



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of
Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE

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The Honorable Andy Josephson
The Honorable Geran Tarr
Co-Chairs, House Resources Committee
State Capitol
Juneau, AK 99801

Dear Representatives Josephson and Tarr,

This letter provides information in response to questions posed by the House Resources Committee February 2nd and 5th regarding House Bill 322 – Oil Spills/Pollution: Penalties; Prevention.

How many spills were there in 2017 (by spill type and volume)?

The total number of spills in 2017 are listed below by product type and volume. Non-crude oil generally has the highest volume and number of spills and has the highest amount of spills in excess of 100 gallons.

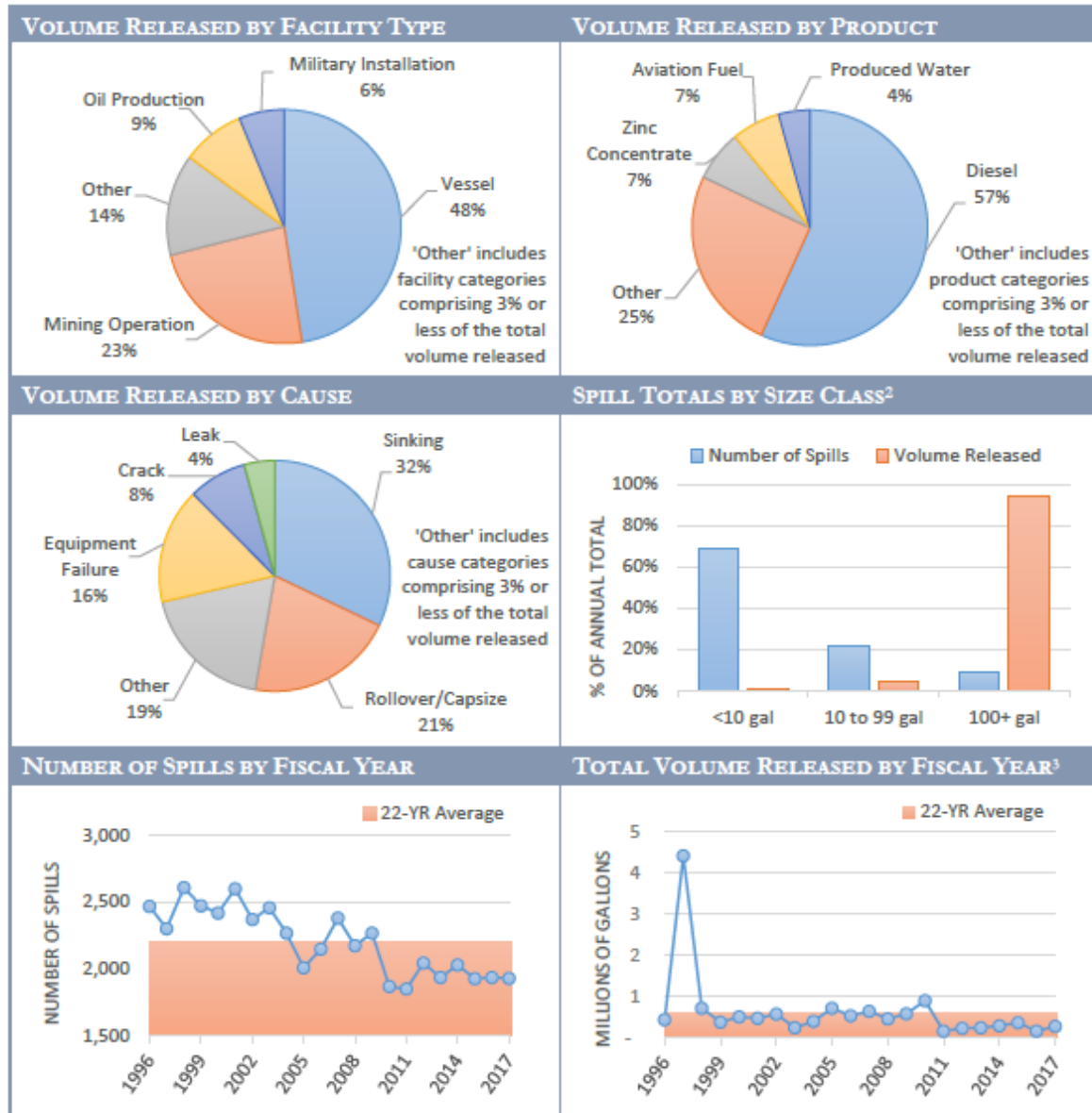
- Crude Oil
 - Total number of spills in 2017: 37
 - <10 gallons: 18 spills
 - 10 to 99 gallons: 12 spills
 - >100 gallons: 7 spills
 - Total number of gallons spilled 2017: 1,655
- Non-Crude Oil
 - Total number of spills in 2017: 1,503
 - <10 gallons: 1,058 spills
 - 10 to 99 gallons: 324 spills
 - >100 gallons: 121 spills
 - Total number of gallons spilled in 2017: 188,379
- Hazardous Substances
 - Total number of spills in 2017: 349
 - <10 gallons: 223 spills
 - 10 to 99 gallons: 85 spills
 - >100 gallons: 41 spills
 - Total number of gallons spilled in 2017: 62,527
- Produced Water
 - Total number of spills in 2017: 38
 - <10 gallons: 10 spills
 - 10 to 99 gallons: 13 spills
 - >100 gallons: 15 spills
 - Total number of gallons spilled in 2017: 18,980

