potties to the portable heated shelter. Use the BFI snowcat and trailer for transportation. Will require 2 personnel to deploy. Estimated mobilization time is 1 hour. Deployment time is estimated at 1 hour.</li> <li>• Establish on ice recovery operation at spill site (Recovery Site #4). Deploy Manta Ray skimmer head from NJUS, Hose kit, 3" diaphragm pump, 3 Fast tanks from Chadux and hand tools from NJUS. Establish Recovery Site #4 near Recovery Site #1. Clear snow from the surface of the ice using hand tools and create a small sump or use depression to place the skimmer head in and pump free product to the fast tanks. Transport equipment and personnel to the site with the BFI snowcat with trailer. Equipment deployment will require 5 personnel. 3 Chadux responders, BFI snowcat operator and responder. Recovery operations will require 3 personnel. Estimated mobilization time is 1 hour. Estimated time to deploy is 1 hour.</li> <li>• Begin Recovery operations at Recovery Site #4 (0900)</li> <li>• Clear and stack snow on ice at Recovery Site #1 with bobcats to enhance oil drainage and create area to install trench and sump. Use 2 BFI bobcats to push snow up into piles for drainage. Mobilization time is estimated at 30 minutes. Completion of task estimated at 6 hours.</li> <li>• Create containment and recovery trench at Recovery Site #1 using tactic #4. Cut a 50 ft trench using the CMS ditch witch, 2 Chadux chain saw kits, and NJUS hand tools. Use the ditch witch to create 2 parallel cuts 6 inches into the ice. Use chain saws to cut ice blocks about 8 inches in length along the length of the trench. Break the ice blocks out of the trench and stack ice removed from the trench on the down gradient side of the trench to increase containment. This tactic will require 8 to 10 responders. Utilize the BFI snowcat to transport equipment and personnel to the site. Mobilization time is estimated at 1 hour. Completion of this tactic is estimated at 4 to 6 hours.</li> </ul> |  | <p>BFI snowcat. Mobilization time is estimated at 1 hour. Deployment time is estimated at 3 to 4 hours.</p> <ul style="list-style-type: none"> <li>• Establish contaminated snow storage in the secondary containment at the BFI tank farm. Utilize the City of Nome 966 loader to dump collected snow into the secondary containment. 1 equipment operator and 1 spotter are required for this assignment. Mobilization time is estimated at 1 hour.</li> <li>• Begin removing light to moderately contaminated snow from spill site using 1 BFI bobcat and 4 snow machines with sleds. Fill plastic totes with snow and haul to BFI tank farm for storage. Dump the totes into the bucket of the 966 loader at the tank farm. Once the bucket is filled the loader will dump the snow into the secondary containment for storage. Use 4 locally hired snow machines with sleds, hand tools, BFI bobcat and 8 responders. Mobilization time is estimated at 1 hour. This is a continuous operation.</li> </ul> |  |
|--|--|--|---|--|

|  |   |                |  |                |
|--|---|----------------|--|----------------|
| Transfer and Storage of Recovered Oil/Water; Volume Estimating Procedure | <ul style="list-style-type: none"> <li>• Sound recovery tank in BFI tank farm each shift. Use water cut paste to estimate oil and water quantities.</li> </ul>  |                | <ul style="list-style-type: none"> <li>• Sound recovery tank in BFI tank farm each shift. Use water cut paste to estimate oil and water quantities.</li> </ul>   |                |
| Plans, Procedures and Locations for Temporary Storage and Disposal       | <ul style="list-style-type: none"> <li>• Recovered liquids are being transferred to BFI tank farm through marine header at dock.</li> <li>• On-site temporary storage is provided by the use of Fast tanks.</li> </ul>  | 1.6.8<br>3.3.2 | <ul style="list-style-type: none"> <li>• Recovered liquids are being transferred to BFI tank farm through marine header at dock.</li> <li>• On-site temporary storage is provided by the use of Fast tanks.</li> </ul> | 1.6.8<br>3.3.2 |
| Wildlife Protection Plan   | <ul style="list-style-type: none"> <li>• Develop Wildlife Protection Plan.</li> <li>• Monitor the presence of wildlife in spill area.</li> <li>• Use over flights to determine the presence of any wildlife in the area and monitor their movements.</li> </ul> | 1.6.10         | <ul style="list-style-type: none"> <li>• Monitor the presence of wildlife in spill area.</li> </ul>  | 1.6.10         |
| Shoreline Cleanup  |   |                |  |                |
| Non-mechanical Response  | N/A   | 1.7            | N/A  | 1.7            |

### NOME WINTER SCENARIO STRATEGY – DAY 3

| ADEC Requirement<br>18 AAC<br>75.425(e)(1)(F)   | Timeline – Actions Taken<br>Day 3<br>0600 -1800 hours   | VML<br>CPLAN<br>Section<br>Reference | Timeline – Actions Taken<br>Day 3<br>1800 – 0600 hours   | VML<br>CPLAN<br>Section<br>Reference |
|---|---|--------------------------------------|--|--------------------------------------|
| Safety  | <ul style="list-style-type: none"> <li>• Provide briefing to all new personnel.</li> <li>• Monitor safety of personnel.</li> <li>• Ensure personnel working on ice have PFDs.</li> <li>• Revue safety plan and make adjustments to as necessary.</li> </ul>   | 1.1.1<br>1.3. 3<br>1.3.4             | <ul style="list-style-type: none"> <li>• Provide briefing to all new personnel.</li> <li>• Monitor safety of personnel.</li> <li>• Ensure personnel working on ice have PFDs.</li> <li>• Revue safety plan and make adjustments to as necessary.</li> </ul>  | 1.1.1<br>1.3. 3<br>1.3.4             |
| Notification  | <ul style="list-style-type: none"> <li>• Follow up information request will be handled by Liaison.</li> </ul>   |                                      | <ul style="list-style-type: none"> <li>• Follow up information request will be handled by Liaison.</li> </ul>  |                                      |
| Stopping Discharge<br>at Source and<br>Lightering                                     | <ul style="list-style-type: none"> <li>• Continue to sound tank regularly.</li> </ul>   | 1.6.1                                | <ul style="list-style-type: none"> <li>• Continue to sound tank regularly.</li> </ul>  | 1.6.1                                |
| Preventing or<br>Controlling Fire<br>Hazards  | <ul style="list-style-type: none"> <li>• Monitor air levels for flammable vapors</li> </ul>   | 1.6.2                                | <ul style="list-style-type: none"> <li>• Monitor air levels for flammable vapors</li> </ul>  | 1.6.2                                |
| Surveillance and<br>Tracking of Oil;<br>Forecasting<br>Shoreline Contact<br>Points    | <ul style="list-style-type: none"> <li>• Visual surveillance is conducted from the bridge of the tanker.</li> <li>• Over flights continue during daylight hours if weather conditions permit.</li> </ul>  | 1.6.3.1<br>Fig. 1.6-9                | <ul style="list-style-type: none"> <li>• Visual surveillance is conducted from the bridge of the tanker.</li> </ul>  | 1.6.3.1<br>Fig. 1.6-9                |
| Protection of<br>Environmentally<br>Sensitive Areas and<br>Areas of Public<br>Concern | <ul style="list-style-type: none"> <li>• Monitor and review protection strategies based on surveillance and observation reports.</li> </ul>   |                                      | <ul style="list-style-type: none"> <li>• Monitor and review protection strategies based on surveillance and observation reports.</li> </ul>  |                                      |
| Spill Containment<br>and Control Actions<br>&<br>Spill Recovery<br>Procedures         | <ul style="list-style-type: none"> <li>• Continue containment, recovery and transfer operations.</li> <li>• Begin identifying areas of oil below the ice using tactic #2. Using ice augers, drill holes in the ice, inspect the water in the hole for the presence of oil. If no oil is found in the hole, use a water proof drop light down the hole to illuminate any oil under the ice near the hole. If the light indicated the presence of trapped oil, mark the boundry with marking paint applied directly to the ice and draw map indicating the areas of oil found. Utilize 2 VML ice augers, ice strainer, dive light and marking paint. This will require 5 responders. Estimated time to mobilize is 1 hour. Time to complete will vary based on the area to be covered and the amount of contamination found.</li> </ul> |                                      | <ul style="list-style-type: none"> <li>• Continue containment, recovery and transfer operations.</li> <li>• Based on the results of under ice oil identification, plan recovery options based on the estimated quantity of oil and location. Use either tactic #12 or #13 for the recovery of the oil. Have recovery plan prepared for next operational period.</li> </ul> |                                      |

|  |   |                |   |                |
|--|---|----------------|---|----------------|
| Transfer and Storage of Recovered Oil/Water; Volume Estimating Procedure | <ul style="list-style-type: none"> <li>• Sound recovery tank in BFI tank farm each shift. Use water cut paste to estimate oil and water quantities.</li> <li>• Contaminated snow removal estimated based on number of bucket loads placed into storage.</li> </ul>  |                | <ul style="list-style-type: none"> <li>• Sound recovery tank in BFI tank farm each shift. Use water cut paste to estimate oil and water quantities.</li> <li>• Contaminated snow removal based on number of bucket loads placed into storage.</li> </ul>  |                |
| Plans, Procedures and Locations for Temporary Storage and Disposal       | <ul style="list-style-type: none"> <li>• Recovered liquids are being transferred to BFI tank farm through marine header at dock.</li> <li>• On-site temporary storage is provided by the use of Fast tanks.</li> <li>• Contaminated snow storage is provided by the use of secondary containment at the BFI tank farm.</li> </ul> | 1.6.8<br>3.3.2 | <ul style="list-style-type: none"> <li>• Recovered liquids are being transferred to BFI tank farm through marine header at dock.</li> <li>• On-site temporary storage is provided by the use of Fast tanks.</li> <li>• Contaminated snow storage is provided by the use of secondary containment at the BFI tank farm.</li> </ul> | 1.6.8<br>3.3.2 |
| Wildlife Protection Plan   | <ul style="list-style-type: none"> <li>• Monitor the presence of wildlife in spill area.</li> <li>• Use over flights to determine the presence of any wildlife in the area and monitor their movements.</li> </ul>  | 1.6.10         | <ul style="list-style-type: none"> <li>• Monitor the presence of wildlife in spill area.</li> </ul>   | 1.6.10         |
| Shoreline Cleanup  |   |                | •   |                |
| Non-mechanical Response  | N/A   | 1.7            | N/A   | 1.7            |

## EQUIPMENT AND PERSONNEL ASSIGNMENTS

### VML Equipment

|                |   |              |
|----------------|---|--------------|
| Ice Auger      | 2 | Staging area |
| Herbert Clamps | 2 | Staging area |

### T/V Renda Equipment

|                      |   |                   |
|----------------------|---|-------------------|
| 4 inch Transfer hose | 3 | Transfer Ops      |
| Crane (midship)      | 1 | Deck              |
| Crane (aft)          | 1 | Deck              |
| Air Monitor          | 1 | Deck              |
| Rescue boat          | 1 | On water recovery |

### ACC Nome Hub

|                          |        |                             |
|--------------------------|--------|-----------------------------|
| Containment Boom 20''    | 2,000' | 900' – spill site           |
| Containment Boom 20''    | 1,000' | Staging area                |
| Anchor Kit               | 4      | Staging area                |
| Fast tank, 2,400 gallons | 1      | Spill site                  |
| PPE Kit                  | 1      | Staging area – warm storage |
| Respirator Kit (6 man)   | 1      | Staging area – warm storage |
| Decon Kit, personnel     | 1      | Staging area                |
| Sorbent boom             | 10     | Staging area                |
| Sorbent pads             | 10     | Staging area                |
| Sorbent sweep            | 35     | Staging area                |

### BFI Equipment

|                                    |   |   |
|------------------------------------|---|---|
| Snowcat with Sled & Trailer        | 1 | Logistics/Staging   |
| Bobcat with bucket & forks         | 2 | Snow berm   |
| 3'' Pump                           | 1 | Recovery Site #1  |
| Manta Ray Skimmer                  | 1 | Recovery Site #1  |
| 3 inch Suction Hose x 25' length   | 1 | Recovery Site #1  |
| 3 inch Discharge Hose x 50' length | 3 | Recovery Site #1  |
| Hand Shovels                       | 6 | 2 - Recovery Site #1 2 – Recovery Site #2<br>2 – Recovery Site #3 |
| Flatbed Truck                      | 1 | Staging/Transportation  |

