SPAR Annual Report

FISCAL YEAR 2018

ADEC | SPILL PREVENTION AND RESPONSE

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPILL PREVENTION AND RESPONSE DIVISION
INTEGRATED ANNUAL REPORT · FISCAL YEAR 2018

Table of Contents

1 Report Overview 3
2 Statewide Matters 6
2.1 PPR Statewide Matters 6
2.2 CS Statewide Matters 8
3 Program Highlights 9
3.1 Prevention, Preparedness, and Response Program (PPR) 9
3.1.1 PPR Regional Matters (Northern, Central, Southeast) 9
3.1.2 PPR Northern Region Matters 10
3.1.3 PPR Central Region Matters 13
3.1.4 PPR Southeast Region Matters 19
3.1.5 PPR Data Review 24
3.1.6 PPR Accomplishments 32
3.1.7 PPR FY19 Program Priorities 34
3.2 Contaminated Sites Program (CS) 35
3.2.1 CS Regional Matters (Northern, Central, Southeast) 35
3.2.2 CS Northern Region Matters 35
3.2.3 CS Central Region Matters 39
3.2.4 CS Southeast Region Matters 43
3.2.5 CS Data Review 46
3.2.6 CS Accomplishments 54
3.2.7 CS FY19 Program Priorities 59
3.3 Response Fund Administration (RFA) 62
3.3.1 RFA Data Review 62
3.3.2 RFA Accomplishments 65
3.3.3 RFA Program Biennial Report Elements 65
3.3.4 History of the Response Fund 65
3.3.5 Response Account 67
3.3.6 Prevention Account 68
4 Appendices 69
5 Acronyms and Abbreviations 71
6 Division Structure (Functional Org Chart) 72

1 REPORT OVERVIEW

Our mission and how it relates to this report:

The mission of the Division of Spill Prevention and Response (SPAR) is to prevent spills of oil and other hazardous substances, prepare for future spills, and respond rapidly to protect human health and the environment, while managing the long term cleanup of contaminated soil and groundwater in Alaska. This report explains how our mission is carried out.

Each program within our division also has a mission:

The Contaminated Sites program (CS) protects human health and the environment by overseeing the cleanup of contaminated soil and groundwater in Alaska. The Prevention, Preparedness, and Response program (PPR) promotes safety and protects public health and the environment by preventing and mitigating the effects of oil and hazardous substance releases and ensuring their cleanup. The mission of the Response Fund Administration Program (RFA) is to manage the Response Fund as a viable, long-term source for the state's core spill prevention and response initiatives, while maintaining contracts with private firms engaged in cleanup and remediation work for the department.

Organizational information:

SPAR is one of five divisions within the Alaska Department of Environmental Conservation (ADEC). Together with the Divisions of Administrative Services, Environmental Health, Air Quality, and Water we comprise one department dedicated to conserving the environment. SPAR and each of the divisions in ADEC play important roles.

In SPAR, our focus is on preventing oil spills and spills involving hazardous substances, both inland and on water. The report separates information by each of our three programs: the CS, PPR, and RFA Program.

About the report:

The report covers fiscal year 2018 (FY18), which is the reporting period of July 1, 2017 through June 30, 2018. Our goal is to place important information about SPAR at your fingertips.

As you turn the pages of the SPAR Annual Report, we hope you gain knowledge about the work we perform daily. We also hope that the general public and legislators learn more about how we prevent spills, reduce the number of spills, and mitigate the effects of spills. Some spills involve small quantities and/or are relatively easy to clean up, while other spills require more complex response efforts and/or long term remediation and management of residual contamination.

Each program provides details regarding regional efforts and program highlights (data analysis, accomplishments, and priorities). Our Annual Report goals are:

- To describe the complex and important work we perform
- To provide information in a clear and transparent way
- To report current trends
- To state program goals and performance measurements that gauge our progress

About our audience and nature of the report:

The SPAR Annual Report is a public document. It is not a privileged document intended for governmental employees only. We want to share this report with industry experts, state and federal government workers, and our public. The SPAR Annual Report is written with all readers in mind and is intended to be a straight forward introduction to our division. We hope it provides a basic understanding of the work we do. A great deal of our work is complex, scientific in nature, and highly technical. However, we want to share information in a user-friendly way, explaining in layman terms when possible. Our mission statement is a great start for most. As you read about the work we have accomplished throughout the state, we hope you find value in this summary.

The report allows us to take stock of our accomplishments, projects, and activities, while considering future work plans. As SPAR works smarter, more efficiently, and more cost-effectively, we celebrate our progress. We enjoy telling others about work projects and our goals for the future.

In addition to providing informative news to the public regarding our work, and measuring our goals, the SPAR Annual Report serves to assist our employees in the analysis of work priorities. As we measure what we have accomplished, and the steps that remain, we also evaluate and refine our priorities. The Annual Report provides a condensed record of our work and progress. It provides a reference for the significant and important work ahead.

Other resources:

Visit https://dec.alaska.gov/spar/ for additional information about SPAR. If you have questions while browsing the website or reading the Annual Report, please feel free to contact us.

You may notice links within the report or appendices, guiding you to additional information. The links will provide more detail on subjects of interest (i.e. performance measures, the budget, various charts or graphs). We prefer a manageable number of pages, with valuable but succinct content, and to avoid replicating material from other reports. Some of the appendices have been changed this year; some tables have been renamed or reorganized for clarity and relativity. Otherwise, you will find our format very similar to previous annual reports.

Notes:

The Acronyms and Abbreviations section of this report is quite large. Not all terms contained in the acronym section are referenced in the body of the report. This section is intended as a guide to describe abbreviated terms we use frequently.

Photos contained in this report are available for reuse, but subject to proper photo credit when you publish or reuse the photo.

2 STATEWIDE MATTERS

2.1 PPR STATEWIDE MATTERS

Alaska Regional and Area Contingency Planning: To be better prepared in the event of an oil spill or hazardous materials release PPR, the Environmental Protection Agency (EPA) and the United States Coast Guard (USCG) have reformatted our government contingency plans to be consistent with the *National Oil and Hazardous Substances Pollution Contingency Plan* (National Contingency Plan) framework. Historically, state and federal agencies operated under the *Alaska Federal/State Preparedness Plan for Response to Oil and Hazardous Substance Discharges/Releases (Unified Plan)* and 10 geographic *Sub-area Contingency Plans*. Effective September 14, 2018, those plans are replaced by the single statewide *Alaska Regional Contingency Plan* and four *Area Contingency Plans*. The four new *Area Contingency Plans* combine several of the previous subareas and include all of the information previously housed in those subarea plans and some of the information from the unified plan. The content in the government plans has been repackaged into the new plan structure, but there is no new or removed content as a result of this revision. The new *Area Plans* have been turned over to the control of the state and federal On-Scene Coordinators for the geographic areas.

Interagency Collaboration: The PPR Program continued to engage with community members throughout Alaska through a variety of training events, presentations, community events, professional association meetings, hazmat and oil spill response exercises, and one-on-one interactions with community and government leaders. To outreach to Alaska communities, PPR program staff facilitated ADEC's annual participation in the Rural Alaska Community Environmental Job Training Program (RACEJT). RACEJT provides environmental training and employment for unemployed or underemployed residents in rural communities that face environmental health impacts. Graduates of the program receive a program diploma, course certifications, 11 university credits, and a new Occupational Endorsement as a Rural Waste Management and Spill Response Technician. These endorsements build capacity and provide them the qualification they need in the job market.

PPR program staff participated in the Alaska Department of Military and Veterans Affairs (ADMVA), Division of Homeland Security & Emergency Management's Rural Resiliency and Outreach Workshops in Kotzebue and Nome during FY18. The two, week-long workshops brought a total of 33 members of local governments from the Northwest Arctic Borough and Bering Strait/Norton Sound together to improve emergency preparedness, response, and recovery capabilities in the area. PPR program staff formed valuable relationships and provided hands on instructions for various topics, including oil and hazardous material response and mitigation, Incident Command System, disaster recovery, and preparedness planning.

Hazardous Material Outreach and Preparedness: PPR staff continues to provide coordination and facilitation for the Statewide Hazmat Response Team and Workgroup. In FY18 the group's

membership included participants from local, state, federal, military, private and industry hazmat partners. The workgroup meets up to two times per year to discuss and provide updates on topics of interest to emergency responders, including: statewide response capabilities, standardizing operating procedures, lessons learned from recent responses, training, exercises, funding, and other topics of interest. In FY18 ADEC partnered with the ADMVA and the Alaska Department of Public Safety (ADPS) to develop a training plan to meet the Group's goal to implement a long term training plan that maintains a high level of instruction, while fostering opportunities for new participants.

PPR staff participated in a large number of hazardous material response exercises in FY18. Highlights include building awareness of statewide resources through a series of six Alaska Railroad Corporation's workshops in small communities with limited local response capabilities along the rail belt. PPR also joined the Alaska Air National Guard 103rd Civilian Support Team for their annual VanWinkle exercise, hosted by the City of Sitka. The VanWinkle exercise brought together national and local hazardous material response teams to address a simulated multi-prong attack on the infrastructure in a collaborative and unified response.