Chart 6.1.1 below shows the volume released by product type and volume as well as other categorizations. It is included in the current Spill Prevention and Response (SPAR) Annual Report, which is available on the Department of Environmental Conservation (DEC) webpage at: <http://dec.alaska.gov/spar/reports.aspx>.

6.1.1 CHART SET 1: ALL PRODUCTS

Number of Spills Reported: 2,046¹

Total Gallons: 271,809



¹ Some spill incidents involve releases of multiple substances. In FY17, there were 1,998 spill incidents. These incidents resulted in 2,046 oil and hazardous substance releases.

² In FY17, small spills (<10 gal) occurred more frequently than larger spills, however a small percentage of large spills (>100 gal) accounted for over 80% of the total volume released.

³ The large spike in spill volume for fiscal year 1997 is the result of two large spills, one on 1/25/1997 when a barge capsized and lost 25,000,000 pounds of Urea (Solid) and the other on 3/17/1997 when 995,400 gallons of seawater were released at ARCO DS-14 in Prudhoe Bay.

Spill reporting: who has to report what, and when (Rep. Rauscher)?

Generally speaking, the person or company who spills is required to report the spill to the Department. How quickly reporting is required depends on three factors: the volume, the substance, and the receiving environment. The following list describes those reporting requirements.

- Spills of hazardous materials to any environment:
 - All amounts: must be reported immediately
- Spills of oil to water environments:
 - All amounts: must be reported immediately
- Spills of oil to land-only environments:
 - Greater than 55 gallons: must be reported immediately
 - Between 10 and 55 gallons: must be reported within 48 hours
 - Between 1 and 10 gallons: must be reported monthly
- Spills of oil to impermeable secondary containment areas only (such as berms, dykes, or retaining walls that are sealed to prevent the release of spilled oil):
 - Greater than 55 gallons: must be reported within 48 hours
 - Less than 55 gallons: no reporting requirement

Is natural gas included in the volume consideration for assessing penalties (Rep. Tarr)?

Compressed natural gas is not included in the volume consideration for assessing penalties.

How much money does the state recover via civil suits (Rep. Lincoln)?

It is important to make the distinction between civil penalties and civil suits. Monetary recovery from civil suits can also include other settlement amounts, such as cost recovery amounts for accrued DEC oversight costs. To give context to how much recovery can fluctuate from one year to the next, the department recovered approximately \$5,400,000 in total civil suits in FY16 and \$196,000 in FY17. The bottom line is that a civil suit will generally include civil penalty amounts (with rare exception), but suits can also include other amounts. Civil penalty amounts generally make up only a small part of the total suit recovery amount. It is also important to reiterate that the amount of civil penalty revenue can greatly fluctuate from year to year and is largely subjective to the status of the civil case.

Below are penalty revenue totals that were owed to the state through finalization of civil cases for the past three years. The Department's fiscal note reflects an average of these numbers, \$150,000 per year. Due to the specific nature of the payment agreement process in civil cases, total amounts due may not be received in the year that the suit order becomes effective.

- In 2015: \$81,000
- In 2016: \$161,000
- In 2017: \$201,250

What are the compound effects of all sections of the bill (Rep. Lincoln)?

The Department estimates that the state would garner \$75,000 per year on average in increased penalties.

How many sites are there in which the Department is functioning as the coordinating state lead?

The Department functions as a state lead in rare circumstances where the threat to human health, environment, and property are extremely high and there is no capable responsible party that can pay for or carry out cleanup. There are 21 of these sites at present, representing roughly \$12.5 million in estimated total costs of cleanup over the next ten years. Roughly half of the sites are residential, where DEC is taking lead on the cleanup for very high priority sites since the homeowners are not capable of funding or carrying out cleanup activities.