### City of Nome Equipment

|            |   |                               |
|------------|---|-------------------------------|
| 966 Loader | 1 | Snow storage at BFI tank farm |
|------------|---|-------------------------------|

### NJUS Equipment

|                                  |   |                        |
|----------------------------------|---|------------------------|
| 3 inch Suction hose x 50' length | 3 | Transfer Ops           |
| 500 watt Light Stands            | 2 | Spill Site             |
| Honda Generator (5000 watt)      | 1 | Spill Site             |
| Suzuki 3000 watt Generator       | 1 | Portable shelter       |
| Flatbed Truck                    | 1 | Staging/Transportation |
| Manta Ray skimmer                | 1 | Recovery Site #4       |
| Shovels                          | 2 | Recovery Site #4       |

### **CMS Equipment**

|                                |   |                  |
|--------------------------------|---|------------------|
| 4" Blackmere Oil Transfer Pump | 1 | Spill site       |
| Elastec TD 136                 | 1 | Recovery Site #2 |
| Ditch Witch                    | 1 | Trenching        |

### **Locally Hired/Contracted Equipment**

|                            |           |                        |
|----------------------------|-----------|------------------------|
| Housing Services           | As needed | Local Hotels           |
| Meal Services              | 4 per day | Local Catering Company |
| Port-a-potty Service       | 6         | Local Service          |
| Old St. Joe's Civic Center | 1         | City of Nome           |
| Snow machines and sleds    | 8         | Local Hire             |
| Mini bus                   | 2         | Local Hire             |
| Totes                      | 20        | Local Purchase         |

### **1<sup>st</sup> Cargo Flight**

|                         |    |   |
|-------------------------|----|---|
| Fast Tank, 2,400 gallon | 9  | 3 – Recovery Site #2 3 – Recovery Site #3<br>3 – Recovery Site #4 |
| Diaphragm Pump, 3"      | 4  | 1 – Recovery Site #2 1 – Recovery Site #3<br>1 – Recovery Site #4 |
| Hose Kit                | 4  | 1 – Recovery Site #2 1 – Recovery Site #3<br>1 – Recovery Site #4 |
| Handheld VHF Radios     | 20 | Issued to field operations  |
| Elastec TD 118 Skimmer  | 1  | Recovery Site #3  |
| Exposure Suits          | 28 | Issued to personnel working on ice                                |
| Portable Shelter        | 2  | 1 - Spill Site 1 – E of snow berm                                 |
| Portable heater         | 2  | 1 – Spill site shelter 1 – 2 <sup>nd</sup> Portable shelter       |
| ATV                     | 1  | Safety Officer  |
| 4 Gas Meter             | 1  | Safety Officer  |

### **2<sup>nd</sup> Cargo Flight**

|                         |    |                                    |
|-------------------------|----|------------------------------------|
| Diaphragm Pump 3"       | 3  | Staging area – warm storage        |
| Hose Kits               | 4  | Staging area – warm storage        |
| Fast Tank, 1,585 gallon | 2  | Staging area – warm storage        |
| Exposure Suits          | 28 | Issued to personnel working on ice |
| Portable Shelters       | 2  | Staging area                       |
| Portable heaters        | 2  | Staging Area                       |
| Elastec TD 118 Skimmer  | 1  | Staging area – warm storage        |
| Rope Mop (Diesel)       | 1  | Staging area – warm storage        |
| Chain Saw Kits          | 2  | Trenching operation                |

**VML Personnel**

|                      |   |   |
|----------------------|---|---|
| Qualified Individual | 1 | QI  |
| Logisitcs/Translator | 1 | Logistics/Translator  |
| Tankerman            | 3 | 1 – Safety Officer (D) 1 – Transfer Ops (D)<br>1 – Transfer Ops (N) |

**BFI Personnel**

|                      |    |   |
|----------------------|----|---|
| Tank watch/PIC       | 1  | Tank farm   |
| Tank watch assistant | 1  | Tank farm   |
| Responders           | 10 | 5 – Staging (D) 2 – Snowcat Ops (D)<br>2 – Bobcat Ops (D) 1 – Transfer Ops (D)<br>3 – Recovery Site #1(transferred from staging area) |

**City of Nome Personnel**

|               |   |                 |
|---------------|---|-----------------|
| Dock PIC      | 1 | Marine header   |
| Dock Security | 1 | Dock            |
| Responders    | 2 | 2 – Staging (D) |

**Crowley Marine Personnel**

|            |   |  |
|------------|---|--|
| Responders | 2 | 1 -Transfer Ops (D) 1 – Transfer Ops (N) |
|------------|---|--|

**ACC Personnel**

|                           |    |  |
|---------------------------|----|--|
| Manager                   | 3  | 1 – Safety Officer (N) 1 – Operations (D)<br>1 – Operations (N)  |
| Responders (First Group)  | 24 | 8 – Staging (N) 2 – Flatbeds (D)<br>3 – Recovery Site #1 (N)<br>3 – Recovery Site #2 (N)<br>3 – Recovery Site #3 (N)<br>3 – Recovery Site #4 (N)<br>2 – Transfer Ops (N)   |
| Responders (Second Group) | 24 | 6 -Staging (D) 2 – Flatbed (N)<br>3 – Recovery Site #1 (D) (replacing BFI personnel)<br>3 – Recovery Site #2 (D)<br>3 – Recovery Site #3 (D)<br>3 – Recovery Site #4 (D)<br>2 – Transfer Ops (D)<br>2 – Bobcat (N) |

## MECHANICAL RECOVERY CAPABILITY

### Day 1

|   | Recovered<br>Oil | Recovered<br>Liquids | Total Recovered<br>Oil |
|---|------------------|----------------------|------------------------|
| <b>Recovery Site #1</b><br><b>(directly in pooled oil on ice, operating as pump so not derated)</b><br>3" Pump, Manta Ray, 25' 3" Suction Hose,<br>150' 3" Discharge Hose and Fast tank<br>operating at 75 gpm (107 bbl/hr)<br>1600 – 0600 (14 hrs) | 1,500 bbls       |                      | <b>1,500 bbls</b>      |
| <b>Recovery Site #2</b><br>Elastec TD 136 skimmer, 3" pump,<br>25' 3" Suction Hose, 150' 3" Discharge Hose,<br>3 Fast tanks, Hand tools, work boat.<br>Name Plate = 268 EDRC = 53.6<br>0230 – 0600 (3.5 hrs)  | 187.6 bbls       | 938 bbls             | <b>1,687.6 bbls</b>    |
| <b>Recovery Site #3</b><br>Elastec TD 118 skimmer, 3" pump,<br>Hose Kit, 3 Fast tanks, Hand tools.<br>Name Plate = 134 EDRC = 26.8<br>0530 – 0600 (0.5 hrs)   | 13.4 bbls        | 67 bbls              | <b>1,701 bbls</b>      |

## Day 2

|  |            |            |                   |
|--|------------|------------|-------------------|
| <b>Recovery Site #1</b><br><b>(pumping rate reduced from Day 1)</b><br>3" Pump, Manta Ray, 25' 3" Suction Hose,<br>150' 3" Discharge Hose and Fast tank<br>operating at 25 gpm (35.7 bbl/hr)<br>for 20 hours   | 714 bbls   |            | <b>2,415 bbls</b> |
| <b>Recovery Site #2</b><br>Elastec TD 136 skimmer, 3" pump,<br>25' 3" Suction Hose, 150' 3" Discharge Hose,<br>4 Fast tanks, Hand tools, work boat.<br>Name Plate = 268 EDRC = 53.6<br>Operating for 20 hours.                                       | 1,072 bbls | 5,360 bbls | <b>3,487 bbls</b> |
| <b>Recovery Site #3</b><br>Elastec TD 118 skimmer, 3" pump,<br>Hose Kit, 3 Fast tanks, Hand tools.<br>Name Plate = 134 EDRC = 26.8<br>Operating for 20 hrs   | 536 bbls   | 2,680 bbls | <b>4,023 bbls</b> |
| <b>Recovery Site #4</b><br><b>(directly in pooled oil on ice, operating as pump so not derated)</b><br>3" Pump, Manta Ray, 25' 3" Suction Hose,<br>150' 3" Discharge Hose and Fast tank<br>operating at 25 gpm (35.7 bbl/hr)<br>(0900 – 0500) 20 hrs | 714 bbls   |            | <b>4,737 bbls</b> |

### Day 3

|  |          |            |                   |
|--|----------|------------|-------------------|
| <b>Recovery Site #1</b><br><b>(pumping rate reduced from Day 2)</b><br>3" Pump, Manta Ray, 25' 3" Suction Hose,<br>150' 3" Discharge Hose and Fast tank<br>operating at 10 gpm (14.3 bbl/hr)<br>for 20 hours                 | 286 bbls |            | <b>5,023 bbls</b> |
| <b>Recovery Site #2</b><br>Elastec TD 136 skimmer, 3" pump,<br>25' 3" Suction Hose, 150' 3" Discharge Hose,<br>4 Fast tanks, Hand tools, work boat.<br>Name Plate = 268 EDRC = 53.6<br>Operating for 20 hours @ 25% capacity | 268 bbls | 1,340 bbls | <b>5,291 bbls</b> |
| <b>Recovery Site #3</b><br>Elastec TD 118 skimmer, 3" pump,<br>Hose Kit, 3 Fast tanks, Hand tools.<br>Name Plate = 134 EDRC = 26.8<br>Operating for 20 hrs @ 25% capacity  | 134 bbls | 670 bbls   | <b>5,425 bbls</b> |
| <b>Recovery Site #4</b><br><b>(pumping rate reduced from Day 2)</b><br>3" Pump, Manta Ray, 25' 3" Suction Hose,<br>150' 3" Discharge Hose and Fast tank<br>operating at 8 gpm (11.4 bbl/hr)<br>(0900 – 0500) 20 hrs          | 228 bbls |            | <b>5,653 bbls</b> |

## **Continuation of Response Activities**

### **Days 4 – 7**

On ice and on water recovery operations are stopped due to a lack of free oil. Sorbent materials are used to recover oil sheen from the surface of the water near the T/V Renda.

Continue the removal of contaminated snow from the surface of the ice. Store the contaminated snow inside the secondary containment at the BFI tank farm.

Continue the identification and recovery of oil trapped under the ice.

Continue daylight over flights to identify any areas of contamination and to monitor wildlife in the area.

Begin the decontamination of response equipment as it is removed from service. Return cleaned equipment to warm storage at the BFI tank farm garages, or other appropriate final storage location.

Develop lightering plan for the T/V Renda.

Transfer remaining cargo from the T/V Renda to the BFI tank farm.

Develop salvage plan for the temporary repair of the T/V Renda.

### **Past Day 7**

- Develop monitoring plans for spring ice melt season.
- Develop SCAT procedures and plans for spring.
- Continue monitoring of area wildlife and any reported impacts.
- Develop final waste disposal plan for all waste.
- Continue over flights as weather and daylight allow.
- Develop comprehensive spring time monitoring and recovery plans.
- Replace any materials consumed during recovery operations.



OIL TRANSFER PROCEDURES  
FOR  
NOME WINTER OPERATION

## **OIL TRANSFER PROCEDURES**

These Oil Transfer Procedures were specifically prepared for the T/V Renda Nome winter fuel transfer to be conducted in January, 2012. Prior to any transfer of fuel a conference with interested parties (USCG, ADEC, Bonanza Fuel, City of Nome and Vitus Marine) will take place to determine go no go criteria, also USCG COTP approval is required to proceed with this transfer.

### **Description of Operations**

#### Option A: T/V Renda offloads at Bonanza Fuels

T/V Renda will proceed through the ice to Nome following the USCGC Healy. The USCGC Healy will break ice as close to Nome as it can, approximately 1 mile off shore. At this point the T/V Renda will continue on its own to the Port of Nome. The T/V Renda will break ice and proceed to the Bonanza Fuels dock and discharge its cargo to the facility.

#### Option B: T/V Renda over ice transfer

If Option A is not feasible, the T/V Renda will proceed to a location as close to the port entrance as is safe. The T/V Renda will transfer its cargo to Bonanza by hose laid across the ice to the breakwater and then across the land to the marine header. This option will only be used in shore fast ice conditions. It is anticipated that the T/V Renda will be positioned approximately ½ mile or closer to marine header at Bonanza Fuels. The cargo will be transferred through a 4" semi-rigid hose. Each section of hose will be 122 meters (400 ft) in length and have threaded fittings. The certified working pressure of the hose is 1.0 MPa (100 psi).