HAZMAT Team Agreements: During FY18, PPR coordinated distribution of First Responder Capital Improvement Project funds to three hazmat teams: Anchorage, Fairbanks Northstar Borough, and Juneau. The funds are used to help maintain and expand oil and hazardous substance spill response capabilities throughout Alaska. The hazmat teams use the funding to purchase equipment, and conduct maintenance, and training.

Integrity and Engineering Unit (IEU): During FY18 IEU provided engineering support for PPR with the focus on oil spill prevention within the scope of 18 AAC 75, Article 1 - Oil Pollution Prevention Requirements. Many unique and state-of-the-art engineering practices are implemented to prevent oil spills to State lands and waters. IEU's engineers incorporated these practices and conditions to determine effective oil spill prevention methods and to assure informed decisions regarding the adequacy of inspection, maintenance, and repair. The integrity of regulated pipelines, piping, and Aboveground Storage Tanks (ASTs) is essential for the welfare of the people of the state and their overall economic and social well-being. In addition to engineering support to plan managers in the overall effort to prevent oil from discharging, IEU also reviewed oil spill root cause investigations to assist PPR in minimizing reoccurrences. IEU provided reviews of unconventional material, technology or equipment applications for regulation-waiver requests. IEU also recommended compliance assistance actions as requested.

IEU assisted PPR's oversight of ASTs and facility oil piping (FOP) by reviewing selected integrity reports from inspections that were performed by 3rd party inspectors in accordance with the current tank inspection standard, known as American Petroleum Institute (API) Standard (Std) 653, for ASTs, and API 570 for FOP. IEU ensured that inspection and data interpretations were consistent with the industry standards. If significant deviations from the norm were identified, IEU questioned,

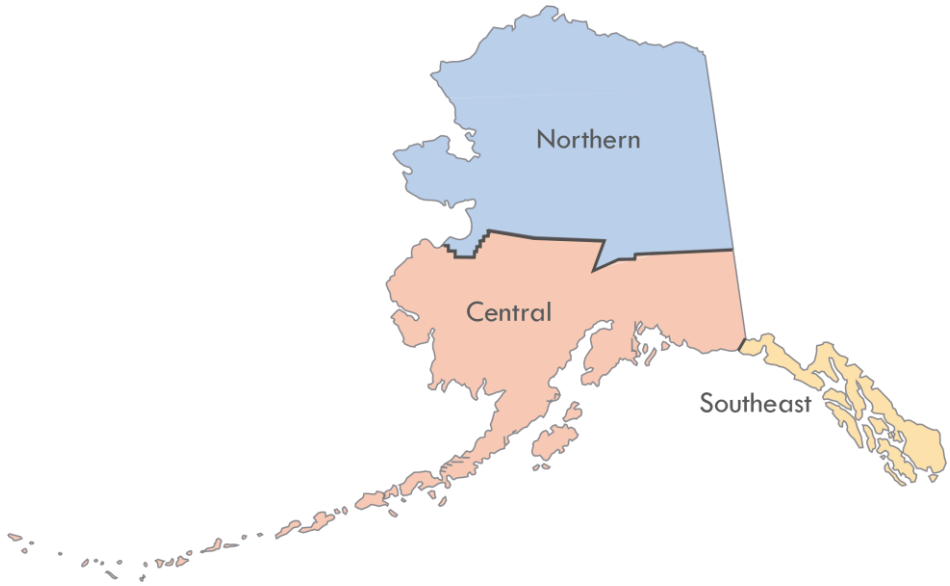
and, as necessary, requested justifications from inspectors. This process was important in ensuring that all 3rd party inspectors adhered to the same minimum expectations of the codified standards.

IEU performed a state-wide cathodic protection (CP) systems audit of the 68 regulated facilities that utilized CP systems as corrosion control for tanks and/or pipelines. A few of the facilities in this audit have buried pipes with no CP systems that were instead evaluated for corrosion using electrical surveys by corrosion experts. The intent of the audit was to gather and evaluate the most current 3rd party CP reports to ascertain whether the plan holders were keeping up with their stated CP surveying schedule, that the tests showed the system was meeting the NACE (formerly National Association of Corrosion Engineers) criteria, that plan holders were making repairs or adjustments to the CP system as recommended by corrosion professional consistent with NACE guidelines. As with the API Std 653 reports review, if significant deviations from the normal were identified, IEU questioned, and as necessary, requested justifications from corrosion professionals. This process was important in ensuring that same common industry practices consistent with NACE guidelines are adhered to. CP systems and electrical surveys had been considered as proactive and effective oil spill prevention technologies to control external corrosion of buried piping and the underside of tanks sitting on soil. IEU's audit supported PPR's oversight of this critical oil spill prevention maintenance activity throughout FY18. IEU will continue annual audits in order to stay informed of the condition of these important spill prevention systems.

2.2 CS Statewide Matters

Emerging Contaminant Response to Per- and Poly-fluoroalkyl substances (PFAS): CS continued what is expected to be a long term response to the presence of PFAS in drinking water in Alaska. Several communities including Utqiavik, Fairbanks, and Moose Creek are already addressing the presence of PFAS in public and private drinking water systems and more communities are scheduled for sampling in FY19. CS response includes identifying sites/areas of potential concern (primarily near airports where Aqueous Film Forming Foams (AFFF) have been used for firefighting), working with potentially responsible parties to identify water wells that may be impacted and coordinating with well owners to have their wells sampled, then coordinating with other agencies, landowners and the public on the response. Response actions typically include the provision of bottled water in the near term, followed by the establishment of longer term alternative water sources or treatment systems. In some communities, existing water utilities can be expanded to affected communities, however in some cases, individual treatment system are necessary. ADEC will be working collaboratively with the Alaska Department of Transportation and Public Facilities (ADOT&PF), Department of Administration's Division of Risk Management, Alaska Department of Health and Social Services (HSS), Alaska Department of Law (LAW) and others during FY19 on a coordinated statewide investigation and response effort at State airports where AFFF has been used.

3 PROGRAM HIGHLIGHTS



3.1 PREVENTION, PREPAREDNESS, AND RESPONSE PROGRAM (PPR)

3.1.1 PPR REGIONAL MATTERS (NORTHERN, CENTRAL, SOUTHEAST)

In FY18, the Division recorded 2,069 new spill cases statewide and carried over 277 cases from FY17. Of these, 2,134 were closed during this reporting period. Prevention and preparedness is accomplished through reviewing and approving prevention and contingency plans, exercises, and inspections. Working with Industry, the Division managed Financial Responsibility Certificates in FY18 for 286 Oil Discharge Prevention and Contingency Plans (ODPCP) holders; 358 for Nontank Vessels; 225 for Underground Storage Tanks. The Division works closely with Industry on ODPCPs and issued 64 approval documents for renewals, amendments and new plans. There were three enforcement actions filed during this reporting period. As an integral part of the ODPCP reviewing team, our Integrity and Engineering Unit (IEU) improved 29 ODPCPs through review of oil spill prevention methods and best available technologies. In April 2018, the Division completed a new *Oil Spill Exercise Guidance: A Manual for Planning, Conducting, and Evaluating Exercises* to improve the spill response capability for regulated oil facility operators that have approved ODPCPs. The Department identified aboveground refined fuel tanks with a facility-wide total capacity equal to or greater than 1,000 gallons and less than 420,000 gallons as a significant source of preventable spills. In FY18, regulations went into effect to define these facilities and begin a registration process in order to conduct focused outreach and training for these facilities to prevent future spills.

3.1.2 PPR NORTHERN REGION MATTERS

In FY18, there were a total of 927 new spill cases and 69 cases carried over from FY17 in the Northern Region; of these, 979 were closed in FY18. The Northern Region reviewed a total of 15 ODPCP applications. IEU provided technical support to PPR for oversight of two major pipeline projects: the Harvest Cross Cook Inlet pipeline and the Liberty development project. IEU continued to work closely with the Northern Region for oversight of the North Slope area flow lines and participated in the Trans-Alaska Pipeline System Combined Resource Exercise 2018. Below are a few examples of significant work from FY18, including response to a truck rollover and tank farm secondary containment spills. Data from FY18 spills can be found in the PPR Data Review section of this report.

Doyon, Limited – Totchaket Drilling Program Oil Discharge Prevention and Contingency Plan (ODPCP): On December 14, 2017, the department received the application for a new Doyon, Limited – Totchaket Drilling Program ODPCP for review. During the pre-application meeting, Doyon stated that the Totchaket ODPCP will be similar to their existing Nunivak ODPCP. However, the new Totchaket Drilling Program would take place across the Tanana River and adjacent to the Tanana Valley State Forest which represented a significant variation in response conditions for the Nunivak ODPCP. The department worked with Doyon and their contractors to develop multiple scenarios to test the readiness and adequacy of Doyon's response tactics to a well blow out in Interior Alaska. The department worked with Doyon to ensure that adequate information was provided to the stakeholders for meaningful public engagement throughout the process. The department determined that the information provided for the plan was complete on April 2, 2018 and the plan was formally approved on May 22, 2018.