Is the Department recouping oversight costs by collecting civil penalties (Rep. Birch)?

No. Penalty collection is not the key reason, nor a sustainable path, for recovering state costs. The purpose of penalties is to serve as a deterrent for continuing to spill oil and hazardous substances. The Department has a separate mechanism for recovering oversight costs; the cost recovery program bills responsible parties for state oversight time directly related to spills.

What is the relative severity of ecological impact for crude oil, its products, and for the other regulated substances (Rep. Parish)?

Individual species have different sensitivities, resistance, and responses to different substances. Potential ecological impacts depend on many factors, including: the substance spilled and its individual chemical composition; the volume and concentration of the spilled product; life stage and timing when a species is exposed; the exposure duration; and a plethora of environmental factors (e.g., wind, temperature, humidity). As an example, fish and amphibians are most vulnerable to crude oil and refined fuel exposure at three developmental stages: 1) when eggs are deposited, prior to fertilization; 2) immediately after fertilization; and 3) within a few days after hatching. At this point, crude oil concentrations as miniscule as 1 ng/L (one part per trillion) can have negative impacts. Exposure to the same concentrations and species during adulthood are unlikely to have an effect.

To get an idea on the depth of the trucking problem, please provide the committee a sum total of truck travel spills, different reasons the spills happen, and a sum total of average cost to respond to the environmental cleanup (Rep. Rauscher)?

Spill Number	Spill Name	DEC Oversight Costs
17239914201	AK Industrial MP 133 Parks Hwy Truck Rollover <u>Aquagel</u>	\$ 192
17399903901	<u>Carlile</u> , 3.9 mi S. of <u>Deadhorse</u> 30 gal Methanol	\$ -
17229901701	Big State 17.5 mile Richardson Hwy Rollover	\$ -
17309900902	Colville MP 164.4 Richardson Hwy Tanker Rollover	\$ 27,096
16239935102	<u>Shoreside</u> Petroleum Tank Truck Rollover	\$ 278
16309931701	Big State Logistics MP 180 Richardson Hwy Trailer Rollover	\$ 6,303
16229929501	Big State Logistics 42 Mile Richardson Hwy Rollover	\$ 2,111
16309922702	Alaska Petroleum MP 321 Dalton Hwy	\$ 1,444
Total Number of Fuel Truck Incidents in FY17		8
Total Amount of DEC Costs Associated with FY17 Fuel Truck Incidents		\$ 37,425

The volumes of the spills above ranged from 1 gallon to 500 gallons, with the majority of the spills falling in the 300 to 500 gallon range. The causes of the spills were related to loss of traction, weather, human error, and leaving the roadway.

What is the current balance of the Oil and Hazardous Substance Release Response Account (Rep. Birch)?

Please see attached the Department of Revenue's 4th Quarter Report on the Response Account of the Oil and Hazardous Substance Release Prevention and Response Fund. According to this report, the Response Account has a balance of \$41.9 million.

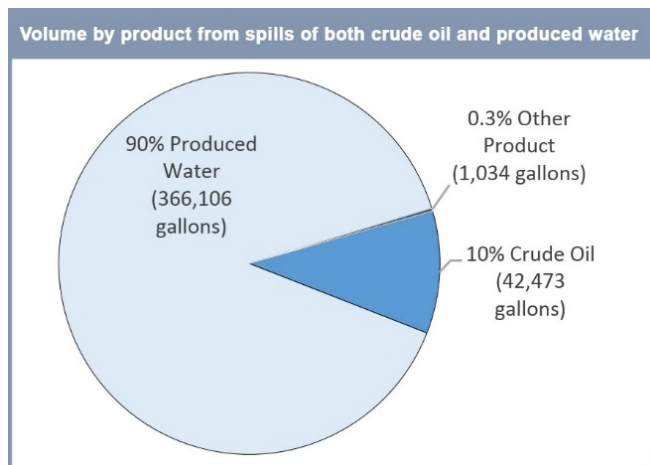
What is the common range of costs for cleanup for crude oil, for its refined products and other regulated substances (Rep. Parish)?

The department isn't privy to the cost of cleanups conducted by responsible parties so is not able to provide cost estimates for different types of spills. Spill specifics like the substance spilled, volume spilled, receiving environment and location all impact the cost of cleanup. Very generally the costs of spill responses in Alaska range from hundreds of dollars to multiple millions.

What proportion of spills is produced water? And/or how many gallons of produced water has been discharged in the past year? Can you provide some stats? What are the effects of produced water? How does it harm the environment and/or human health?