## Response Equipment Preparation

VML will pre stage equipment packages prior to any transfer of fuel to ensure that any spill is quickly contained on the ice or in open water near vessel.

The following response equipment will be pre-staged at the Bonanza Fuels tank farm garages and Crowley Marine shop in a warm and ready condition. All pre-staged equipment will be inspected and verified operational prior to the transfer of fuel. This equipment is owned by Bonanza Fuels, Nome Joint Utility Service, City of Nome, Crowley Marine, Alaska Chadux and Vitus Marine.

- (3) Manta Ray Skimmer Heads
- (3) 3" Pump with suction and discharge hoses
- (6) Portable light stands
- (1) Fast tank
- (6) Handheld VHF radios
- (1) Tank truck
- (2) Herbert hose clamps
- Miscellaneous sorbents
- Miscellaneous hand tools (brooms/shovels)

Additional response equipment is immediately available in Nome through contract with Bonanza Fuel, and the Nome Oil Spill Response Resources MOU between Bonanza Fuel and other Nome Operators and in Anchorage through contract with Alaska Chadux.

## Responsibilities

The Person In Charge of pumping vessel will personally supervises connecting, topping off, disconnecting and other critical transfer procedures. Personally instructs other persons on duty when to start the flow of oil to or from the vessel. Personally supervises preparation of the vessel for the transfer, confers with person in charge of the facility (City of Nome and Bonaza Fuels) to assure each understands how to work together during transfer operations, conducts an inspection and completes a declaration of inspection prior to transfer. Remains in the immediate vicinity of the cargo pump or emergency shutoff and is immediately available to stop the transfer.

Person in Charge of receiving vessel/facility tends the tank being loaded, including taking soundings and maintaining visual observation of the loading hose and connection to the tank or marine header. Keeps person in charge of pumping vessel advised of the level of cargo in the tank. Advises the person in charge of pumping vessel immediately of any unusual conditions. When in doubt, shuts down transfer operations.

Moorage - The master of the vessel shall designate a crewman to tend mooring lines as directed by the person in charge, to keep the vessel stable preventing stress on any hose or transfer component.

## Products Carried by Vitus Marine, LLC

### Gasoline, Unleaded

|                                  |   |
|----------------------------------|---|
| Proper shipping name:            | Gasoline  |
| Appearance:                      | Clear, straw colored  |
| Odor:                            | Characteristic hydrocarbon-like   |
| Hazards involved in handling:    | Extremely flammable. Irritating to eyes and respiratory system. Affects central nervous system. Harmful or fatal if swallowed. Aspiration hazard. Contains benzene, which can cause cancer.     |
| Instructions for safe handling:  | See item H below for safe handling practices.   |
| Cargo spills, leaks or exposure: | For cargo spills or leaks follow the procedures contained in the Vessel Response Plan and SOPEP. For exposure information refer to the product MSDS.  |
| Fire fighting, small fires:      | Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, fire fighting foam or Halon.   |
| Fire fighting, large fires:      | Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers. Keep containers and surrounding cool with water spray. |

### JET A/Diesel Fuel #1 & #2 – Low Sulfur (LS) and Ultra Low Sulfur

|                                  |   |
|----------------------------------|---|
| Proper shipping name:            | Diesel Fuel   |
| Appearance:                      | Clear, straw colored  |
| Odor:                            | Characteristic petroleum (kerosene) odor  |
| Hazards involved in handling:    | Harmful or fatal if swallowed. Harmful by inhalation. Irritating to eyes, respiratory system and skin. Toxic. Combustible.  |
| Instructions for safe handling:  | See item H below for safe handling practices.   |
| Cargo spills, leaks or exposure: | For cargo spills or leaks follow the procedures contained in the Vessel Response Plan and SOPEP. For exposure information refer to the product MSDS.  |
| Fire fighting, small fires:      | Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, fire fighting foam or Halon.   |
| Fire fighting, large fires:      | Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers. Keep containers and surrounding cool with water spray. |

**For additional product information, refer to the product MSDS at the end of the Transfer Procedures.**

## A. Before Transfer:

### Option A

1. Refer to the specific vessel transfer procedures..
2. Complete the ADEC "Contingency Plan Verification Log" (See F. below) for all facilities over 10,000 barrels capacity.
3. Levels of product in affected tanks are verified by sounding.
4. All tanks, valves, piping, & hoses will be inspected for wear, damage and suitability.
5. Ready of standby response equipment.
6. Lighting sufficient to ensure safe and adequate monitoring of transfer hose and connections.
7. Scuppers are plugged.
8. Charge transfer system (ie hoses) with air to verify connections.
9. Inspect all manifold and hose connections.
10. The initial flow rate will be determined and agreed upon by respective PICs and be listed in barrels per hour on the Declaration of Inspection (DOI).
11. Loading or discharge sequence will be determined.
12. A pre-transfer conference with both shore and vessel Persons in Charge will be held and the Declaration of Inspection form (DOI) reviewed and signed by both PICs. In addition to the PIC,s all hose watch personnel are to review these Transfer Procedures and the DOI and sign both documents.
13. No VML employee will act as a Shoreside PIC. VML personnel may only assist shoreside PICs.
14. Radio equipment and hand signals will be determined and an ICS 205 form completed detailing communications for all PICs, tank watch, hose watch, and deck watch personnel. Each PIC and hose monitor will be equipped with a handheld VHF radio, operating on a prearranged frequency. Radio communications between PICs and hose monitors will be tested before the start of transfer operations.
15. Ensure tanks to receive product have overfill devices that are operating properly.
16. Proper tank valves opened.
17. Pump started and warmed up.

### Option B:

1. Obtain weather and ice forecast to ensure that conditions during the transfer period are safe for operations. Ice operations will only take place on shore fast ice or at shore side facility.
2. Identify route for the placement of the transfer hose(s). Determine the stability and thickness of the ice over the area of hose placement. Identify any potential open water leads.
3. Provide portable lighting sufficient to monitor the hose(s) and connections along the length of the transfer hose. If transferring at shore side facility, ensure sufficient lighting to monitor transfer hose and manifold connection.
4. Placement of hose(s) – 122 meter (400 ft) sections of transfer hose will be laid out from the vessel to the facility. Each connection will be inspected to ensure that connection gaskets are present and in good condition. Each connection will be secured by tightening with a wrench.
5. Once connection is completed, it will be visually inspected to ensure proper connection, and then secondary containment of required capacity which is ½ barrel will be placed under each hose connection. The transfer hose(s) shall be laid out with enough scope to reduce the potential for damage due to movement of ice or vessel.
6. Pre-stage response equipment in heated storage at the Bonanza Fuel tank farm garages in ready condition.
7. Refer to the Vessel Specific Transfer Procedures.

8. Complete the ADEC "Contingency Plan Verification Log" (See F. below) for all facilities over 10,000 barrels capacity.
9. Levels of product in affected tanks are verified by sounding.
10. All tanks, valves, piping, & hoses will be inspected for wear, damage and suitability.
11. Scuppers are plugged.
12. Charge transfer system (ie hoses) with air to verify connections. The hose watch shall walk the length of the line and inspect each connection prior to the start of the transfer.
13. The initial flow rate will be determined and agreed upon by respective PICs.
14. Loading or discharge sequence will be determined.
15. A pre-transfer conference with both shore and vessel Persons in Charge will be held and the Declaration of Inspection form (DOI) reviewed and signed by both PICs.
16. No VML employee will act as a shore side PIC. VML personnel may only assist shore side PICs.
17. Radio equipment and hand signals will be determined and an ICS 205 form completed detailing communications for all PICs, tank watch, hose watch, and deck watch personnel. Each PIC and hose monitor will be equipped with a handheld VHF radio, operating on a prearranged frequency. Radio communications between PICs and hose monitors will be tested before the start of transfer operations. If transfer distance is greater than the effective range of hand held VHF radios, the ship's and facility's radios can be utilized for PICs to relay messages between them.
18. Proper tank valves opened.
19. Pump started and warmed up.

**B. Begin Transfer Procedures:**

1. Vessel valve opened and pump engaged at pre-determined start-up rate.
2. Transfer is started slowly to:
  - a. VERIFY product is entering the correct tank
  - b. VERIFY there are no leaks in hoses, fittings, valves, etc.
  - c. put a "bottom" on a tank, if necessary.
3. Pumping speed is then increased to the rate agreed upon by both "persons-in-charge" at the pre-transfer conference in barrels per hour as listed on the DOI.
4. Take samples as required. (API, color, smell).

**C. During the Transfer:**

1. Shore side person regularly monitors tank to verify product is entering the correct tank. Compares gauges with preplanned rates, gauges, and expectations. If discrepancies exist, stop transfer operations until differences are rectified. Stays within hearing distance of the overfill alarm.
2. Facility personnel will monitor transfer line from vessel to marine header (see attached Hose Watch Procedures), making sure there are no leaks in hoses, fittings, valves, etc. and makes contact with shore side person at the tank farm at the beginning and end of each inspection. Inspections are to occur at least once every 30 minutes.
3. The hoses will also be adjusted to compensate for changes in the tide and vessel draft where applicable.
4. Continuous inspection of pumping systems and tanks will be supervised by both "persons-in-charge."
5. To prevent contamination of petroleum products, each product will be transferred individually.

## D. Completion of Transfer

When a tank is filled within 90% of the safe fill height (outage) , a PIC will stay at the tank continuously monitoring the fill height until the transfer to that tank is complete.

1. Reduce pumping rate and finish transfer at lowered rate.
2. Tank PIC communicates to pumping PIC when ready to stop.
3. Vessel discharge operation, the vessel pump is secured almost simultaneously with the discharge header valve so the hose never gets a buildup of pressure. (The pump also has a bypass set between 75 and 125 psi. that limits the pressure on the discharge side.) All marine header valves will be closed and locked.
4. Facility to vessel transfer, marine header is secured first and the hose vented and allowed to drain back to the vessel. The hose is removed from the vessel header and the hose capped.
5. Drip pans and containments are pumped into designated containers.
6. Levels of product in the affected tanks will be verified by mechanically dipping the tanks and checking the results against the meter readings.
7. Receiving documents completed and signed.

Emergency shutdown is initiated as follows:

- a. Vessel to tank / tank to vessel, warning via VHF radio, vessel Person in Charge shuts down the vessel cargo pump and all pertinent valves are closed.
- b. Tank to tank, warning via VHF radio, Vessel Person in Charge shuts down pump and all pertinent valves are closed.
- c. Emergency shut-downs are immediate and are located at the transfer locations.
- d. Product lines are equipped with check valves and or block valves at the marine headers.
- e. There is a block valve at the tanks permitting closing of the line in an emergency.
- f. Emergency shutdown of the suction side is accomplished by stopping the transfer pump and/or closing the gate valve on the discharge/fill line.
- g. Herbert clamps will be available for emergency isolation of a hose leak.

## E. Communications

Vessel/tank transfers, Tank/tank transfers, vessel/truck transfers, all communications are via VHF intrinsically safe hand held radios (review Section 1.4.1 of the Vessel Response Plan), in the case that the vessel and facility PICs cannot effectively communicate directly using hand held VHF radios, the ship's and facility's VHF radios can be used to relay communications.

## F. ADEC Contingency Plan Verification Requirement and Log

Per the requirements of 18 AAC 75.465, prior to any transfers to/from tank vessels, the terminal PIC will personally verify that the vessel has the certificate approving the Oil Discharge Prevention and Contingency Plan and a copy of the C-Plan Part I (Response Action Plan) for that vessel or barge is aboard the vessel. The verification is logged for each separate loading or unloading on the " ADEC C-Plan Verification Log " form. A copy of that log is submitted to ADEC monthly by the 5<sup>th</sup>. ADEC retains a copy for 3 years.

Under AS 46.04.030 all facilities in the State of Alaska required to have an ADEC approved Oil Discharge Prevention and Contingency Plan (10,000 bbls. in service capacity) are required to fulfill the ADEC Contingency Plan Verification Requirement and Log as described above.

## G. Tank to Tank Transfers.

The transfer will occur within the fixed piping system of the vessel. If a situation arises where this is impossible, portable pumps and transfer hoses will be used. VML has standardized hoses and hose fittings/connections.

