Early in the morning of December 3, 2010, the crew of the M/V Golden Seas reported to the US Coast Guard (USCG) that the turbocharger on the vessel’s only propulsion engine had failed and the vessel was adrift north of Adak Island in the Aleutian chain. The 738-foot-long bulk freighter, en route from Vancouver, BC, to the United Arab Emirates with a cargo of rapeseed, had a combined volume of more than 473,000 gallons of intermediate fuel oil, diesel fuel and lube oil on board. The USCG notified ADEC of the incident at 8:05 AM, and the agencies quickly established a Unified Command (UC) with representatives of the ship’s Greek operator, Allseas Marine, SA. Initially, the vessel was unable to hold its position or make headway against the severe weather in the Bering Sea, and it drifted toward Atka Island. As the storm abated around 4:00 PM, the vessel was able to begin moving slowly to the northeast, away from shore. The responsible party (RP) contracted the ocean-going tug Tor Viking II (stationed in Dutch Harbor to support Shell Exploration) to assist the Golden Seas. The tug left port around 5:00 PM with ADEC’s 10-inch Emergency Towing System (ETS) on board to tow the stricken vessel.

Shortly after 8:00 PM on December 4, north of Atka Island, the crews of the Tor Viking II and Golden Seas succeeded in securing a towline between the vessels. The vessels transited south through Amukta Pass (between Seguam and Amukta Islands) to the lee side of the islands to gain protection from high wind and waves in the Bering Sea. After a tow of more than 500 miles, the Golden Seas dropped anchor in Broad Bay in Unalaska Bay early in the afternoon of December 7. The UC had determined through the Potential Places of Refuge decision-making process (which included consultation with marine pilots, local governments, tribes, Native corporations, and state and federal resource trustees) that this was the most favorable anchorage for making repairs to the vessel. Following USCG approval of the completed engine repairs, the Golden Seas completed sea trials on the morning of December 13 and departed Dutch Harbor for her original destination.

The ADEC ETS deployed during this incident was cleaned and inspected by a Dutch Harbor contractor, who determined that the cargo net and chafing gear needed to be replaced. Once those replacements were made, the ETS was repacked and restaged at Dutch Harbor for future use.

Pump Station 1 Booster Pump Piping Incident

On January 8, 2011, Alyeska Pipeline Service Company (APSC) employees discovered a spill of crude oil inside the basement of the booster pump building at Pump Station 1. Approximately 12,927 gallons of crude oil leaked from a 26-inch, concrete-encased discharge pipe, leading to a winter shutdown of the Trans Alaska Pipeline System (TAPS). North Slope oil producers significantly reduced oil production and initiated freeze protection procedures for wells, pipelines and other infrastructure during the shutdown. TAPS was restarted temporarily while

continued on page 7
**All Products - FY 2011**

Number of Spills Reported 1,767  
Total Gallons 159,115

**Volume Released by Facility Type**

- Oil Production 21%
- Non-Crude Terminal 15%
- Mining Operation 13%
- Vessel 10%
- Refinery Operation 5%
- Residence 5%
- Vehicle 4.3%
- School 4.04%
- Other 23%

For graphing purposes, 'Other' includes facility categories comprising 4% or less of the total volume released.

**Volume Released by Product**

- Diesel 31%
- Aviation Fuel 17%
- Crude 10%
- Process Water 7%
- Ethylene Glycol (Antifreeze) 5%
- Drilling Muds 5%
- Methyl Alcohol (Methanol) 3.3%
- Kerosene 3.2%
- Hydraulic Oil 3%
- Other 16%

For graphing purposes, 'Other' includes product categories comprising 3% or less of the total volume released.

**Volume Released by Cause**

- Human Error 38%
- Equipment Failure 13%
- Corrosion 12%
- Line Failure 4%
- Gauge/Site Glass Failure 4%
- Grounding 4%
- Overfill 4%
- Other 21%

For graphing purposes, 'Other' includes cause categories comprising 3% or less of the total volume released.