Eielson AFB EIE 376 PFOS/PFOA Water Discharge, Spill No. 18309919201: Beginning in March 2018, Eielson Airforce Base (AFB) was doing construction on the foundation of a hangar building under the F-35 project and dewatered the site and into the wooded area behind the E-11 Tank Complex. Due to frequent rain, there was a lot of water at the site. Water samples were taken on May 14th and June 12th and test results for PFOS/PFOA concentrations were 0.407 ug/L and 0.417 ug/L, respectively, exceeding the CS work plan allowance of 0.400 ug/L for this hazardous substance. Based on the lab results, Eielson AFB immediately stopped dewatering at this site. We estimated approximately 81,000,000 gal total volume of contaminated water, however, estimates of volume fluctuated due to rain water inputs and was approximately 900,000gal/day for 90 days. This site was documented in the PPR Spill Database and handled by expertise in the CS Program within SPAR as PFOS/PFOA are persistent organic pollutants, and the discharge from the dewatering program will require further characterization and monitoring.

Referral to LAW: On March 30, 2017 at the Lisburne L5 Well 13, a well mechanical integrity test BPXA reported a release of approximately 336 gallons (8 barrels) of crude oil. The oil flowed outward from the well and entered a subsidence crack in the gravel pad. The crack ran behind the adjacent well (Well 15) which was being used as an injector line for produced water. Oil filled the

subsidence crack and entered the subsurface flowing horizontally along its length. The pipeline feeding Well 15 was a temporary line. In order to advance cleanup, the temporary pipeline would need to be removed. It was felt by the SOSC and the land managers at DNR Division of Mining Land and Water that it was prudent to work with BPXA for rerouting the produced water, removing the temporary line, completing the cleanup, and returning Well 15 to service. BPXA refused to advance cleanup since they did not want to remove the temporary line. On October 20, 2017 a referral was sent to LAW to seek advice on cleanup activities and the initiation of a civil assessment for the release and the site is now in the CS Program.

MP317 Richardson Hwy US Army Tanker Rollover, Spill No. 18309906301: On March 4, 2018, a United States Army (US Army) owned and operated Heavy Expanded Mobility Tactical Truck (HEMTT) tanker hauling an estimated 1,800-1,900 gallons of JP-8 departed the roadway, rolled over and slid partially down the west embankment of the Richardson Hwy at milepost 317.3. The pressure increase inside the tanker triggered a pressure relief valve on the rear hatch of the tanker, causing the majority of the fuel to release. Initial response actions, conducted by the US Army and its contractors, included removal of the HEMTT, site assessment and delineation, and recovery of free product present in the "lower spill area" down the embankment. Since the tanker was rightened and removed from the spill area without first being lightered, subsequent releases occurred during its recovery which prompted investigations and cleanup efforts in additional areas along the highway. Due to limited site access and safety concerns working along the highway, on-site soil removal activities were not initiated until March 14, 2018 and continued through March 29, 2018. A final report was received by the department on July 18, 2018, showing that there is some soil and groundwater contamination still present within the source area. In the final report, the US Army claimed that the remaining contamination could be present because of "background contamination", e.g. through past road oiling activities. PPR is currently working with CS and ADOT&PF's Northern Region Maintenance & Operations Unit to determine if there are any historical records that would confirm or dispute that claim.

ConocoPhillips Alaska Inc. Kuparuk: ConocoPhillips Alaska Inc. Kuparuk River Unit ODPCP plan renewal was completed in March 2018. This ODPCP covers ConocoPhillips Alaska Inc. Kuparuk Oilfield as well as the Kuparuk and Oliktok Pipelines. The Kuparuk Oilfield has been actively producing oil since 1981 and has been operated by ConocoPhillips since 2000 with a historical production of over 2.4 billion barrels of crude oil. Conoco Phillips Alaska Inc. has two additional active contingency plans in Alaska covering their Alpine Oilfield and their North Slope Exploration activities.

Malamute Energy Inc.: Malamute Energy Inc. ODPCP plan renewal was completed in January 2018. Malamute Energy currently has leases in the Northeast National Petroleum Reserve close to Umiat. Unusually, Malamute currently has no active production wells or exploration work being conducted on their leases but they do have 2 uncapped wells as a part of their lease, requiring them to maintain an active ODPDP with the state of Alaska. The leases in this Umiat area were previously controlled by Australian energy firm Linc Energy which was liquidated in 2016.

At the Savoonga Native Store Tank Farm an estimated 22,000-gallon release of diesel fuel was released to the Savoonga tank farm secondary containment area and surrounding environment. Responders move contaminated snow and ice to the temporary containment area, April 23, 2018 (Photo/ADEC)

Savoonga Native Store Tank Farm Diesel Release, Spill # 18389907301: On March 14, 2018, during a tank farm fuel transfer, an estimated 22,000-gallons of diesel fuel was released to the Savoonga tank farm secondary containment area and surrounding environment. The release resulted from an overfill of a 3,000-gallon day tank when fuel was being transferred from one of the farm's 26,500-gallon tanks to another. Due to an excessive buildup of ice and snow within the secondary containment, the fuel breached the tank farm walls on two sides and flowed onto the tundra and surrounding gravel. ADEC responders worked with local Savoonga responders to recover fuel, remove and melt contaminated snow from the secondary containment and tundra, and to protect the surrounding tundra from contamination with booms and trenches. The department activated a state emergency response contractor to respond to the incident, process the melting snow/ice, and recover the separated fuel. An estimated 120,000 gallons of contaminated water was processed through the on-site mobile oil/water system and an estimated 12,000 gallons of diesel fuel was recovered from the secondary containment and contaminated snow. ADEC monitored the incident and plans to visit the site in FY19 to field screen the site and evaluate tundra for damage and rehabilitation.

Eskimo's Inc. Unleaded Gasoline Tank Release, Spill # 17399919501: On July 14, 2017 a pressure relief valve failed at the Eskimo's Inc. facility in Barrow, Alaska releasing an estimated 9,000 gallons of unleaded gasoline into the tank farm's secondary containment. All fuel was contained within the tank farm's secondary containment area and gravel. The breach was temporarily plugged by on-site employees while the fire department and police secured the area. SPAR responders worked with

At the Eskimo's Inc. facility in Barrow, Alaska a pressure relief valve failed releasing an estimated 9,000 gallons of unleaded gasoline into the tank farm's secondary containment. Responders use non-sparking tools to remove contaminated gravel from the secondary containment area, July 19, 2017 (Photo/ADEC)

Eskimo's Inc. to recover mobile fuel and contaminated gravel. Responders used pumps and absorbent pads to recover 4,500 gallons of standing fuel and used non-sparking hand tools to remove 95 cubic yards of contaminated gravel from the secondary containment. The soil was placed into supersacks and shipped out of Barrow via barge, offloaded in Prudhoe Bay, and trucked south for incineration. All repairs have been made to the tank farm piping, the tank farm's liner has been inspected, and the secondary containment has been backfilled with clean gravel.

Charter for the Development of the Alaskan North Slope (NS):

The *Charter for Development of the Alaskan NS*, signed December 2, 1999, is an agreement between the State of Alaska, BPXA, and ARCO (now ConocoPhillips), which led to State of Alaska support of a merger between BPXA and ARCO. The charter contains 11 different environmental commitments which the department oversees. The environmental commitments in the charter are ongoing for the life of the merger. PPR organized and participated in the annual corrosion management review and asset integrity meetings with BPXA and ConocoPhillips in Anchorage. On May 1, 2018, ADEC staff meet with BPXA and ConocoPhillips in Anchorage in an open forum to view and discuss presentations about their respective corrosion monitoring programs for NS facilities. These meetings are attended by the PPR engineering team and staff who are responsible for reviewing and enforcing the companies' Contingency Plans and overseeing spill responses.

3.1.3 PPR CENTRAL REGION MATTERS

In FY18, there were a total of 661 new spill cases and 193 cases carried over from FY17 in the Central Region. Of these, 706 were closed in FY18. The Central Region reviewed a total of 39 ODPCP applications during FY18. Below are a few case examples of the types of significant work from FY18 and include response to a disabled fishing vessel, collapse of a cannery, and changes to ODPCP for vessel tanker transport. Data from FY18 spills can be found in the PPR Data Review.