Connect transfer hose to the appropriate cargo line header then to the suction side of the transfer pump. Connect a transfer hose from the discharge side of the transfer pump to the receiving tank drop tube. Follow these transfer procedures as described and vessel specific diagrams/transfer procedures at Section 1.8 of the Vessel Response Plan.

## H. Know the hazards of and instructions for the safe handling of the cargo:

- Fuel Oils carried by VML vessels are a light petroleum derivative, amber to clear in color.
  - Fuel Oil carried by VML vessels has the familiar odor of petroleum.
  - Fuel Oil carried by VML vessels is highly flammable and poisonous if taken internally. Contact with the cargo can cause skin irritation; Vapors can cause eye irritation, dizziness, and discoloration of the skin. (refer to MSDS at the end of the Transfer Procedures)
1. There will be NO SMOKING, NO OPEN LIGHTS and NO VISITORS during fuel transfers.
  2. Protective clothing and vapor respirators shall be used as applicable.
  3. No oil soaked rags are to be stored in the containment; dispose of rags properly.
  4. In the event of fuel spillage/leakage during transfer operations, all transfer operations will be stopped immediately. When the source of the leakage or spillage has been determined and eliminated, transfer operations may be resumed.
  5. A portable dry chemical, carbon dioxide or equivalent fire extinguisher (B-II) is to be located at the fueling station at all times during fueling operations and (1) one B-II portable fire extinguisher is to be found at the cargo pump module.
  6. A minimum of (2) two persons will be on duty at each marine transfer when transferring product to vessel or a tank, (1) one qualified person at the dock/tank car/truck header serving as a hose/pump watch and (1) one qualified person at the vessel/tank serving as a tank watch.
  7. When loading a vessel/tank, the PIC at the fuel header/pump will be in charge. When unloading the vessel, the PIC at the vessel cargo pump will be in charge. PICs will review the transfer operation with all involved and sign the DOI.
  8. The PIC will inspect all lines, block valves that are open or closed as required. He/she will inspect the facility to see that the fire extinguishers, barricades, warning signs, anti sparking devices, and drip pans are on site and in place. The PIC is responsible for all operations, checking lines during a transfer, gauging tanks, scheduling line transfers and closing tanks upon completion of a transfer.
  9. The hose watch will be in constant attendance when the vessel's hoses are coupled to the marine header. He/she will witness the DOI meeting between the persons-in-charge of the inspection of the dock facility and vessel including fire fighting equipment, barricades, warning signs, condition of pipeline/hoses closing or opening of all dock/vessel headers, bleeder and block valves and the securing of service lines associated with the cargo lines. He/she will also review and sign these transfer procedures in addition to the DOI. He/she will monitor the cargo hoses in use during product transfer and will adjust same for changes in wind, tide or other factors which would cause the vessel to move assuring no strain is put on a hose.
  10. Communication between all personnel involved in a fuel transfer will be by portable VHF radio. Use of radio equipment during transfer operations is permitted only if the equipment is intrinsically safe and meets Class I, Division D standards. During the transfer, the hose watch walks/transits the length of the transfer hose reporting any leaks or problems to the tank farm PIC.

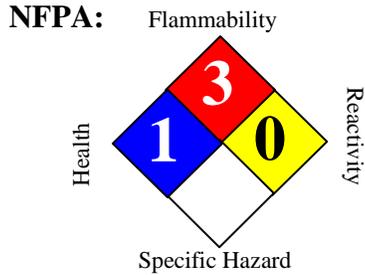
11. A drip pan is to be positioned under each cargo header if not so equipped. Accumulated product is transferred from drip pans to barrels for later use.

## **Attachments**

- 1. MSDS for Unleaded Gasoline**
- 2. MSDS for ULS #1 Diesel**
- 3. Hose Watch Procedures**
- 4. ICS 205 Form – Communications Plan**

# Material Safety Data Sheet

## Gasoline, Unleaded



**HMIS III:**

|              |   |
|--------------|---|
| HEALTH       | 1 |
| FLAMMABILITY | 3 |
| PHYSICAL     | 0 |

0 = Insignificant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme

### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

|                                |  |                                     |                  |
|--------------------------------|--|-------------------------------------|------------------|
| <b>Product name</b>            | : Gasoline, Unleaded   |                                     |                  |
| <b>Synonyms</b>                | : Blend of Highly Flammable Petroleum Distillates, Regular, Mid-Grade, Premium, 888100005481 |                                     |                  |
| <b>MSDS Number</b>             | : 888100005481   | <b>Version</b>                      | : 2.9            |
| <b>Product Use Description</b> | : Fuel   |                                     |                  |
| <b>Company</b>                 | : Tesoro Alaska Company<br>300 Concord Plaza Drive, San Antonio, TX 78216-6999               |                                     |                  |
| <b>Tesoro Call Center</b>      | : (877) 783-7676   | <b>Chemtrec (Emergency Contact)</b> | : (800) 424-9300 |

### SECTION 2. HAZARDS IDENTIFICATION

#### Emergency Overview

- Regulatory status** : This material is considered hazardous by the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200).
- Hazard Summary** : Extremely flammable. Irritating to eyes and respiratory system. Affects central nervous system. Harmful or fatal if swallowed. Aspiration Hazard.

Recent preliminary reports suggest that the government-mandated ethanol component may not be compatible with fiberglass gasoline tanks. Ethanol may dissolve fiberglass resin, causing engine damage and possibly allow leakage of explosive gasoline.

#### Potential Health Effects

- Eyes** : Causes eye irritation.
- Skin** : May cause skin irritation. Can be absorbed through skin.
- Ingestion** : Aspiration hazard if liquid is inhaled into lungs, particularly from vomiting after ingestion. Aspiration may result in chemical pneumonia, severe lung damage, respiratory failure and even death. Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death may occur.
- Chronic Exposure** : Long-term exposure may cause effects to specific organs, such as to the liver, kidneys, blood, nervous system, and skin. Contains benzene, which can cause

blood disease, including anemia and leukemia.

**Target Organs**

: Eyes, Skin, Central nervous system, Liver, Kidney, Blood

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

| Component                                    | CAS-No.    | Weight %    |
|--|------------|-------------|
| Gasoline, natural; Low boiling point naphtha | 8006-61-9  | 10 - 30%    |
| Toluene                                      | 108-88-3   | 10 - 30%    |
| Xylene                                       | 1330-20-7  | 10 - 30%    |
| Ethanol; ethyl alcohol                       | 64-17-5    | 0-8.2%      |
| Trimethylbenzene                             | 25551-13-7 | 1 - 5%      |
| Isopentane; 2-methylbutane                   | 78-78-4    | 1 - 5%      |
| Naphthalene                                  | 91-20-3    | 1 - 5%      |
| Benzene                                      | 71-43-2    | 0.1 - 4.7%  |
| Pentane                                      | 109-66-0   | 1 - 5%      |
| Cyclohexane                                  | 110-82-7   | 1 - 5%      |
| Ethylbenzene                                 | 100-41-4   | 1 - 5%      |
| Butane                                       | 106-97-8   | 1 - 20%     |
| Heptane [and isomers]                        | 142-82-5   | 0.5 - 0.75% |
| N-hexane                                     | 110-54-3   | 0.5 - 0.75% |

**SECTION 4. FIRST AID MEASURES**

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention immediately.  |
| <b>Skin contact</b> | : In case of contact, immediately flush skin with plenty of water. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Contaminated leather, particularly footwear, must be discarded. Note that contaminated clothing may be a fire hazard. Seek medical advice if symptoms persist or develop. |
| <b>Eye contact</b>  | : Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek medical advice if symptoms persist or develop.  |
| <b>Ingestion</b>    | : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Obtain medical attention.   |

**Notes to physician** : Symptoms: Dizziness, Discomfort, Headache, Nausea, Kidney disorders, Liver disorders, Aspiration may cause pulmonary edema and pneumonitis. Lung edema.

**SECTION 5. FIRE-FIGHTING MEASURES**

**Form** : Liquid

**Flash point** : -45 °C (-49 °F)

**Auto Ignition temperature** : 257.22 °C (495.00 °F)

**Lower explosive limit** : 1.3 %(V)

**Upper explosive limit** : 7.6 %(V)

**Suitable extinguishing media** : SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, fire fighting foam, or Halon. LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers., Keep containers and surroundings cool with water spray.

**Specific hazards during fire fighting** : Extremely flammable liquid and vapor. This material is combustible/flammable and is sensitive to fire, heat, and static discharge.

**Special protective equipment for fire-fighters** : Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing.

**Further information** : Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam. Exposure to decomposition products may be a hazard to health. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions** : Evacuate personnel to safe areas. Ventilate the area. Remove all sources of ignition. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

**Environmental precautions** : Discharge into the environment must be avoided. If the product contaminates rivers and lakes or drains inform respective authorities.

**Methods for cleaning up** : Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations.

**CERCLA Hazardous substances and corresponding RQs :**

|  |           |           |
|--|-----------|-----------|
| Gasoline, natural; Low boiling point naphtha | 8006-61-9 | 100 lbs   |
| Xylene                                       | 1330-20-7 | 100 lbs   |
| Toluene                                      | 108-88-3  | 1,000 lbs |
| Ethanol; Ethyl alcohol                       | 64-17-5   | 100 lbs   |
| Isopentane; 2-Methylbutane                   | 78-78-4   | 100 lbs   |
| Naphthalene                                  | 91-20-3   | 100 lbs   |
| Benzene                                      | 71-43-2   | 10 lbs    |
| Pentane                                      | 109-66-0  | 100 lbs   |
| Ethylbenzene                                 | 100-41-4  | 1,000 lbs |
| Cyclohexane                                  | 110-82-7  | 1,000 lbs |
| Butane                                       | 106-97-8  | 100 lbs   |
| Heptane [and isomers]                        | 142-82-5  | 100 lbs   |
| n-hexane                                     | 110-54-3  | 5,000 lbs |

**SECTION 7. HANDLING AND STORAGE**

- Handling** : Keep away from fire, sparks and heated surfaces. No smoking near areas where material is stored or handled. The product should only be stored and handled in areas with intrinsically safe electrical classification.
- Advice on protection against fire and explosion** : Hydrocarbon liquids including this product can act as a non-conductive flammable liquid (or static accumulators), and may form ignitable vapor-air mixtures in storage tanks or other containers. Precautions to prevent static-initated fire or explosion during transfer, storage or handling, include but are not limited to these examples:
- (1) Ground and bond containers during product transfers. Grounding and bonding may not be adequate protection to prevent ignition or explosion of hydrocarbon liquids and vapors that are static accumulators.
  - (2) Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil or diesel) is loaded into tanks previously containing low flash point products (such gasoline or naphtha).
  - (3) Storage tank level floats must be effectively bonded.
- For more information on precautions to prevent static-initated fire or explosion, see NFPA 77, Recommended Practice on Static Electricity (2007), and API Recommended Practice 2003, Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents (2008).
- Dust explosion class** : Not applicable
- Requirements for storage areas and containers** : Keep away from flame, sparks, excessive temperatures and open flame. Use approved containers. Keep containers closed and clearly labeled. Empty or partially full product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose containers to sources of ignition. Store in a well-ventilated area. The storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

**Advice on common storage** : Keep away from food, drink and animal feed. Incompatible with oxidizing agents. Incompatible with acids.

**Other data** : No decomposition if stored and applied as directed. Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure.