**Volume Released by Size Class**

- 100+ gal 90%
- 10 to 99 gal 8%
- <10 gal 2%

**Number of Spills by Fiscal Year**

**Total Volume by Fiscal Year**

*Notes: 1/25/1997 (FY 1997) - a barge capsized and lost 3,125,000 gal of Urea (Solid). 3/17/1997 (FY 1997) - 995,400 gal of Seawater released at ARCO DS-14 in Prudhoe Bay*
Number of Spills Reported: 40
Total Gallons: 15,039

Volume Released by Facility Type

For graphing purposes, 'Other' includes cause categories comprising 3% or less of the total volume released.

Volume Released by Cause

Volume Released by Size Class

Number of Spills by Fiscal Year

Total Volume by Fiscal Year*

*Notes: 10/4/2001 (FY 2002) - TAPS Bullet Hole Release; 285,600 gal Crude
3/2/2006 (FY 2006) - BP GC-2 Oil Transit Line Release; 212,252 gal Crude
Non-crude Oil - FY 2011

Number of Spills Reported 1,318
Total Gallons 96,523

Volume Released by Facility Type

Volume Released by Product

Volume Released by Cause

Volume Released by Size Class

For graphing purposes, 'Other' includes facility categories comprising 4% or less of the total volume released.

For graphing purposes, 'Other' includes product categories comprising 2% or less of the total volume released.

For graphing purposes, 'Other' includes cause categories comprising 3% or less of the total volume released.

Number of Spills by Fiscal Year

Total Volume by Fiscal Year*

*Notes: 12/8/2004 (FY 2005) - the M/V Selendang Ayu broke apart, releasing 321,052 gal of IFO 380 and 4,680 gal of Diesel
Number of Spills: 380
Total Gallons: 32,559

**Volume Released by Facility Type**

- Crude Oil Terminal: 18%
- Oil Production: 40%
- Mining Operation: 10%
- Oil Exploration: 8%
- Other: 24%

For graphing purposes, 'Other' includes facility categories comprising 4% or less of the total volume released.

**Volume Released by Cause**

- Equipment Failure: 25%
- Gauge/Site Glass Failure: 20%
- Human Error: 19%
- Seal Failure: 10%
- Containment Overflow: 5%
- Valve Failure: 4%
- Leak: 4%
- Other: 13%

For graphing purposes, 'Other' includes cause categories comprising 3% or less of the total volume released.

**Volume Released by Product**

- Ethylene Glycol (Antifreeze): 26%
- Methyl Alcohol (Methanol): 16%
- Drilling Muds: 21%
- Mill Slurry: 6%
- Corrosion Inhibitor: 8%
- Glycol, Other: 14%
- Propylene Glycol: 4%
- Other: 5%

For graphing purposes, 'Other' includes product categories comprising 2% or less of the total volume released.

**Volume Released by Size Class**

- 100+ gal: 91%
- 10 to 99 gal: 8%
- <10 gal: 1%

For graphing purposes, 'Other' includes cause categories comprising 3% or less of the total volume released.

**Number of Spills by Fiscal Year**

*Notes: 1/25/1997 (FY 1997) - a barge capsized and lost 3,125,000 gal of Urea (Solid).*
Process Water - FY 2011

Number of Spills Reported: 29
Total Gallons: 14,994

Volume Released by Facility Type

- Oil Production: 22%
- Refinery Operation: 6%
- Mining Operation: 71%
- Other: 1%

Volume Released by Product

- Process Water: 77%
- Seawater: 21%
- Produced Water: 2%

Volume Released by Cause

- Human Error: 64%
- Equipment Failure: 18%
- Containment Overflow: 7%
- Crack: 6%
- Other: 5%

Volume Released by Size Class

- 100+ gal: 98%
- 10 to 99 gal: 2%
- <10 gal: 0.21%

For graphing purposes, 'Other' includes facility categories comprising 4% or less of the total volume released.

For graphing purposes, 'Other' includes cause categories comprising 3% or less of the total volume released.

Number of Spills by Fiscal Year

16-Year Trend

Total Volume by Fiscal Year*

*Notes: 3/17/1997 (FY 1997) - 995,400 gal of Seawater released at ARCO DS-14 in Prudhoe Bay
APSC crews designed and fabricated a pipe to bypass the damaged discharge pipe. TAPS was shutdown a second time for installation of the bypass before resuming normal operation on January 17. Based on lessons learned from the incident, APSC managers reevaluated “cold restart” procedures for a TAPS winter shutdown, installed pump station oil recirculation pipe loops that add heat to oil in transit, and reassessed out-of-service infrastructure. Oil production resumed without incident after the bypass was installed, and no infrastructure damage resulted from the winter shutdown. No oil was discovered on the gravel pad and subsequent testing confirmed that the release was entirely confined to the pump building.