Planning Initiative: Cook Inlet Gas Gathering Conversion Project: Recent incidents in Cook Inlet have raised concerns about the integrity of aging oil and gas infrastructure assets. To partially address concerns, the major oil and gas operator on Cook Inlet, Harvest Alaska Corp (a subsidiary of Hilcorp Alaska), proposed to convert the old Cook Inlet Gas Gathering System (CIGGS) pipeline from previous natural gas service to crude oil service. The project tied approximately six miles of new 10-inch pipe from the West side of Cook Inlet to the existing 10-inch CIGGS pipe, and this reversed the flow of the pipeline so that crude oil could be moved from the West side of Cook Inlet to Nikiski. This converted the pipeline system (flow, control, metering, leak detection, etc.) from gas service to liquid crude oil service. The project improved the efficiency of the Cook Inlet crude oil production system and reduced crude oil transportation risks.

Specifically, Harvest Alaska eliminated approximately 42 miles Cook Inlet Pipeline from the Trading Bay processing facility to the Drift River Oil Terminal and from the Drift River Oil Terminal to the Christy Lee loading platform. This eliminated the transporting of crude oil by tankship across Cook Inlet to the refinery at Nikiski. The benefits of this project far outweighed the risk and cost; however, it required PPR support on extensive modification of the Oil Discharge Prevention and Contingency Plan (ODPCP).

Because Hilcorp has one ODPCP for all of their Cook Inlet exploration and production operations, incorporating the CIGGS changes necessitated a comprehensive re-writing and re-evaluation of Hilcorp's ODPCP. Hundreds of hours of planning time were spent in coordinating meetings with Hilcorp to understand the new system, the changes to the existing system, and the impacts of the removed system from the plan. We developed new oil spill response planning standard for this project which incorporated engineering consultation and review. There were many regulatory obstacles identified, and solutions developed. Hilcorp completed the pipeline conversion project in the fall of 2018 but the ODPCP planning around this new system started well in advance. This is a great example of how government and industry can partner to mutually achieve common interests.

Valdez Petroleum Tank Farm #27: Integrity and Engineering Unit assisted in PPR's oversight of new AST foundation design for the Valdez Petroleum Tank Farm to ensure consistencies with an industry standard for tank bottom leak detection -Annex I of American Petroleum Institute (API) Standard (Std) 650. The methodologies were essentially systems of passive, gravity based, release prevention barriers (RPBs). A properly designed RPB would ensure that a leak from a tank bottom would be prevented from escaping and would be contained or channeled to the tank perimeter for detection. Complying with this industry methodology had a new significance with the pending adoption of the current tank inspection standard (API Std 653) since an RPB, designed and installed per Annex I, could be used to justify an additional 10 years to internal inspection intervals.

Oil Discharge Prevention and Contingency Plans (ODPCP): In FY18, the Central Region processed 26 requests for ODPCP condition waivers and 27 spot hire amendments (tankships chartered by an ODPCP plan holder for one-time delivery of oil require an amendment to the ODPCP plan). By

regulation, the department has five days to resolve the amendment request; this burdened department staff workloads when the requests were frequent.

Referral to LAW: On June 6, 2018, the owner of Grubstake Auctions in Anchorage, AK, Mr. Alleva, was accused of spreading 75 pounds of calcium hypochlorite powder (pool cleaner), which is a hazardous substance, on the ground on and near his property. This was done presumably to deter loitering citizens from a nearby homeless shelter. Resulting complaints of physical harm elicited a response from the Municipality of Anchorage Fire Department EMS and HAZMAT response team, as well as ADEC PPR personnel. PPR monitored the response cleanup in consultation with the ADEC Pesticides program. The incident was managed by the Municipality of Anchorage Fire Department. The Anchorage Police Department pursued an investigation into criminal complaints against Mr. Alleva, and eventually turned the case over to the Municipality Attorney for prosecution. At that point, PPR considered the spill incident case closed. During the development of the case, PPR was contacted by the defendant's attorney for information.

Disabled Fishing Vessel *Akutan*, Spill No. 17259921901: On August 7, 2017 the 166-foot fishing vessel *F/V Akutan* arrived under its own power, and anchored in Captains Bay, Unalaska AK. The vessel was reported to contain between 20,000 and 23,000 gallons of mostly marine diesel and oily water as well as hydraulic, lube, and engine oils and an estimated 6,000 lbs. of liquid anhydrous ammonia. The vessel was in a deteriorating condition and abandoned by the owner and most of the crew after a disastrous fishing season in Bristol Bay. Six of the crew remained on board to sustain power generation to keep the vessel afloat and 160,000 pounds of salmon frozen. No known petroleum releases had occurred at the time but an unknown amount of anhydrous ammonia was reportedly released from a plate freezer in the vessel's refrigeration system raising concerns about crew and public safety. A Unified Incident Command was established in Dutch Harbor. As a precautionary measure, the Coast Guard contracted Resolve Marine (Resolve) to mitigate the potential pollution threats. Between August 18 and August 22, Resolve removed approximately 16,000 gallons of fuel, oily water, and sludge from the bilge and three slop tanks. Similarly, the frozen salmon was eventually removed from the vessel, deemed unfit for human consumption, and properly disposed. The vessel then sat anchored in Captains Bays through the remainder of CY2017. The Coast Guard partnering with ADNR eventually declared that the vessel posed potential risks to life, property, the environment, and was an emergency situation for the state. Resolve was contracted to remove the remain

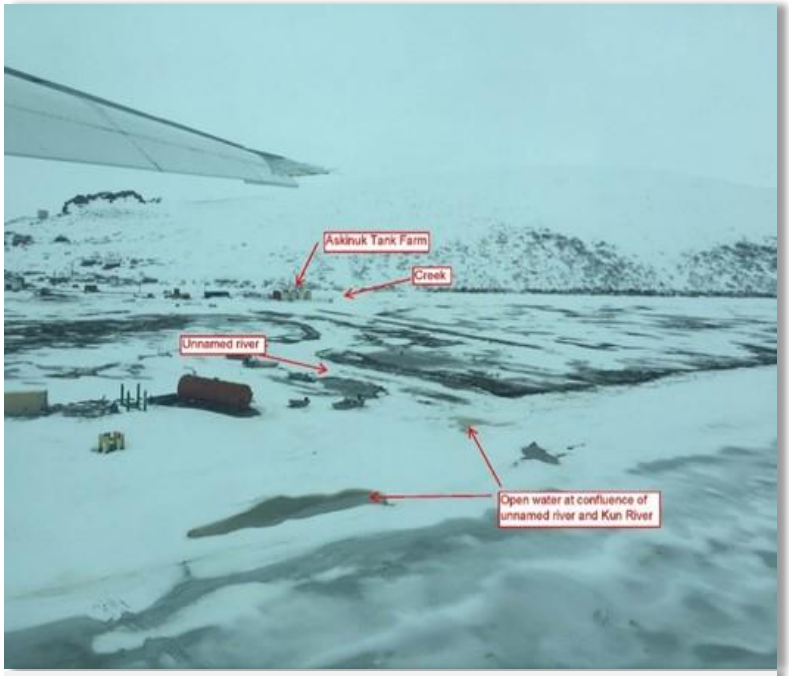
The crew of the Coast Guard Cutter Alex Haley prepares to break tow with the fishing vessel Akutan 25 nautical miles northwest of Dutch Harbor, Alaska, Jan. 25, 2018. (Photo/U.S. Coast Guard Lt.j.g. Matthew Schoen)

pollution hazards in preparation for scuttling. On January 26, 2018, the Coast Guard Cutter Alex Halley towed the derelict ship approximately three miles outside U.S. territorial seas where Resolve scuttled the vessel and conducted cleanup operations for debris in the water.

Port Williams Shuyak Island Bunker C Spill, Spill No. 18249905701: On February 26, 2018 wind gusts partially collapsed and old wooden pier structure at the Port Williams Cannery on the south side of Shuyak Island. Shuyak Island is largely owned by the State of Alaska, except for several private holdings (including the old cannery) on the island. A fuel bladder with up to 3,000 gallons of mixed fuels (Bunker C, diesel, gasoline, and other oils and lubricants) was stored inside one of the buildings on the pier. During the collapse the fuel bladder ruptured releasing the product into the bay and along the adjacent shoreline. During the initial response the Responsible Party was unknown and ADEC, along with the USCG, formed a Unified Command. Response contractor Alaska Chadux Coorperation (Chadux) was dispatched to the site and deployed 3,340 feet of boom and absorbents in the bay. Dive teams removed debris below the water and a crane barge was used to remove larger debris and petroleum and hazardous products from the pier structure. Over 1,878 bags of oily waste were removed as well as oiled debris. Chadux responders deluged the adjacent beach and conducted hot pressure washing of oil from rock surfaces. The response was complicated by inclement winter weather, the remoteness of the site, and the danger to responders posed by the dilapidated structure and hazardous materials contained within the structure. Emergency response efforts continued until active cleanup and recovery was suspended to prevent additional negative impacts to the environment. Project management and long term oversight or the upland portion of the spill was transferred to the Contaminated Sites Program.