**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines**

| List     | Components                 | CAS-No.    | Type:    | Value                    |
|----------|----------------------------|------------|----------|--------------------------|
| OSHA     | Benzene                    | 71-43-2    | TWA      | 1 ppm                    |
|          |                            | 71-43-2    | STEL     | 5 ppm                    |
|          |                            | 71-43-2    | OSHA_ACT | 0.5 ppm                  |
| OSHA Z1  | Xylene                     | 1330-20-7  | PEL      | 100 ppm    435 mg/m3     |
|          | Ethanol; Ethyl alcohol     | 64-17-5    | PEL      | 1,000 ppm    1,900 mg/m3 |
|          | Naphthalene                | 91-20-3    | PEL      | 10 ppm    50 mg/m3       |
|          | Cyclohexane                | 110-82-7   | PEL      | 300 ppm    1,050 mg/m3   |
|          | Ethylbenzene               | 100-41-4   | PEL      | 100 ppm    435 mg/m3     |
|          | Heptane [and isomers]      | 142-82-5   | PEL      | 500 ppm    2,000 mg/m3   |
|          | N-hexane                   | 110-54-3   | PEL      | 500 ppm    1,800 mg/m3   |
| ACGIH    | Toluene                    | 108-88-3   | TWA      | 50 ppm                   |
|          | Xylene                     | 1330-20-7  | TWA      | 100 ppm                  |
|          |                            | 1330-20-7  | STEL     | 150 ppm                  |
|          | Ethanol; Ethyl alcohol     | 64-17-5    | TWA      | 1,000 ppm                |
|          | Trimethylbenzene           | 25551-13-7 | TWA      | 25 ppm                   |
|          | Isopentane; 2-Methylbutane | 78-78-4    | TWA      | 600 ppm                  |
|          | Naphthalene                | 91-20-3    | TWA      | 10 ppm                   |
|          |                            | 91-20-3    | STEL     | 15 ppm                   |
|          | Benzene                    | 71-43-2    | TWA      | 0.5 ppm                  |
|          |                            | 71-43-2    | STEL     | 2.5 ppm                  |
|          | Pentane                    | 109-66-0   | TWA      | 600 ppm                  |
|          | Cyclohexane                | 110-82-7   | TWA      | 100 ppm                  |
|          | Ethylbenzene               | 100-41-4   | TWA      | 100 ppm                  |
|          |                            | 100-41-4   | STEL     | 125 ppm                  |
|          | Heptane [and isomers]      | 142-82-5   | TWA      | 400 ppm                  |
| 142-82-5 |                            | STEL       | 500 ppm  |                          |
| N-hexane | 110-54-3                   | TWA        | 50 ppm   |                          |

**Engineering measures** : Use adequate ventilation to keep gas and vapor concentrations of this product

|                                 |  |
|---------------------------------|--|
|                                 | below occupational exposure and flammability limits, particularly in confined spaces. Use only intrinsically safe electrical equipment approved for use in classified areas.   |
| <b>Eye protection</b>           | : Safety glasses or goggles are recommended where there is a possibility of splashing or spraying. Ensure that eyewash stations and safety showers are close to the workstation location.  |
| <b>Hand protection</b>          | : Gloves constructed of nitrile or neoprene are recommended. Consult manufacturer specifications for further information.  |
| <b>Skin and body protection</b> | : If needed to prevent skin contact, chemical protective clothing such as of DuPont TyChem®, Saranex or equivalent recommended based on degree of exposure. Flame resistant clothing such as Nomex ® is recommended in areas where material is stored or handled.  |
| <b>Respiratory protection</b>   | : A NIOSH/ MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection. Use a NIOSH/ MSHA-approved positive-pressure supplied-air respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection. |
| <b>Work / Hygiene practices</b> | : Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves.                                    |

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

|                                  |   |
|----------------------------------|---|
| <b>Form</b>                      | : Liquid  |
| <b>Appearance</b>                | : Clear, straw colored                                |
| <b>Odor</b>                      | : Characteristic hydrocarbon-like                     |
| <b>Flash point</b>               | : -45 °C (-49 °F)                                     |
| <b>Auto Ignition temperature</b> | : 257.22 °C (495.00 °F)                               |
| <b>Thermal decomposition</b>     | : No decomposition if stored and applied as directed. |
| <b>Lower explosive limit</b>     | : 1.3 %(V)  |
| <b>Upper explosive limit</b>     | : 7.6 %(V)  |
| <b>pH</b>                        | : Not applicable                                      |
| <b>Freezing point</b>            | : No data available                                   |
| <b>Boiling point</b>             | : 85 to 437 °F    (39 to 200 °C)                      |

|  |  |
|--|--|
| <b>Vapor Pressure</b>  | : 345 - 1,034 hPa<br>at 37.8 °C (100.0 °F)   |
| <b>Relative Vapor Density</b>  | : Approximately 3 to 4   |
| <b>Density</b>   | : 0.8 g/cm <sup>3</sup>  |
| <b>Water solubility</b>  | : Negligible   |
| <b>Viscosity, dynamic</b>  | : No data available  |
| <b>Viscosity, kinematic</b>  | : No data available  |
| <b>Percent Volatiles</b>   | : 100 %  |
| <b>Conductivity<br/>(conductivity can be reduced<br/>by environmental factors such<br/>as a decrease in temperature)</b> | Hydrocarbon liquids without static dissipater additive may have conductivity below 1 picoSiemens per meter (pS/m). The highest electro-static ignition risks are associated with "ultra-low conductivities" below 5 pS/m. See Section 7 for sources of information on defining safe loading and handling procedures for low conductivity products. |

**SECTION 10. STABILITY AND REACTIVITY**

|   |  |
|---|--|
| <b>Conditions to avoid</b>              | : Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.   |
| <b>Materials to avoid</b>               | : Strong oxidizing agents. Peroxides. Strong acids.  |
| <b>Hazardous decomposition products</b> | : Carbon monoxide, carbon dioxide and noncombusted hydrocarbons (smoke). Contact with nitric and sulfuric acids will form nitrocresols that can decompose violently. |
| <b>Thermal decomposition</b>            | : No decomposition if stored and applied as directed.  |
| <b>Hazardous reactions</b>              | : Keep away from oxidizing agents, and acidic or alkaline products. Hazardous polymerization does not occur.   |

**SECTION 11. TOXICOLOGICAL INFORMATION**

**Carcinogenicity**

|                                  |  |
|----------------------------------|--|
| <b>NTP</b>                       | : Naphthalene (CAS-No.: 91-20-3)<br>Benzene (CAS-No.: 71-43-2)   |
| <b>IARC</b>                      | : Gasoline, natural; Low boiling point naphtha (CAS-No.: 8006-61-9)<br>Naphthalene (CAS-No.: 91-20-3)<br>Benzene (CAS-No.: 71-43-2)<br>Ethylbenzene (CAS-No.: 100-41-4)                      |
| <b>OSHA</b>                      | : Benzene (CAS-No.: 71-43-2)   |
| <b>CA Prop 65</b>                | : WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.<br>Toluene (CAS-No.: 108-88-3)<br>Benzene (CAS-No.: 71-43-2) |
| <b>Acute oral toxicity</b>       | : LD50 rat<br>Dose: 18.8 mg/kg   |
| <b>Acute inhalation toxicity</b> | : LC50 rat   |

Dose: 20.7 mg/l  
 Exposure time: 4 h

**Skin irritation** : Irritating to skin.

**Eye irritation** : Irritating to eyes.

**Further information** : Liver and kidney injuries may occur.  
 Components of the product may affect the nervous system.  
 IARC has determined that gasoline and gasoline exhaust are possibly carcinogenic in humans. Inhalation exposure to completely vaporized unleaded gasoline caused kidney cancers in male rats and liver tumors in female mice. The U.S. EPA has determined that the male kidney tumors are species-specific and are irrelevant for human health risk assessment. The significance of the tumors seen in female mice is not known. Exposure to light hydrocarbons in the same boiling range as this product has been associated in animal studies with effects to the central and peripheral nervous systems, liver, and kidneys. The significance of these animal models to predict similar human response to gasoline is uncertain.  
 This product contains benzene. Human health studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood-forming system (particularly bone marrow), and serious blood disorders such as aplastic anemia and leukemia. Benzene is listed as a human carcinogen by the NTP, IARC, OSHA and ACGIH. Acute toxicity of benzene results primarily from depression of the central nervous system (CNS). Inhalation of concentrations over 50 ppm can produce headache, lassitude, weariness, dizziness, drowsiness, over excitation. Exposure to very high levels can result in unconsciousness and death.

**Component:**

**Gasoline, natural; Low boiling point naphtha**      8006-61-9

Acute oral toxicity: LD50 rat  
 Dose: 18.8 mg/kg

Acute inhalation toxicity: LC50 rat  
 Dose: 20.7 mg/l  
 Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
 Result: Mild skin irritation

Eye irritation: Classification: Irritating to eyes.  
 Result: Moderate eye irritation

**Toluene**      108-88-3

Acute oral toxicity: LD50 rat  
 Dose: 636 mg/kg

Acute dermal toxicity: LD50 rabbit  
 Dose: 12,124 mg/kg

Acute inhalation toxicity: LC50 rat  
 Dose: 49 mg/l  
 Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
 Result: Mild skin irritation  
 Prolonged skin contact may defat the skin and produce dermatitis.

Eye irritation: Classification: Irritating to eyes.  
 Result: Mild eye irritation

**Xylene**      1330-20-7

Acute oral toxicity: LD50 rat  
 Dose: 2,840 mg/kg

Acute dermal toxicity: LD50 rabbit  
 Dose: ca. 4,500 mg/kg

Acute inhalation toxicity: LC50 rat

Dose: 6,350 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Mild skin irritation  
Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.  
Eye irritation: Classification: Irritating to eyes.  
Result: Mild eye irritation

**Ethanol; Ethyl alcohol**

64-17-5

Acute oral toxicity: LD50 rat  
Dose: 6,200 mg/kg

Acute dermal toxicity: LD50 rabbit  
Dose: 19,999 mg/kg

Acute inhalation toxicity: LC50 rat  
Dose: 8,001 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Mild skin irritation  
Prolonged skin contact may cause skin irritation and/or dermatitis.  
Eye irritation: Classification: Irritating to eyes.  
Result: Mild eye irritation  
Mild eye irritation

**Naphthalene**

91-20-3

Acute oral toxicity: LD50 rat  
Dose: 2,001 mg/kg

Acute dermal toxicity: LD50 rat  
Dose: 2,501 mg/kg

Acute inhalation toxicity: LC50 rat  
Dose: 101 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Mild skin irritation

Eye irritation: Classification: Irritating to eyes.  
Result: Mild eye irritation

Carcinogenicity: N11.00422130

**Benzene**

71-43-2

Acute oral toxicity: LD50 rat  
Dose: 930 mg/kg

Acute inhalation toxicity: LC50 rat  
Dose: 44 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Mild skin irritation  
Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.  
Eye irritation: Classification: Irritating to eyes.  
Result: Risk of serious damage to eyes.

**Pentane**

109-66-0

Acute oral toxicity: LD50 rat  
Dose: 2,001 mg/kg

Acute inhalation toxicity: LC50 rat  
Dose: 364 mg/l  
Exposure time: 4 h

Skin irritation: Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.  
Eye irritation: Classification: Irritating to eyes.  
Result: Mild eye irritation

|                              |          |  |
|------------------------------|----------|--|
| <b>Cyclohexane</b>           | 110-82-7 | <p><u>Acute dermal toxicity:</u> LD50 rabbit<br/>Dose: 2,001 mg/kg</p> <p><u>Acute inhalation toxicity:</u> LC50 rat<br/>Dose: 14 mg/l<br/>Exposure time: 4 h</p> <p><u>Skin irritation:</u> Classification: Irritating to skin.<br/>Result: Skin irritation</p> <p><u>Eye irritation:</u> Classification: Irritating to eyes.<br/>Result: Mild eye irritation</p>   |
| <b>Ethylbenzene</b>          | 100-41-4 | <p><u>Acute oral toxicity:</u> LD50 rat<br/>Dose: 3,500 mg/kg</p> <p><u>Acute dermal toxicity:</u> LD50 rabbit<br/>Dose: 15,500 mg/kg</p> <p><u>Acute inhalation toxicity:</u> LC50 rat<br/>Dose: 18 mg/l<br/>Exposure time: 4 h</p> <p><u>Skin irritation:</u> Classification: Irritating to skin.<br/>Result: Mild skin irritation</p> <p><u>Eye irritation:</u> Classification: Irritating to eyes.<br/>Result: Risk of serious damage to eyes.</p>   |
| <b>Heptane [and isomers]</b> | 142-82-5 | <p><u>Acute oral toxicity:</u> LD50 rat<br/>Dose: 15,001 mg/kg</p> <p><u>Acute inhalation toxicity:</u> LC50 rat<br/>Dose: 103 g/m<sup>3</sup><br/>Exposure time: 4 h</p> <p><u>Skin irritation:</u> Classification: Irritating to skin.<br/>Result: Skin irritation<br/>Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.</p> <p><u>Eye irritation:</u> Classification: Irritating to eyes.<br/>Result: Mild eye irritation</p> |
| <b>N-hexane</b>              | 110-54-3 | <p><u>Acute oral toxicity:</u> LD50 rat<br/>Dose: 25,000 mg/kg</p> <p><u>Acute dermal toxicity:</u> LD50 rabbit<br/>Dose: 2,001 mg/kg</p> <p><u>Acute inhalation toxicity:</u> LC50 rat<br/>Dose: 171.6 mg/l<br/>Exposure time: 4 h</p> <p><u>Skin irritation:</u> Classification: Irritating to skin.<br/>Result: Skin irritation</p> <p><u>Eye irritation:</u> Classification: Irritating to eyes.<br/>Result: Mild eye irritation</p> <p><u>Teratogenicity:</u> N11.00418960</p>                  |

**SECTION 12. ECOLOGICAL INFORMATION**

**Additional ecological information** : Keep out of sewers, drainage areas, and waterways. Report spills and releases, as applicable, under Federal and State regulations.

