Tank & Non-tank Vessels

Tank Vessel – Overseas Ohio
- Type: NASCO/675,930 bbl
- Length overall: 272 m (est.)
- Length between perpendiculars: 261 m
- Beam: 32.2 m
- Deadweight: 90,000 MT
- Design draft: 15 m
- Depth: 18 m (est.)
- Block coefficient: 0.82

Non-tank Vessel – Maersk Djibouti
- Type: HHI/5,060 TEU Class
- Length overall: 294 m
- Length between perpendiculars: 238 m
- Beam: 32.2 m
- Deadweight: 68,282 MT
- Design draft: 12 m
- Depth: 21.6 m
- Block coefficient: 0.65 (est.)
Tugs of Opportunity

- Identify tugs in AIS data every Wednesday in 2012
- Unless the tug is known not to have a tow, assume it drops its tow in the nearest harbor before transit to the distressed vessel
- Distressed vessel assumed to be a container ship
- Sea state and wind determine tug speed and bollard pull required to control the distressed vessel
- We identify the most quickly available tug given sea state and bollard pull limitations
- Flag USCGC Haley when it is the best available tug
Tugs of Opportunity

Shortest trans-Pacific route

Adak, Dutch Harbor, Kodiak
Tugs of Opportunity

Adak

Dutch Harbor

Kodiak

Shortest trans-Pacific route
Tugs of Opportunity: SCENARIO 5
Tugs of Opportunity: SCENARIO 5

Scenario location ✭
Potential tug of opportunity
USCGC Haley
All other tugs

Time in hours between incident and arrival for tug of opportunity
- First tug to arrive
  - Up to 6
  - 6 to 12
  - 12 to 24
  - 24 to 48
  - 48 or more

Shortest trans-Pacific route

Adak
Dutch Harbor
Kodiak
Tugs of Opportunity:
SCENARIO 5, Varying sea state

First tug to arrive
- Up to 6
- 6 to 12
- 12 to 24
- 24 to 48
- 48 or more

Time in hours between incident and arrival for tug of opportunity

Scenario location

Potential tug of opportunity

USCGC Haley

All other tugs

Shortest trans-Pacific route

Adak

Kodiak

Dutch Harbor

7 m
Tugs of Opportunity: SCENARIO 3
Tugs of Opportunity:
SCENARIO 3

Time in hours between incident and arrival for tug of opportunity
- Up to 6
- 6 to 12
- 12 to 24
- 24 to 48
- 48 or more

Scenario location
Potential tug of opportunity

First tug to arrive

USCGC Haley

Adak

Dutch Harbor

Kodiak

Shortest trans-Pacific route
Tugs of Opportunity: SCENARIO 3

**SCENARIO 3**

<table>
<thead>
<tr>
<th>Wave height in meters</th>
<th>Frequency of conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>8 (All tugs hove-to)</td>
<td></td>
</tr>
</tbody>
</table>

**Arrival of first tug**

<table>
<thead>
<tr>
<th>Time (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>8</td>
</tr>
</tbody>
</table>

**Median (days)**

| 0.5         |
| 0.5         |
| 1.0         |
| 1.1         |
| 1.5         |
| 2.7         |