Port Williams Cannery on the south side of Shuyak Island, Alaska, March 29, 2018. The collapse of a fuel bladder with up to 3,000 gallons of mixed fuels released products into the Bay and along the adjacent shoreline. Response Contractor Alaska Chadux deployed 3,340 feet of boom and absorbents in the Bay (Photo/Jade Gamble, ADEC Responder)

Askinuk Tank Farm Gasoline Release, Spill No. 18279911101: On April 23, 2018, a concerned citizen in Scammon Bay reported a suspect fuel spill after observing a fuel sheen on open water in the still frozen Jun River. Response Personnel from the Central Alaska Region and the United States Coast Guard responded and visited the site on April 27. It was discovered an estimated 7,000 gallons of gasoline had leaked into the Askinuk Corporation Tank Farm secondary containment from a pinhole in a horizontal aboveground bulk fuel tank. The tank farm operators indicated that fuel and water may have flowed over a damaged portion of the containment berm and that fuel and water may have been pumped out of the secondary containment into the adjacent wetland on April 18th. Observations by responders did not indicate any concentrated pooling of free product around the tank farm though pockets of unrecoverable sheen were observed intermittently in meltwater around the facility. ADEC response personnel returned to the site at the end of breakup on May 17th. A strong hydrocarbon odor was present at the tank farm containment breached area within the fence surrounding the facility. Surface water samples were taken from the ponded water adjacent to the facility closest to the containment breach and from the unnamed creek (down-gradient of the ponded water) that flowed into the Kun River. Additionally water sampling was conducted 60 days later from the ponded water and creek. No contaminants of concern were detected and the ponded water and creek met surface water quality standards. Since the May 17th site visit there have been no observations of sheen in the surface water (wetlands and creek) adjacent to the tank farm. Impacted sand and gravel remain in the pad and within the secondary containment. No additional emergency response actions can be done without impacting critical infrastructure, therefore the case has been transferred to the state's Contaminated Sites Program.



Scammon Bay, Alaska an estimated 7,000 gallons of gasoline had leaked into the Askinuk Corporation Tank Farm secondary containment from a pinhole in a horizontal aboveground bulk fuel tank. Aerial photo, April 27, 2018 (Photo/ADEC)

Day Tank Overflow of Diesel- Learning Center Bethel, Spill No. 18279900801: Between January 8 and January 9, 2018, Yuut Elitnaurviat maintenance personnel reported a release of approximately 3,000 gallons of diesel at the Yuut Elitnaurviat People's Learning Center. The spill resulted from an unattended transfer operation between the feeder heating oil tank and the facility heating oil day tank. A unified command was established and ADEC activated response contractor Chadux. Chadux responders arrived on site January 9th establishing site control and initiating spill response actions. Approximately 950 gallons of pooled fuel was recovered, along with approximately 650 gallons of diesel waste (contaminated ice and snow) was recovered and seven cubic yards of impacted soil was removed from the spill site. ChemTrack response contractor resumed cleanup operations during summer conditions removing an additional 51 cubic yards of soil. Final cleanup report is pending.

Container Ship *Laura Maersk* Adrift, Spill No. 17259919501: On July 14, 2017 *C/V Laura Maersk* was adrift approximately seven miles north of Akutan Island on the Aleutian chain. The vessel lost power for unknown reasons. The vessel was carrying an unconfirmed number of containers and an estimated 51,500 gallons of fuel oil. The Coast Guard federalized the response and deployed air asset H60 and their cutter *Midgett* to the distressed vessel. The Coast Guard contracted Resolve's *M/V Makushin Bay* and the tugs *Millennium Falcon* and *Gretchen Dunlap* (with the State's Emergency Towing System onboard). The *Millennium Falcon* was able to arrest the *Laura Maersk*'s drift approximately 5.5 nautical miles from landfall in Akutan. The State's Emergency Towing System was successfully deployed and the *Gretchen Dunlap* towed the *Laura Maersk* to Unalaska arriving at the mooring buoy in Broad Bay at approximately 07:45 July 15. No pollution or injuries were reported during the event.

C/V Laura Maersk adrift near Akutan Island, Aleutian Islands, Alaska aerial photo, July 14, 2017(Photo/USCG Sector Anchorage)

Big State Richardson Highway Rollover, Spill No. 18229905301: On February 22, a Big State Logistics tanker truck left the roadway at the intersection of Dayville Road and the Richardson Hwy while transporting fuel from the Petro Start Valdez Refinery. After leaving the roadway, the truck struck a tree and released an estimated 2,500 gallons of ultra-low sulfur diesel fuel in the highway right-of-way near a tributary of anadromous Robe River. Big State responded to the site with their emergency response team and lightered the remaining fuel from the tanker and began cleanup

efforts that prevented fuel from entering waters of the state. ADEC's Environmental Crimes Unit initiated an investigation and the driver of the truck has been charged criminally in the incident.

On Feb 22, 2018 a Big State Logistics tanker truck rollover released an estimated 2,500 gallons of ultra-low sulfur diesel fuel in the highway right-of-way near a tributary of anadromous Robe River (Photo/ADEC)

Crowley/Edison Chouest Transition: In June 2018, a total of seven major amendments were approved for the Alyeska Pipeline Service Company, Valdez Marine Terminal, and Prince William Sound Tanker ODPCPs to incorporate new prevention and response assets and personnel into the Alyeska, Ship Escort Response Vessel System (SERVS). Edison Chouest Offshore (ECO) began operations as the new marine service provider for SERVS after a lengthy department review and verification. The amendments bring nine new purpose-built tugs for tanker escort and barge towing, four new purpose-built oil spill response barges, and the utility tug Ross Chouest into service in Prince William Sound. ECO personnel crew these assets and the other response assets in Prince William Sound that remained in the system: Valdez Star, Mineral Creek, and 500-2. Prior to the transition, SERVS was required to be validated for capability of the vessels to perform based on plans requirements and, for vessel response personnel to demonstrate the ability to perform response duties outlined in these plans.

3.1.4 PPR SOUTHEAST REGION MATTERS

In FY18, there were a total of 481 new spill cases and 15 cases carried over from FY17 and of these, 451 were closed in FY18. The Southeast Region reviewed a total of 10 Oil Discharge Prevention and Contingency Plan applications during FY18, of which seven were ODPCP renewals.

Enforcement, Notice of Violation: On December 5, 2017, the Southeast Region issued a Notice of Violation (NOV) to Petro 49 Inc. (Petro 49 Inc.) for operation of the Ketchikan Bulk Plant without the required operational high-level alarms in violation of their ODPCP. On May 25, 2017, it was determined that at Petro 49 Inc., eight of 12 storage tank high-level alarms were inoperable. The department approved alternative measures in a temporary waiver of overfill protection on June 2, 2017 to allow Petro 49 Inc. time to install new high-level alarm systems on the tanks. The waiver expired on September 29, 2017 and the high-level alarm installation was not completed. A second

waiver was issued on October 20, 2017 to provide Petro 49 Inc. additional time to complete installation of the new high-level alarm system. The waiver expired on November 30, 2017.

In correspondence dated November 29, 2017, Petro 49 Inc. informed the department that three of these tanks were not included during the high-level alarm upgrades, resulting in these tanks being without functional high-level alarms per the contingency plan. Interim measures approved under Petro 49 Inc.'s temporary waiver of Overfill Protection expired on November 30, 2017, resulting in non-compliance with the Ketchikan facility's approved contingency plan. The Southeast Region reviewed and approved a minor amendment to the facility's contingency plan which allowed use of portable battery operated high-level alarms and on February 21, 2018 notified Petro 49 that the department considers the NOV to be resolved. The Southeast Region monitored the status of the installation of the new high-level alarms on the final three storage tanks which Petro 49 Inc. completed in March, 2018.

Financial Responsibility: Financial Responsibility staff assisted the Information Technology group to enhance information management for regulated underground storage tanks (UST) and regulated industry financial responsibility by design and development of two new database systems. The collaboration has been a part of the initial design, development and testing. The UST database went into production in early FY18 while the industry FR database system design and development work continues into FY19. The industry FR database system work will transition data from an Access database to a more robust SQL server-based database system and will improve accessibility within the department.

The regulated industry FR facilitated the major updates related to a corporate merger affecting Tesoro and Andeavor records. Not only were there a high number of associated facilities to update but the facilities crossed multiple entity types including tankers, terminals, and pipelines. The effort required guidance from industry FR staff on complex surety bond and guarantee FR proof documentation to provide coverage up to $280M for crude oil tankers, some of the highest limits in the department's system.

Below are a significant projects from FY18 and include response to a grounded fishing vessel, transporting fuel by barge and averting a spill, and testing the Geographic Response Strategy with partner organizations in Southeast. Data from FY18 spills can be found in the PPR Data Review.

Fishing Vessel *Deceptive C* Grounding Wrangell, Spill No. 17119918302: On July 2, 2017, just before midnight, the 75-foot seiner, F/V *Deceptive C* ran hard aground on rocks outside Wrangell in the Stikine Strait and was taking on water. All persons on board were safely evacuated. The vessel was uninsured and the USCG federalized the response to the incident and contracted with Power Systems & Supplies of Alaska (PSSA) to boom off the vessel and

remove any remaining fuel on board. The vessel had a capacity of 3,300 gallons, but was estimated to have only 900 gallons onboard when grounding occurred.