**Component:**

|                                   |          |  |
|-----------------------------------|----------|--|
| <b>Toluene</b>                    | 108-88-3 | <p><u>Toxicity to fish:</u><br/>LC50<br/>Species: Carassius auratus (goldfish)<br/>Dose: 13 mg/l<br/>Exposure time: 96 h</p> <p><u>Acute and prolonged toxicity for aquatic invertebrates:</u><br/>EC50<br/>Species: Daphnia magna (Water flea)<br/>Dose: 11.5 mg/l<br/>Exposure time: 48 h</p> <p><u>Toxicity to algae:</u><br/>IC50<br/>Species: Selenastrum capricornutum (green algae)<br/>Dose: 12 mg/l<br/>Exposure time: 72 h</p> |
| <b>Ethanol; Ethyl alcohol</b>     | 64-17-5  | <p><u>Toxicity to fish:</u><br/>LC50<br/>Species: Leuciscus idus (Golden orfe)<br/>Dose: 8,140 mg/l<br/>Exposure time: 48 h</p> <p><u>Acute and prolonged toxicity for aquatic invertebrates:</u><br/>EC50<br/>Species: Daphnia magna (Water flea)<br/>Dose: 9,268 - 14,221 mg/l<br/>Exposure time: 48 h</p>   |
| <b>Isopentane; 2-Methylbutane</b> | 78-78-4  | <p><u>Toxicity to fish:</u><br/>LC50<br/>Species: Oncorhynchus mykiss (rainbow trout)<br/>Dose: 3.1 mg/l<br/>Exposure time: 96 h</p> <p><u>Acute and prolonged toxicity for aquatic invertebrates:</u><br/>EC50<br/>Species: Daphnia magna (Water flea)<br/>Dose: 2.3 mg/l<br/>Exposure time: 96 h</p>   |
| <b>Naphthalene</b>                | 91-20-3  | <p><u>Toxicity to algae:</u><br/>EC50<br/>Species:<br/>Dose: 33 mg/l<br/>Exposure time: 24 h</p>   |
| <b>Pentane</b>                    | 109-66-0 | <p><u>Acute and prolonged toxicity for aquatic invertebrates:</u><br/>EC50<br/>Species: Daphnia magna (Water flea)<br/>Dose: 9.74 mg/l<br/>Exposure time: 48 h</p>   |
| <b>Cyclohexane</b>                | 110-82-7 | <p><u>Acute and prolonged toxicity for aquatic invertebrates:</u><br/>EC50<br/>Species: Daphnia magna (Water flea)<br/>Dose: 3.78 mg/l<br/>Exposure time: 48 h</p>   |
| <b>Heptane [and isomers]</b>      | 142-82-5 | <p><u>Toxicity to fish:</u><br/>LC50<br/>Species: Carassius auratus (goldfish)<br/>Dose: 4 mg/l<br/>Exposure time: 24 h</p> <p><u>Acute and prolonged toxicity for aquatic invertebrates:</u><br/>EC50<br/>Species: Daphnia magna (Water flea)<br/>Dose: 1.5 mg/l<br/>Exposure time: 48 h</p>  |

N-hexane

110-54-3

Toxicity to fish:

LC50

Species: Pimephales promelas (fathead minnow)

Dose: 2.5 mg/l

Exposure time: 96 h

Acute and prolonged toxicity for aquatic invertebrates:

EC50

Species: Daphnia magna (Water flea)

Dose: 2.1 mg/l

Exposure time: 48 h

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal** : Dispose of container and unused contents in accordance with federal, state and local requirements.

**SECTION 14. TRANSPORT INFORMATION****CFR**

Proper shipping name : Petrol

UN-No. : 1203

Class : 3

Packing group : II

**TDG**

Proper shipping name : Gasoline

UN-No. : UN1203

Class : 3

Packing group : II

**IATA Cargo Transport**

UN UN-No. : UN1203

Description of the goods : Gasoline

Class : 3

Packaging group : II

ICAO-Labels : 3

Packing instruction (cargo aircraft) : 307

Packing instruction (cargo aircraft) : Y305

**IATA Passenger Transport**

UN UN-No. : UN1203

Description of the goods : Gasoline

Class : 3

Packaging group : II

ICAO-Labels : 3

Packing instruction (passenger aircraft) : 305

Packing instruction (passenger aircraft) : Y305

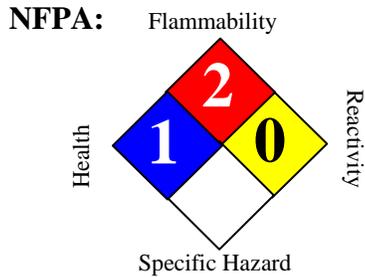
**IMDG-Code**





# Material Safety Data Sheet

## Jet Fuel



**HMIS III:**

|              |   |
|--------------|---|
| HEALTH       | 1 |
| FLAMMABILITY | 2 |
| PHYSICAL     | 0 |

0 = Insignificant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme

### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

|                                |   |
|--------------------------------|---|
| <b>Product name</b>            | : Jet Fuel  |
| <b>Synonyms</b>                | : Jet Fuel - A, B, A-I, A-50, High Sulfur, Military, Jet A & B Aviation Turbine Fuel, Jet A-I, Jet A; Avjet For Blending; Jet Q Turbine Fuel, Aviation Fuel; Turbine Fuel; JP-4; JP-5; JP-8, Av-Jet, 888100004452 |
| <b>MSDS Number</b>             | : 888100004452 <b>Version</b> : 2.10  |
| <b>Product Use Description</b> | : Fuel  |
| <b>Company</b>                 | : Tesoro Alaska Company<br>19100 Ridgewood Parkway, San Antonio, TX 78259   |
| <b>Tesoro Call Center</b>      | : (877) 783-7676 <b>Chemtec (Emergency Contact)</b> : (800) 424-9300  |

### SECTION 2. HAZARDS IDENTIFICATION

#### Emergency Overview

|                          |   |
|--------------------------|---|
| <b>Regulatory status</b> | : This material is considered hazardous by the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200). |
| <b>Signal Word</b>       | : WARNING   |
| <b>Hazard Summary</b>    | : Harmful or fatal if swallowed. Harmful by inhalation. Irritating to eyes, respiratory system and skin. Affects central nervous system. Flammable.   |

#### Potential Health Effects

|                   |   |
|-------------------|---|
| <b>Eyes</b>       | : Severe eye irritant. Contact may cause stinging, watering, redness, swelling, and eye damage.   |
| <b>Skin</b>       | : Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering. Practically non-toxic if absorbed following acute (single) exposure. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed. |
| <b>Ingestion</b>  | : Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death may occur.              |
| <b>Inhalation</b> | : Inhalation of fumes or mist may result in respiratory tract irritation and central  |

nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.  
**WARNING:** the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

**Chronic Exposure** : Similar products produced skin cancer and systemic toxicity in laboratory animals following repeated applications. The significance of these results to human exposures has not been determined - see Section 11 Toxicological Information.

**Target Organs** : Eyes, Skin, Respiratory system, Irritation from skin exposure may aggravate existing open wounds, skin disorders, and dermatitis (rash)

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

| Component                          | CAS-No.   | Weight %   |
|------------------------------------|-----------|------------|
| Kerosene (petroleum)               | 8008-20-6 | 100%       |
| Naphthalene                        | 91-20-3   | 0 to 3%    |
| Ethyl Benzene                      | 100-41-4  | 0 to 1%    |
| Trimethy Benzene                   | 95-63-6   | 0 to 1%    |
| Ethyl Benzene                      | 100-41-4  | 0 to 1%    |
| Diethylene Glycol Monomethyl Ether | 111-77-3  | 0 to 0.15% |
| Alkyl Dithiothiadiazole            | N/A       | 0 to 15%   |

**SECTION 4. FIRST AID MEASURES**

**Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

**Skin contact** : Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water. Wash contaminated clothing before re-use. If skin irritation persists, seek medical attention.

**Eye contact** : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek medical attention immediately.

**Ingestion** : Do NOT induce vomiting. Do not give liquids. Seek medical attention immediately. If vomiting does occur naturally, keep head below the hips to reduce the risks of aspiration. Monitor for breathing difficulties. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

**Notes to physician** : Symptoms: Aspiration may cause pulmonary edema and pneumonitis. Treatment: Do not induce vomiting, use gastric lavage only. Remove from further exposure and treat symptomatically.

**SECTION 5. FIRE-FIGHTING MEASURES**

|   |  |
|---|--|
| <b>Form</b>   | : Liquid   |
| <b>Flash point</b>                                    | : 38 °C (100 °F) minimum   |
| <b>Auto Ignition temperature</b>                      | : 210 °C (410 °F)  |
| <b>Lower explosive limit</b>                          | : 0.7 %(V)   |
| <b>Upper explosive limit</b>                          | : 5.0 %(V)   |
| <b>Suitable extinguishing media</b>                   | : Carbon dioxide (CO2), Water spray, Dry chemical, Foam, Keep containers and surroundings cool with water spray., Do not use a solid water stream as it may scatter and spread fire., Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.   |
| <b>Specific hazards during fire fighting</b>          | : Fire Hazard. Do not use a solid water stream as it may scatter and spread fire. Cool closed containers exposed to fire with water spray. Sealed containers may rupture when heated. Above the flash point, explosive vapor-air mixtures may be formed. Vapors can flow along surfaces to distant ignition source and flash back. |
| <b>Special protective equipment for fire-fighters</b> | : Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing.  |
| <b>Further information</b>                            | : Exposure to decomposition products may be a hazard to health. Standard procedure for chemical fires.   |

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

|  |   |
|--|---|
| <b>Personal precautions</b>                                | : ACTIVATE FACILITY'S SPILL CONTINGENCY OR EMERGENCY RESPONSE PLAN if applicable. Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to contain spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.   |
| <b>Environmental precautions</b>                           | : Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection. |
| <b>Methods for cleaning up</b>                             | : Take up with sand or oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal - caution, flammable vapors may accumulate in closed containers. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).  |
| <b>CERCLA Hazardous substances and corresponding RQs :</b> |   |
| Naphthalene  | 91-20-3                      100 lbs  |
| Ethylbenzene   | 100-41-4                    1,000 lbs   |

**SECTION 7. HANDLING AND STORAGE**

- Handling** : Keep away from fire, sparks and heated surfaces. No smoking near areas where material is stored or handled. The product should only be stored and handled in areas with intrinsically safe electrical classification.
- Advice on protection against fire and explosion** : Hydrocarbon liquids including this product can act as a non-conductive flammable liquid (or static accumulators), and may form ignitable vapor-air mixtures in storage tanks or other containers. Precautions to prevent static-initated fire or explosion during transfer, storage or handling, include but are not limited to these examples:  
 (1) Ground and bond containers during product transfers. Grounding and bonding may not be adequate protection to prevent ignition or explosion of hydrocarbon liquids and vapors that are static accumulators.  
 (2) Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil or diesel) is loaded into tanks previously containing low flash point products (such gasoline or naphtha).  
 (3) Storage tank level floats must be effectively bonded.  
 For more information on precautions to prevent static-initated fire or explosion, see NFPA 77, Recommended Practice on Static Electricity (2007), and API Recommended Practice 2003, Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents (2008).
- Dust explosion class** : Not applicable
- Requirements for storage areas and containers** : Keep away from flame, sparks, excessive temperatures and open flame. Use approved containers. Keep containers closed and clearly labeled. Empty or partially full product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose containers to sources of ignition. Store in a well-ventilated area. The storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".
- Advice on common storage** : Keep away from food, drink and animal feed. Incompatible with oxidizing agents. Incompatible with acids.
- Other data** : Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure.