In 2017, 4% of the total volume of reported spills was produced water (see chart 6.1.1 from the SPAR annual report provided earlier in this document).

Spills within the Arctic oilfields commonly involve the release of more than one substance, like produced water and crude oil. Produced water itself is a combination of crude oil and saline water recovered from the well with the crude oil. Produced water is typically separated from the oil stream and reinjected into the well. For all spills reported since 1995, produced water accounts for 90% of the volume released from spills which contained both crude oil and produced water.



The salt in produced water negatively affects plant growth and survival at relatively low concentrations. Depending on salt concentrations, salt-affected vegetation may wilt, become discolored, drop leaves, or die within hours or days of contact with foliage or roots. High concentrations of salts in soil makes water uptake difficult for most tundra plants. These effects are also more likely to be persistent without an adequate response since, unlike hydrocarbons, salts are not broken down by chemical or biological processes in soil. The low precipitation typical of the North Slope also prevents salts from naturally flushing from soils as quickly as they would in many other areas of the state.

Do other states include produced water in spill volumes when considering penalty calculations (Josephson)?

Yes. As an example, the State of Washington does include produced water in spill volumes. Their statutes and regulations surrounding volumes for the purposes of penalty calculation classify any release that changes the chemical properties of the environment as applicable for inclusion; the concentration need not be specifically defined. Concentration does become important to define when drafting resource damage assessments, but even then, process water is still included in assessment amounts.

Has it been a problem that responsible parties are not stopping spills because they experience an economic benefit from a release continuing (Rep. Rauscher)?

Operators in Alaska are generally responsible and focused on producing and exporting oil in a manner that causes the least harm possible. But when the economic benefit for noncompliance is greater than the potential penalty, state law is creating an incentive for non-compliance. For example, an operator might make a business decision to cut corners or ignore important requirements to save money if it is cheaper to pay the penalty. Economic benefit clauses are common in penalty calculations (and exist currently in Alaska

statute) to ensure companies that are doing it right are on a level playing field with those that may not be so motivated.

How does AS 46.14 operate and how it is enforced (Rep. Josephson)?

AS 46.14 is the enabling statute for the Department's Air Quality (AQ) Control Programs. Prior to 1993, AS 46.03 contained the statutes authorizing DEC to regulate releases to the air, land and waters of the State. AS 46.03.760 lists civil penalty authorities for all three media. In response to federal Clean Air Act Amendments of 1990, the legislature passed AS 46.14 to give DEC authority to administer its current AQ programs. AS 46.14 works in conjunction with DEC's general authorities under AS 46.03. Specific to civil penalty authorities, rather than to include stand-alone air quality control civil penalty authority within AS 46.14, the legislature in 1993 concurrently cross referenced AS 46.14 into AS 46.03.760.

Under authorities granted through AS 46.14, the Division of Air Quality administers three permitting programs, collects and publishes Alaska air quality data, develops air quality control implementation plans and maintenance plans under the federal Clean Air Act in coordination with local governments, and develops state specific air quality control measures to protect Alaskan people and resources.

The Division enforces AS 46.14 by:

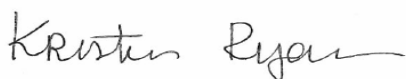
- Investigating public complaints;
- Implementing self-disclosure obligations on permitted sources;
- Conducting compliance evaluations (file reviews and inspections) on permitted sources;
- Conducting compliance surveillances on activities not covered by Air Quality Permits;
- For non-compliance, deciding on a course of action, if any, to include:
 - Providing compliance assistance, including education;
 - In conjunction with Department of Law, implementing civil enforcement options, including use of out-of-court settlements;
 - Investigating allegations of environmental crimes;
- Coordinating resources and strategies with U.S. EPA to further State of Alaska obligations under the federal Clean Air Act

The statutory civil penalties for the AQ program have remained unchanged for over two decades without an adjustment for inflation.

The total volume released graph shows 4.5 million gallons spilled in 1997. That is almost half the amount spilled by Exxon Valdez. Can you please clarify what spill(s) this/these was/were (Rep. Drummond)?

In 1997, there were two large releases. The *M/V Kuroshima* spilled 39,000 gallons of heavy fuel oil into Summer Bay near Unalaska, and a Crowley barge overturned in Cook Inlet spilling 250 million pounds of urea into Cook Inlet.

Sincerely,



Kristin Ryan
Director, Spill Prevention and Response

Enclosure: Fourth Quarter 2017 Report for the Oil Surcharge Account