PSSA lightered 630 gallons of fuel from the starboard tank, the port side tank was empty, 195 gallons of free floating product was recovered on the water in the engine room, and all other oils and potential pollutants were removed from the vessel. As of November 2, 2018, communications with ADNR reveals the vessel is still in trespass and has not been removed. The Deceptive C is just one example of the dozens of vessel casualties managed by the Southeast Region on an annual basis.

The F/V Deceptive C ran hard aground on rocks outside Wrangell in the Stikine Strait, Alaska and an estimated 195 gallons of free floating product was recovered in early July 2018. (Photo/ Power Systems & Supplies of Alaska)

Articulating Tug/Barge (ATB) Jake Shearer/Zidell Marine 277: On November 26, 2017, PPR was notified by British Columbia Ministry of Environment that the Jake Shearer, an articulated tug, has become disconnected from its fuel barge Zidell Marine 277 in bad weather about 25 nautical miles southwest of Bella Bella, BC. The articulated tug and barge, operated by Harley Marine Services, was northbound to Skagway Alaska with a full load, reported to be carrying 3,308,372 gallons of oil intended for deliver to Petro 49 Skagway bulk fuel facility. There was no reported release from the tug or barge and a second commercial tug was able to establish a tow line on November 27th and move the barge to a more protected location to await development of a transit plan.

Harley Marine Services developed a tow/transit plan to bring the *Zidell Marine 277* to Ketchikan to offload the fuel and get repairs to the *Jake Shearer* and *Zidell Marine 277*. Through vessel surveys and dive inspections, damage was noted to both vessel and repairs were required. Temporary repairs

The commercial tug Gulf Cajun towing the fuel barge Zidell Marine 277 which transported 3,308,372 gallons of oil, followed by the tug JakeShearer. (Photo/ Canadian Coast Guard)

were made, all plans reviewed and approved by the state on-scene coordinator (SOSC) and the federal on-scene coordinator representative (FOSCR) for the vessels to transit to Ketchikan for off-loading and repairs. This incident drew great attention to our trans-US-Canada border, particularly following the grounding of the ATB *Nathen E. Stewart* near Bella Bella, BC one year earlier.

Point Bridget – Echo Cove Geographic Response Strategy (GRS): On June 27, 2018, staff from the Juneau office participated in a deployment test of the Point Bridget – Echo Cove Geographic Response Strategy (GRS). Planning for this GRS test began in January. Planning and execution of the GRS was a joint effort of PPR, USCG Sector Juneau, SEAPRO and Global Diving and Salvage and included the following agencies and stakeholders: Echo Ranch Bible Camp, Alaska Department of Fish & Game (ADFG), State Parks, ADNR's Division of Mining Land and Water and State Historic Properties Officer, the National Marine Fisheries Service (NMFS), National Weather Service, City & Borough of Juneau and Goldbelt Inc. Credit is to be given to the USCG for the *After Action Report* from which the body of this write up came.

Deployment included 2,500 feet of boom at the Echo Cove parking lot and transportation by USCG helicopter of an additional 1,300 feet of boom from the National Guard Hanger to the Echo Bile Camp and Cowee Creek area. Booming tactics to protect the mount of Echo Cove and Cowee Creek were tested by two teams of response personnel. Review and lessons learned were conducted for both GRS tactics. Overall, the Echo Cove and Cowee Creek Geographic Response Strategies were deemed successful, however, modifications would be needed to successfully deploy these GRSs in the event of an actual spill. Manpower, land resources (tractor/ATV's), and proficient vessel operators were essential for this operation. The physical environment was difficult and following the GRS recommendations may not be feasible during high winds or currents due to the possibility of boom entrainment. Alternative strategies were proposed by the team such as deploying

smaller sections of boom at a time, using a larger boom size, having vessels with higher horsepower, deploying over multiple tidal cycles (especially during high tide), and/or using a deflection strategy to collect oil at a single point. The exercise provided valuable feedback and afforded the program the opportunity to work alongside essential partner agencies and contractors. It also allowed us firsthand experience with operating in the Echo Cove region and the challenges that it may pose for real life oil spills.

The Echo Cove and Cowee Creek Geographic Response Strategies in Southeast Alaska, Juneau. The yellow lines indicate preventative booming strategies to protect sensitive habitats.

The 2018 test of this GRS was part in a series of validation tests DEC has been planning and executing jointly with the USCG Sector Juneau which started in 2015. The geographic response strategies are initially planned on paper, however, each must be operationally tested on the water to verify that the strategy will actually perform as planned in actual site conditions including tidal currents, actual versus charted water depths, etc. The Point Bridget – Echo Cove GRS was chosen by DEC and Sector Juneau due to its proximity to large vessel traffic routes, sensitivity of the resources to be protected, and the budget available vs. logistical costs of performing the test. In FY2019 DEC and Sector Juneau are jointly developing a GRS test decision matrix to identify and prioritize future GRS testing based on a number of factors including sensitivity of resources being protected, vessel routing and navigational hazard risks in proximity to the GRS.

3.1.5 PPR DATA REVIEW

PERFORMANCE MEASURES

To review the PPR performance measures please visit the Office of Management and Budget (OMB) website at https://www.omb.alaska.gov/html/performance/details.html?p=245.

CHARTS, GRAPHS, STATISTICS

SPILL CASELOAD SUMMARY	
New spill cases (total spills reported in FY18)	2,069
Oil and hazardous substance releases (some spill cases involve releases of multiple substances)	2,125
New spill cases characterized by highest level of ADEC response:	
1) Field visit	160
2) Phone follow-up	556
3) Took report	1,353
Cases Carried Over From Previous Fiscal Years	277
Cases Closed in FY18 (does not include cases transferred to CS)	2,134
Cases where oversight costs were billed to the responsible party (cost recovery)	294
Enforcement Actions - Notice of Violation (NOV)	1
Enforcement Actions – referral to LAW / Environmental Crimes Unit	2

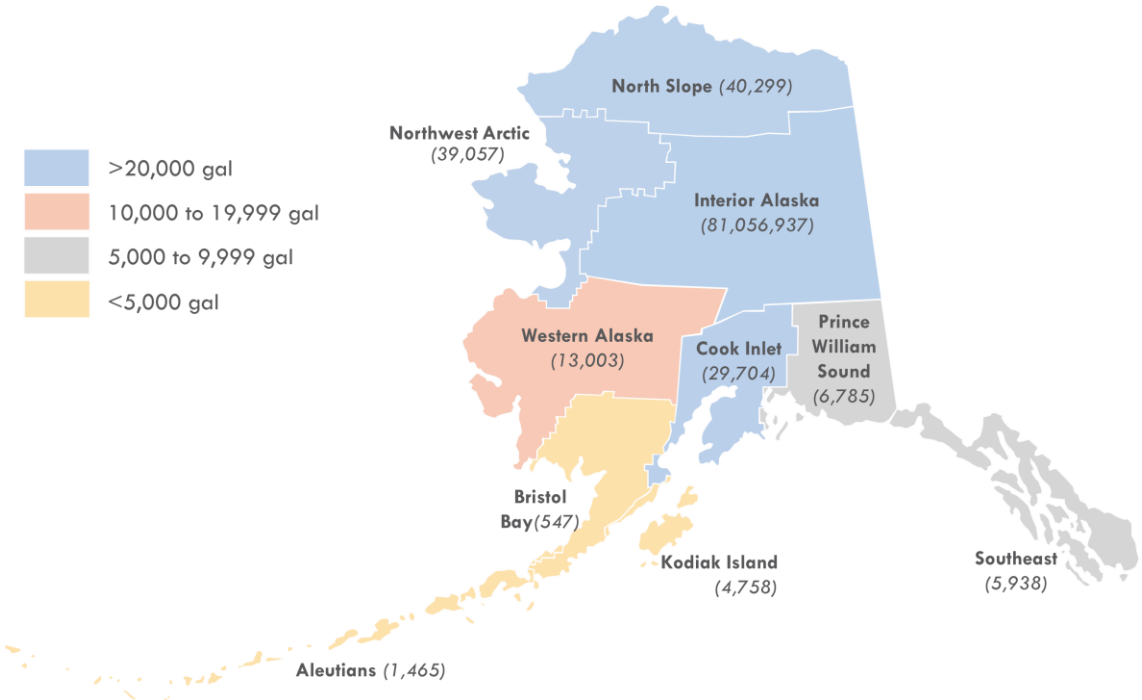
OIL DISCHARGE PREVENTION AND CONTINGENCY (ODPCP) PLANS	
New Plans	3
Plan renewals (plans are renewed every 5 years)	31
Major plan amendments (includes new owners and operators)	13
Other ODPCP applications (includes vessel additions and short term approvals)	17
Exercises	31
Inspections	19
Enforcement Actions - Notice of Violation (NOV)	3
Enforcement Actions – referral to LAW / Environmental Crimes Unit	0