**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines**

| List    | Components           | CAS-No.   | Type: | Value                |
|---------|----------------------|-----------|-------|----------------------|
| OSHA Z1 | Naphthalene          | 91-20-3   | PEL   | 10 ppm    50 mg/m3   |
|         | Ethyl Benzene        | 100-41-4  | PEL   | 100 ppm    435 mg/m3 |
| ACGIH   | Naphthalene          | 91-20-3   | TWA   | 10 ppm               |
|         |                      | 91-20-3   | STEL  | 15 ppm               |
|         | Kerosene (petroleum) | 8008-20-6 | TWA   | 200 mg/m3            |
|         | Ethyl Benzene        | 100-41-4  | TWA   | 100 ppm    434 mg/m3 |
|         |                      |           | STEL  | 125 ppm    543 mg/m3 |

**Protective measures** : Keep out of reach of children.

|                                 |   |
|---------------------------------|---|
| <b>Engineering measures</b>     | : Use only intrinsically safe electrical equipment approved for use in classified areas. Emergency eye wash capability should be available in the vicinity of any potential splash exposure.  |
| <b>Eye protection</b>           | : Goggles and face shield as needed to prevent eye and face contact.  |
| <b>Hand protection</b>          | : Gloves constructed of nitrile, neoprene, or PVC are recommended.  |
| <b>Skin and body protection</b> | : Chemical protective clothing such as DuPont TyChem®, Barricade or equivalent, recommended based on degree of exposure. Consult manufacturer specifications for further information.   |
| <b>Respiratory protection</b>   | : NIOSH/MSHA approved positive-pressure self-contained breathing apparatus (SCBA) or Type C positive-pressure supplied air with escape bottle must be used for gas concentrations above occupational exposure limits, for potential of uncontrolled release, if exposure levels are not known, or in an oxygen-deficient atmosphere.  |
| <b>Work / Hygiene practices</b> | : Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves. |

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

|                                  |   |
|----------------------------------|---|
| <b>Form</b>                      | : Liquid  |
| <b>Appearance</b>                | : Light yellow to white                               |
| <b>Odor</b>                      | : Characteristic Petroleum distillate                 |
| <b>Flash point</b>               | : 38 °C (100 °F) minimum                              |
| <b>Auto Ignition temperature</b> | : 210 °C (410 °F)                                     |
| <b>Thermal decomposition</b>     | : No decomposition if stored and applied as directed. |
| <b>Lower explosive limit</b>     | : 0.7 %(V)  |
| <b>Upper explosive limit</b>     | : 5.0 %(V)  |
| <b>pH</b>                        | : Not applicable                                      |
| <b>Specific gravity</b>          | : 0.8 (H2O=1)   |
| <b>Freezing point</b>            | : -45°C to -62°C (-50°F to -80°F)                     |
| <b>Boiling Range</b>             | : 160 - 300 °C(320 - 572 °F)                          |
| <b>Vapor Pressure</b>            | : 6.9 hPa<br>at 20 °C (68 °F)                         |
| <b>Relative Vapor Density</b>    | : 4.5   |
| <b>Density</b>                   | : 0.8 g/cm3   |
| <b>Water solubility</b>          | : Insoluble   |

|  |   |  |
|--|---|--|
| <b>Viscosity, kinematic</b>  | : 1.6 mm <sup>2</sup> /s<br>at 40 °C (104 °F)   |  |
| <b>Percent Volatiles</b>   | : 100 %   |  |
| <b>Conductivity<br/>(conductivity can be reduced<br/>by environmental factors such<br/>as a decrease in temperature)</b> | Diesel Fuel Oils at terminal load rack:<br>Ultra Low Sulfur Diesel (ULSD) without conductivity additive:<br>ULSD at terminal load rack with conductivity additive:<br>JP-8 at terminal load rack: | At least 25 pS/m<br>0 pS/m to 5 pS/m<br>At least 50 pS/m but<br>conductivity may decrease from environmental factors such as temperature drop.<br>150 pS/m to 600 pS/m |

**SECTION 10. STABILITY AND REACTIVITY**

|   |   |
|---|---|
| <b>Conditions to avoid</b>              | : Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources. Keep away from strong oxidizers.                           |
| <b>Materials to avoid</b>               | : Keep away from strong oxidizers such as nitric and sulfuric acids.  |
| <b>Hazardous decomposition products</b> | : Risk of explosion. In case of fire hazardous decomposition products may be produced such as: Smoke. Hydrocarbons. Carbon Monoxide and Carbon Dioxide. |
| <b>Thermal decomposition</b>            | : No decomposition if stored and applied as directed.   |
| <b>Hazardous reactions</b>              | : Stable under normal conditions of use; however, incompatible with strong acids and strong oxidizers.  |

**SECTION 11. TOXICOLOGICAL INFORMATION**

**Carcinogenicity**

|                            |   |
|----------------------------|---|
| <b>NTP</b>                 | : Naphthalene (CAS-No.: 91-20-3)  |
| <b>IARC</b>                | : Kerosene is not listed as carcinogenic by NTP, OSHA, and ACGIH. IARC has listed kerosene as a probable human carcinogen.<br>naphthalene (CAS-No.: 91-20-3)<br>Kerosene (petroleum) (CAS-No.: 8008-20-6)   |
| <b>CA Prop 65</b>          | : WARNING! This product contains a chemical known to the State of California to cause cancer.<br>Naphthalene (CAS-No.: 91-20-3)   |
| <b>Skin irritation</b>     | : Irritating to skin.   |
| <b>Eye irritation</b>      | : Irritating to eyes.   |
| <b>Further information</b> | : Kerosene does not have a measurable effect on human reproduction or development.<br>Kerosene is not listed as carcinogenic by NTP, OSHA, and ACGIH. IARC has listed kerosene as a probable human carcinogen.<br>Some petroleum distillates have been found to cause adverse reproductive effects in laboratory animals.<br>Acute and chronic exposure to kerosene may result in CNS effects including irritability, restlessness, ataxia, drowsiness, convulsions, coma and death. The most common health effect associated with chronic kerosene exposure is dermatitis. |

**Component:**

|                             |           |   |
|-----------------------------|-----------|---|
| <b>Kerosene (petroleum)</b> | 8008-20-6 | <u>Acute oral toxicity:</u> LD50 rat<br>Dose: 5 mg/kg |
|-----------------------------|-----------|---|

Acute dermal toxicity: LD50 rabbit  
Dose: 2,001 mg/kg

Acute inhalation toxicity: LC50 rat  
Dose: 5.28 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Skin irritation

Acute oral toxicity: LD50 rat  
Dose: 2,001 mg/kg

Acute dermal toxicity: LD50 rat  
Dose: 2,501 mg/kg

Acute inhalation toxicity: LC50 rat  
Dose: 101 mg/l  
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.  
Result: Mild skin irritation

Eye irritation: Classification: Irritating to eyes.  
Result: Mild eye irritation

Carcinogenicity: N11.00422130

**Naphthalene**

91-20-3

**SECTION 12. ECOLOGICAL INFORMATION**

**Additional ecological information** : Release of this product should be prevented from contaminating soil and water and from entering drainage and sewer systems. U.S.A. regulations require reporting spills of this material that could reach any surface waters. The toll free number for the U.S. Coast Guard National Response Center is (800) 424-8802. Naphthalene (91-20-3) one of the ingredients in this mixture is classified as a Marine Pollutant.

**Component:**

**Naphthalene**

91-20-3

Toxicity to algae:  
EC50  
Species:  
Dose: 33 mg/l  
Exposure time: 24 h

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal** : Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

**SECTION 14. TRANSPORT INFORMATION**

CFR

Proper shipping name : Fuel, aviation, turbine engine  
 UN-No. : 1863  
 Class : 3  
 Packing group : III

**TDG**

Proper shipping name : Fuel, aviation, turbine engine  
 UN-No. : UN1863  
 Class : 3  
 Packing group : III

**IATA Cargo Transport**

UN UN-No. : UN1863  
 Description of the goods : Fuel, aviation, turbine engine  
 Class : 3  
 Packaging group : III  
 ICAO-Labels : 3  
 Packing instruction (cargo aircraft) : 310  
 Packing instruction (cargo aircraft) : Y309

**IATA Passenger Transport**

UN UN-No. : UN1863  
 Description of the goods : Fuel, aviation, turbine engine  
 Class : 3  
 Packaging group : III  
 ICAO-Labels : 3  
 Packing instruction (passenger aircraft) : 309  
 Packing instruction (passenger aircraft) : Y309

**IMDG-Code**

UN-No. : UN 1863  
 Description of the goods : Fuel, aviation, turbine engine  
 Class : 3  
 Packaging group : III  
 IMDG-Labels : 3  
 EmS Number : F-E S-E  
 Marine pollutant : Yes

**SECTION 15. REGULATORY INFORMATION**

OSHA Hazards : Toxic by inhalation.  
 Highly toxic by ingestion  
 Moderate skin irritant  
 Severe eye irritant  
 Combustible

TSCA Status : On TSCA Inventory

DSL Status : All components of this product are on the Canadian DSL list.

SARA 311/312 Hazards : Acute Health Hazard  
Chronic Health Hazard  
Fire Hazard

California Prop. 65 : WARNING! This product contains a chemical known to the State of California to cause cancer.

Naphthalene 91-20-3

## SECTION 16. OTHER INFORMATION

### Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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**Revision Date** : 12/08/2009

40, 41, 42, 43, 44, 45, 60, 113, 137, 138, 139, 140, 141, 142, 263, 285, 1048, 1117, 1137, 1138, 1546

# Hose Watch Procedures

The hose watch will consist of one or more Bonanza Fuel personnel based on the length of hose laid across the ice and weather conditions.

Personnel acting as hose watch shall be equipped with appropriate cold weather PPE, VHF handheld radio, and explosion proof flashlight.

The hose watch is an important job prior to and during the fuel transfer procedure. This operation consists of procedures outside of those normally expected. The weather conditions during the transfer period may also be severe and place extra stress and strain on transfer equipment and personnel.

To help mitigate the increased risk during the transfer, a hose watch will be implemented and maintained for any over ice transfers.

## Pre-transfer

1. Meet with the Facility and Vessel PICs to establish communication procedures. Complete the ICS 205 form attached to the Oil Transfer Procedures.
2. Verify that the ice is strong enough to safely allow personnel and equipment to work.
3. Test communications with the PICs and tank watch personnel to ensure effective radio communications.
4. Transit the hose length and inspect each connection. Make sure the connection is tight and that appropriate secondary containment has been placed under each hose connection.
5. Ensure that there is enough scope in the hose to prevent any damage to hose, connections or manifolds should there be any movement of the hose due to ice or vessel movement.
6. Ensure that there is adequate lighting to be able to detect any leakage from the hose or connections.

## During Transfer

1. At the start up of transfer, transit the length of the hose over ice and inspect each hose connection and hose for any signs of leakage or damage.
2. Transit the length of the hose over ice and inspect each hose connection and hose for any signs of leakage or damage at least once every 30 minutes.
3. Advise the Facility tank watch person (or other person designated by the Facility PICs) by VHF radio at the beginning and conclusion of each inspection.
4. If any hose leakage or damage is found, immediately notify the PICs by VHF radio to activate emergency shutdown procedures.
5. Immediately begin containment and control procedures if a leak is detected. If additional response personnel and equipment are going to be required, advise the Facility PIC.
6. Prior to the continuation of the transfer, Transit the hose and re-inspect the hose and all connections. If it is safe to continue the transfer, advise the PICs.