Crooked Creek Flooding

In May 2011, the Kuskokwim River flooded the villages of Crooked Creek and Red Devil. The flood caused significant property damage in Crooked Creek, including the destruction of nearly one fourth of the homes in the village. ADEC coordinated oil and hazardous material emergency response with the Division of Homeland Security and Emergency Management and contracted Emerald Alaska Inc. to remove approximately six tons of contaminated soil and hazardous materials from the village.

The 24-inch bypass line, under construction, enters the metering building at PS 1. (Photo courtesy of ADEC)
### Top 10 Releases During FY 2011

<table>
<thead>
<tr>
<th>Map Key</th>
<th>Spill Date</th>
<th>Spill Name</th>
<th>Product</th>
<th>Gallons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>03/08/2011</td>
<td>Crowley Aniak Tank Farm (to containment)</td>
<td>Aviation Fuel</td>
<td>23,000</td>
</tr>
<tr>
<td>2</td>
<td>01/08/2011</td>
<td>Alyeska PS1 Booster Pump Leak (see note)</td>
<td>Crude</td>
<td>12,927</td>
</tr>
<tr>
<td>3</td>
<td>04/23/2011</td>
<td>Greens Creek Mine, Pond A</td>
<td>Process Water</td>
<td>7,000</td>
</tr>
<tr>
<td>4</td>
<td>09/25/2010</td>
<td>Tuluksak School Tank Farm</td>
<td>Diesel</td>
<td>5,000</td>
</tr>
<tr>
<td>5</td>
<td>02/17/2011</td>
<td>Valdez Marine Terminal Powerhouse A Boiler</td>
<td>Ethylene Glycol (Antifreeze)</td>
<td>5,000</td>
</tr>
<tr>
<td>6</td>
<td>02/11/2011</td>
<td>F/V Midnite Sun Grounding, Afognak Island</td>
<td>Diesel</td>
<td>4,500</td>
</tr>
<tr>
<td>7</td>
<td>11/04/2010</td>
<td>Big State Logistics Tractor Trailer, Honolulu Creek</td>
<td>Diesel</td>
<td>3,040</td>
</tr>
<tr>
<td>8</td>
<td>07/26/2010</td>
<td>F/V Cape Cross, Prince William Sound</td>
<td>Diesel</td>
<td>3,000</td>
</tr>
<tr>
<td>9</td>
<td>12/22/2010</td>
<td>Fort Wainwright, RBK 05</td>
<td>Propylene Glycol</td>
<td>3,000</td>
</tr>
</tbody>
</table>

**NOTE:** No oil was discovered on the gravel pad and subsequent testing confirmed that the release was entirely confined to the pump building.

### Total Volume by Subarea

<table>
<thead>
<tr>
<th>SubAreaName</th>
<th>Gallons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bristol Bay (BB)</td>
<td>979</td>
</tr>
<tr>
<td>Kodiak Island (KI)</td>
<td>5,839</td>
</tr>
<tr>
<td>Aleutian (AL)</td>
<td>8,173</td>
</tr>
<tr>
<td>Northwest Arctic (NW)</td>
<td>8,943</td>
</tr>
<tr>
<td>Prince William Sound (PW)</td>
<td>12,918</td>
</tr>
<tr>
<td>Southeast Alaska (SE)</td>
<td>13,131</td>
</tr>
<tr>
<td>Cook Inlet (CI)</td>
<td>21,010</td>
</tr>
<tr>
<td>Interior Alaska (IN)</td>
<td>22,068</td>
</tr>
<tr>
<td>Western Alaska (WE)</td>
<td>29,570</td>
</tr>
<tr>
<td>North Slope (NS)</td>
<td>36,485</td>
</tr>
</tbody>
</table>

Colors indicate:
- **>20,000 gal**
- **10,000 to 19,999 gal**
- **5,000 to 9,999 gal**
- **<5,000 gal**