NONTANK VESSEL (NTV) CONTINGENCY PLANS	
New Plans	94
Plan Renewals (plans are renewed every 5 years)	39
Plan Amendments	142
Inspections	10
Enforcement Actions - Notice of Violation (NOV)	2
Enforcement Actions – referral to LAW / Environmental Crimes Unit	0

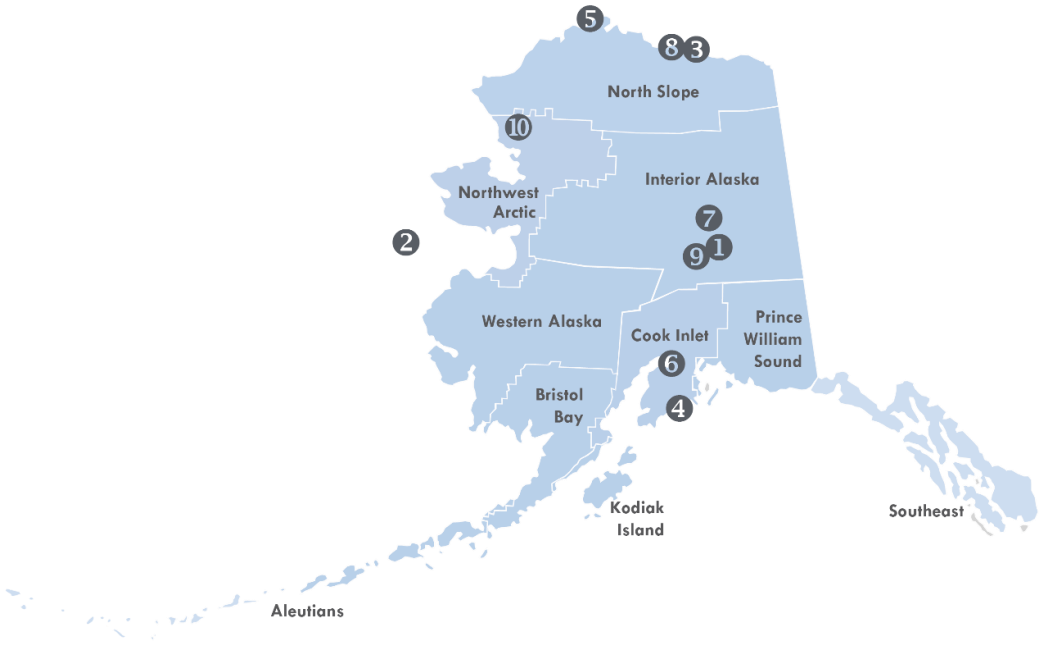
FINANCIAL RESPONSIBILITY CERTIFICATES (RENEWED ANNUALLY)	
Oil Discharge Prevention and Contingency Plan (ODPCP) holders	286
Nontank Vessels (NTV)	358
Underground Storage Tanks (UST)	225
Enforcement Actions - Notice of Violation (NOV)	4
Enforcement Actions – referral to LAW / Environmental Crimes Unit	0

PRIMARY RESPONSE ACTION CONTRACTORS (PRAC)	
New Registration and Renewals	9

TOTAL SPILL VOLUME BY GEOGRAPHIC ZONE



10 Largest Releases



Map Key	Spill Date	Spill Number	Spill Description	Product	Gallons
1	4/1/18	18309919201	Eielson Air Force Base, EIE 376, PFOS/PFOA Water Discharge	PFOS/PFOA Contaminated Water	81,000,000
2	3/14/18	18389907301	Savoonga Native Store diesel release	Diesel	22,000
3	7/25/17	17399920601	Hilcorp injection line failure Endicott well5-03	Produced Water	13,650
4	5/16/18	18239913601	Alaska Railroad Corporation tank failure Seward Yard	Asphalt	8,933
5	7/14/17	17399919501	Eskimos Inc. tank release Barrow	Gasoline	8,400
6	11/18/17	17239932201	Tesoro Logistics tank overfill Ocean Dock Terminal	Aviation Fuel	8,059
7	5/29/18	18309914901	Eielson Air Force Base aircraft jettison 21.000 feet asl[1]	Aviation Fuel	7,980
8	11/15/17	17399931901	ConocoPhillips Alaska, Inc. equipment failure Kuparuk CPF-3	Produced Water	7,500
9	1/1/18	18309900101	Clear Air Force Station redistributed crushed concrete curbing debris	PCB Contaminated Concrete	7,200
10	2/18/18	18389904901	Red Dog Mine line failure main pump house	Acid Rock Drainage	7,083

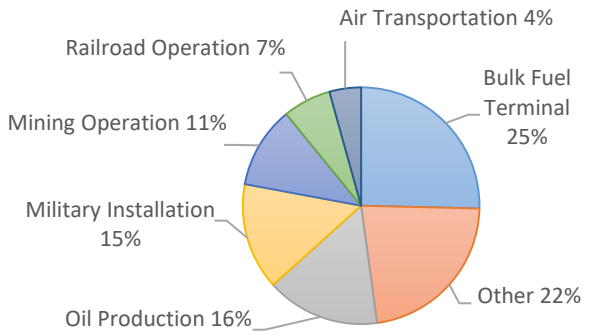
[1] Fuel had vaporized before impacting state lands and/or waters.

Chart Set 1: All Products[1]

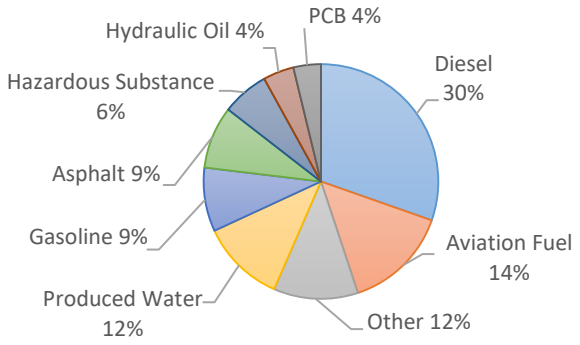
Oil and Hazardous Substance Releases: 2,025

Total Gallons: 81,198,496

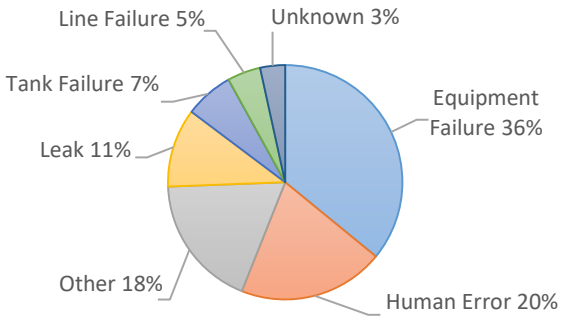
Volume Released by Facility Type



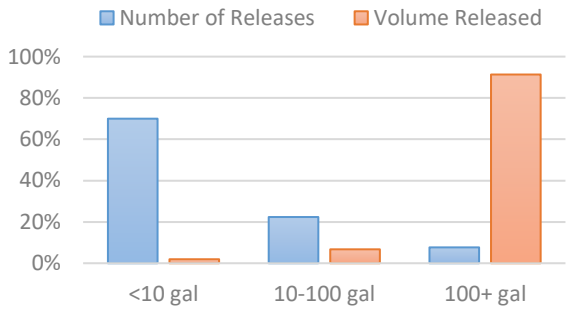
Volume Released by Product



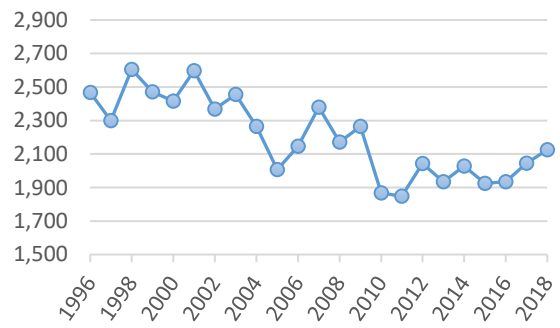
Volume Released by Cause



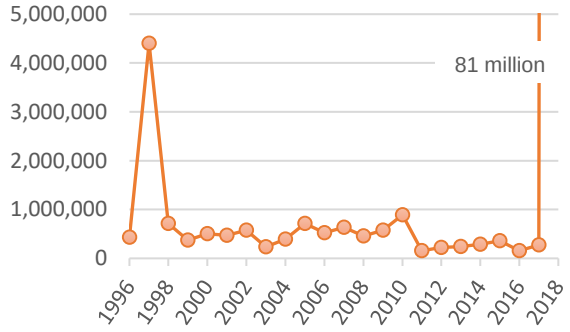
Release Totals by Volume Class



Number of Releases by Fiscal Year



Total Volume Released by Fiscal Year[2]

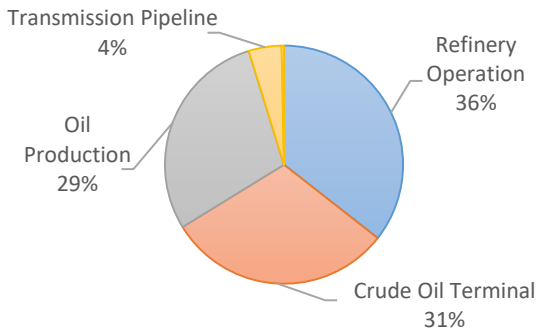


[1] For display purposes, charts 1-4 do not include the 81 million gallon PFOS/PFOA contaminated water discharge.