## INCIDENT RADIO COMMUNICATIONS PLAN (ICS 205-CG)

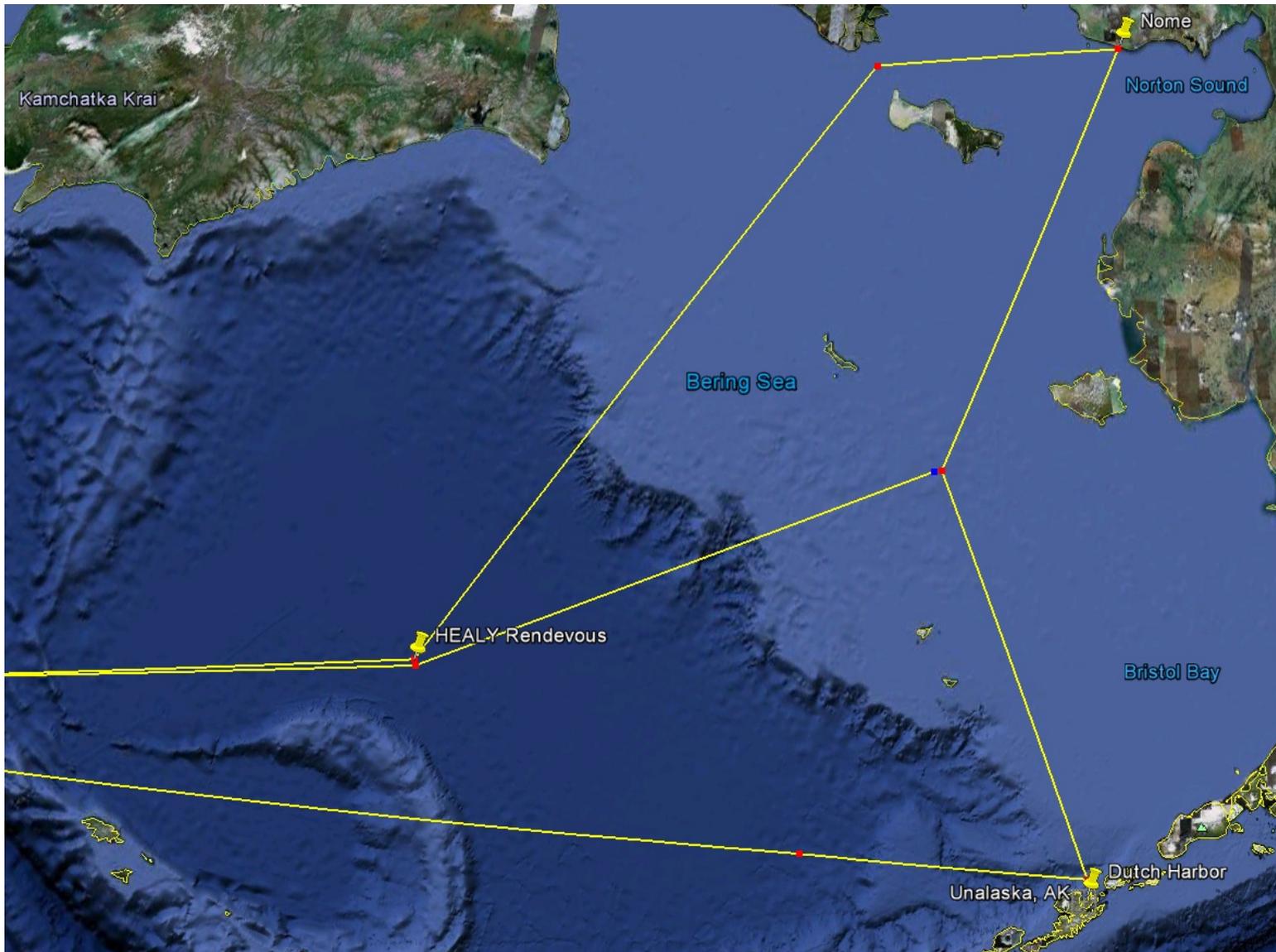
**Special Note.** This form, ICS 205-CG, is used to provide, in one location, information on all radio frequency assignments down to the Division/Group level for each operational period; whereas, the Communications List, ICS 205a-CG is used to list methods of contact for personnel assigned to the incident (radio frequencies, phone numbers, pager numbers, etc.).

**Purpose.** The Incident Radio Communications Plan is a summary of information obtained from the Radio Requirements Worksheet (ICS 216) and the Radio Frequency Assignment Worksheet (ICS 217). Information from the Radio Communications Plan on frequency assignments is normally noted on the appropriate Assignment List (ICS 204-CG).

**Preparation.** The Incident Radio Communications Plan is prepared by the Communications Unit Leader and given to the Planning Section Chief. Detailed instructions on the preparation of this form may be found in ICS Publication 223-5, Communications Unit Position Manual.

**Distribution.** The Incident Radio Communications Plan is duplicated and given to all recipients of the Incident Objectives form, including the Incident Communications Center. Information from the plan is placed on Assignment Lists. All completed original forms MUST be given to the Documentation Unit.

| <u>Item #</u> | <u>Item Title</u>   | <u>Instructions</u>   |
|---------------|---|---|
| 1.            | Incident Name   | Enter the name assigned to the incident.  |
| 2.            | Operational Period  | Enter the time interval for which the form applies.   |
| 3.            | Basic Radio Channel System<br>Channel<br>Function<br><br>Frequency<br><br>Assignment<br><br>Remarks | Enter the following information about radio channel use:<br>Radio cache system(s) assigned and used on the incident.<br>Radio channel numbers assigned.<br>Function each channel is assigned (e.g., command, support, division tactical, and ground-to-air).<br>Radio frequency tone number assigned to each specified function (e.g., 153.400)<br>ICS organization assigned to each of the designated frequencies (e.g., Branch I, Division A).<br>This section should include narrative information regarding special situations. |
| 4.            | Prepared By   | Enter the name of the Communications Unit Leader preparing the form.  |
|               | Date/Time   | Enter date (month, day, year) and time prepared (24-hour clock).  |



**Vessel Route From Far East to Alaska**

Dear Sirs,

MT Renda as well as the rest of the 4 sister ship tankers (since 1999 – Renda, Venspils, Kasira, since 2007 – Razna, Taganroga) regularly navigate through Northern Sea Route. Authority of Northern Sea Route inspects all tankers annually and issues the certificate of approval for Arctic areas.

Before 2007 tankers navigated at the eastern part of Arctic. But since 2007 our tankers navigate at the route: Arkhangelsk – Pevek – Anadyr – Petropavlovsk Kamchatskiy and so on. The ice breakers are not always used for said navigation due to suitability of the tankers (including Renda) for independent ice navigation across the Arctic.

On June 28, 2010 as soon as Bering Strait was open, Renda and Razna independently navigated Arctic and successfully completed passage from Eastern part of Arctic to Port of Arkhangelsk. During Arctic trips Renda were crossing ice fields with various ice concentration, including parts with concentration up to 9.

In 2011 Renda made 3 voyages from Eastern part of Arctic to Pevek & Tiksi and 2 voyages through the entire Northern Sea Route without icebreaker assistance.

Our records shows (and it can be verified by review of archived ice charts) that since 2000 all our tankers navigated through Laperuza Strait to Magadan & Petropavlovsk Kamchatskiy all winter, also independently passing through ice with various ice concentration.

Renda is proud to be part of humanitarian voyage to iced port Egvikinot in Chukotka. That happened in year 2000 when Russian government requested MT Renda to assist in emergency fuel delivery (similar situation to what happening in Nome). In February 2000 MT Renda successfully delivered fuel with assistance of icebreaker “KRASIN”. The ice thickness was more than 3 meters.

Renda also participated in number of rescue operations in Sea of Okhotsk. This information is widely available on internet and new reports. One of them occurred in 2009 when Renda freed German bulker that stuck in close and very close floating ice. Details of this rescue operation also widely available from news reports.

We hope this essay will satisfy your request. Otherwise we are not able to figure percentage of types of ice Renda ever passed, especially with required precision.

Best Regards,  
Irina Tikhonova  
On b/h of Owners

Russian Vessel build specifications – per Russian Maritime Register of Shipping – Rules for the Classification and construction of Sea-Going Ships, Volume 1, Edition 2011.

- T/V Renda – Class KM(\*)UL[1]AUT1 oil tanker(ESP)
  - KM(\*) = Built to class specification,
  - UL = Arc5
    - Table 2.2.3.4-1 type of ice navigation: independent & icebreaker escorted
    - (sec. 2.2.3.1.2 – Ice class ships are intended for independent ice navigation...”, sec.2.2.3.3.3 “...Arc5...ships intended for navigation in arctic seas...”)
  - [1] =
  - AUT1 = Automation marks
  - Oil tanker(ESP) – “single deck ships of double skin...side...bottom, hopper ...” sec. 3.3.1.6.2
- Steel grades – Part II
  - sec.1.2.3.1 “For hull structural members of icebreakers and Arc4 to Arc9 category ships, the design temperature for which does not exceed -30 C with member thickness exceeding 25mm...”,
  - sec. 1.2.3.3 “-40 C for icebreakers of ...and ships with ice strengthening categories of ...Arc5;”
  - sec. 1.7.5.6 “Double continuous welds shall be used...” 1.7.5.6.2 “in ships of categories...Arc5...for connection of framing to shell plating;”
- Rudder protection – 3.10.1.2.4 – ice knife to protect rudder on sternway
- Icing – Part IV
  - 2.4.1 “mass of ice is considered as an overload and is not included in the ship’s deadweight.”
  - 2.4.3 “The mass of ice per square metre...of exposed weather decks shall be assumed to be 30 kg.”
  - 2.4.4 “The mass of ice per square meter...windage area...15 kg.”
- Flooding response: Part V – 1.4.6.1.4 & 5 – “characteristics office unsikability, damage trim & stability...when sustaining ice damage; “ ,
  - closing watertight & weathertight appliances
  - est. location & safety of persons on board
  - sound tanks & compartments – assess damage
    - repeat to establish rate of flooding
  - cautionary transfer of liquid product to lessen list and/or trim
- On-deck spill containment
  - Part Vi – 2.4.12 – “provision of a permanent continuous coaming of a height at least 300 mm”

## STATEMENT OF CONTRACTUAL TERMS

(PLEASE COMPLETE BOTH SIDES)

AS REQUIRED UNDER AS 46.04.30, AS 46.04.035 and 18 AAC 75.445(i)(1) in fulfillment of a requirement for registration of primary response action contractors and for approval of an Oil Discharge Prevention and Contingency Plan.

PLAN TITLE: Vitus Marine, LLC Alaska Tank Barge Operations

PLAN HOLDER: Vitus Marine, LLC

This statement is a certification to the Alaska Department of Environmental Conservation summarizing the contract between Vitus Marine, LLC the oil discharge prevention and contingency plan holder (hereinafter "PLAN HOLDER"), and Bonanza Fuel, Inc. a holder of an approved oil discharge prevention and contingency plan under contract (hereinafter "CONTRACTOR"), executed on December 21, 2011, and the original of which is located at Vitus Marine, LLC, Anchorage, Alaska as evident of the PLAN HOLDER's access to the containment, control, and/or cleanup resources required under standards at AS 46.04.030 and 18 AAC 75.400 – 18 AAC 75.495. The PLAN HOLDER and the CONTRACTOR attest to the Department that the provisions of this written contract clearly obligate; for purposes of the January 2011 fuel delivery by the T/V *Renda*, the CONTRACTOR to:

- (A) provide the response services and equipment listed in the CONTRACTOR'S oil discharge and contingency plan;
- (B) provide the following tankage for recovered liquid storage in the event of a spill
  - a. on arrival: 3 ea. - 600,000 gallon Above Ground Storage Tanks (AST)
  - b. on Completion of delivery: 1 ea. - 600,000 gallon AST
- (C) respond if a discharge occurs;
- (D) notify the PLAN HOLDER immediately if the CONTRACTOR cannot carry out the response actions specified in this contract or the contingency plan;
- (E) continuously maintain in a state of readiness, in accordance with industry standards, the equipment and other spill response resources to be provided by the CONTRACTOR under the contingency plan; and,
- (F) this contract expires January 30, 2011 12:00 a.m.

I hereby certify that, as representative of the PLAN HOLDER, I have the authority to legally bind the PLAN HOLDER in this matter. I am aware that false statements, representations, or certifications may be punishable as civil or criminal violations of law:

\_\_\_\_\_  
Signature Date

Title: \_\_\_\_\_

FOR: Vitus Marine, LLC  
PLAN HOLDER

I hereby certify that, as representative of the CONTRACTOR, I have the authority to legally bind the CONTRACTOR in this matter. I am aware that false statements, representations, or certifications may be punishable as civil or criminal violations of law:

 \_\_\_\_\_ 12-22-11  
Signature Date

Title: Operations Manager

FOR: Bonanza Fuel, Inc.  
CONTRACTOR