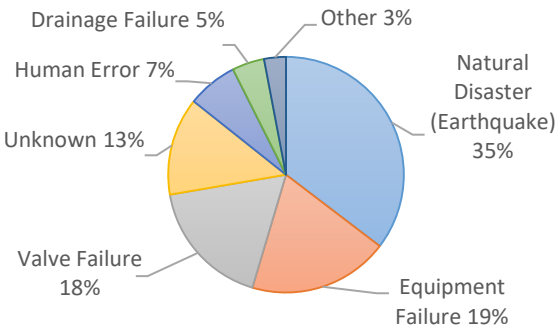
[2] The large spike in spill volume for this fiscal year is due to the 81 million gallon PFOS/PFOA contaminated water discharge that occurred at Eielson Air Force Base on 4/1/18, the large spike in 1997 is the result of two large spills, one on 1/25/1997 when a barge capsized and lost 25,000,000 pounds 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.

CHART SET 2: CRUDE OIL
Crude Oil Releases: 38
Total Gallons: 1,129

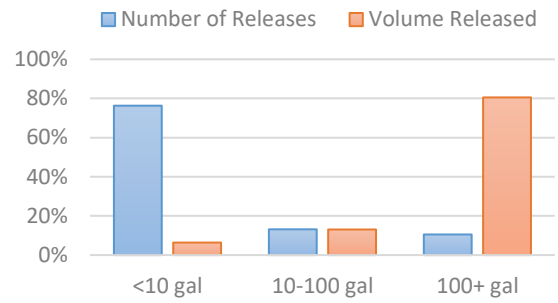
VOLUME RELEASED BY FACILITY TYPE



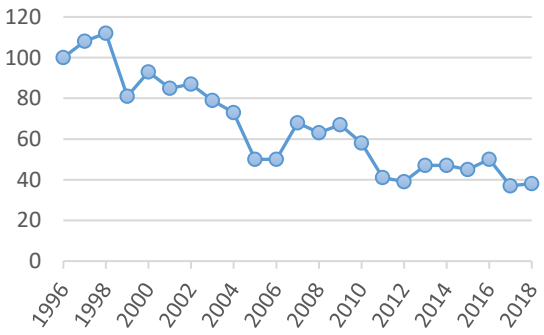
VOLUME RELEASED BY CAUSE



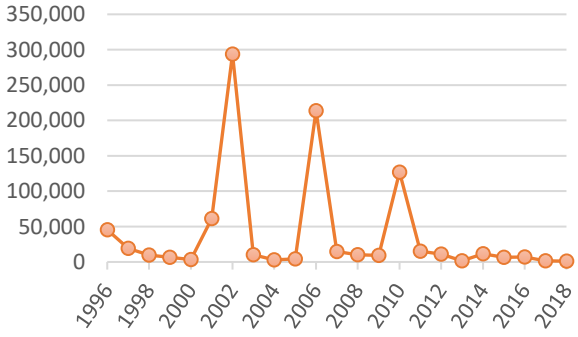
RELEASE TOTALS BY VOLUME CLASS



NUMBER OF RELEASES BY FISCAL YEAR



TOTAL VOLUME RELEASED BY FISCAL YEAR[1]

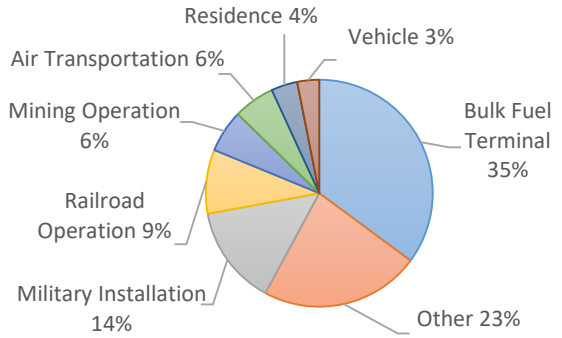


[1] The large spikes in spill volume were the result of: 1) Trans Alaska Pipeline System (TAPS) bullet hole release on 10/4/2001 (FY02) which released 285,600 gallons, 2) BP GC-2 oil transit line release on 3/2/2006 (FY06) which released 212,252 gallons and 3) TAPS pump station 9 release on 5/25/2010 (FY10) which released 108,360 gallons to secondary containment.

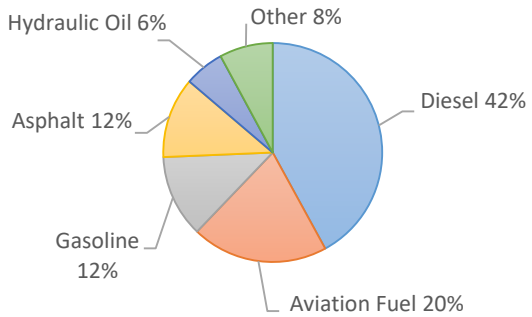
Chart Set 3: Noncrude Oil

Noncrude Oil Releases: 1,566
Total Gallons: 143,423

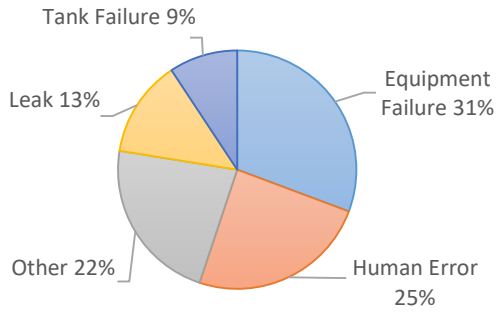
Volume Released by Facility Type



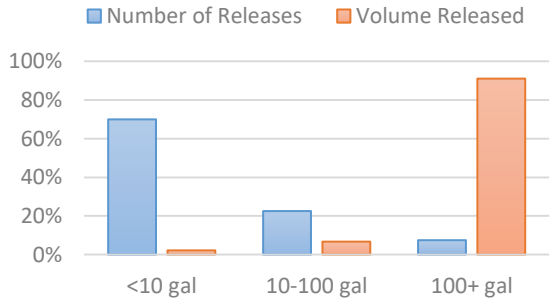
Volume Released by Product



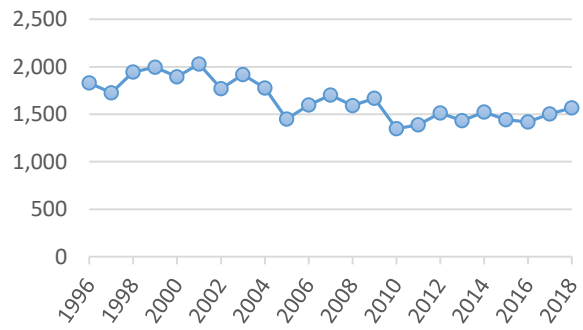
Volume Released by Cause



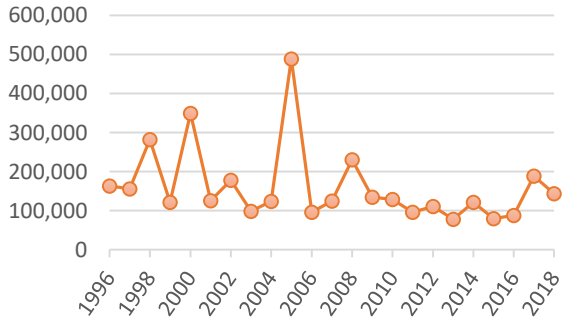
Release Totals by Volume Class



Number of Releases by Fiscal Year



Total Volume Released by Fiscal Year[1]



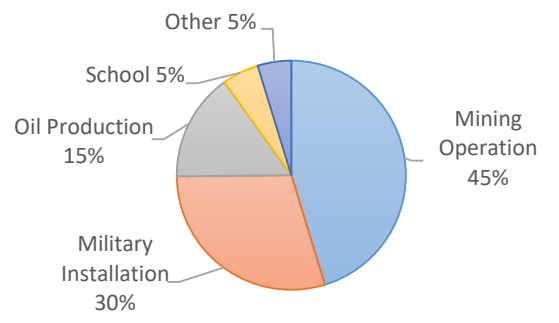
[1] The large spike in spill volume was the result of the breaking apart of the M/V Selendang Ayu on 12/8/2004 (FY05), which released 321,052 gallons of intermediate fuel oil 380 and 14,680 gallons of diesel.

Chart Set 4: Hazardous Substances[1]

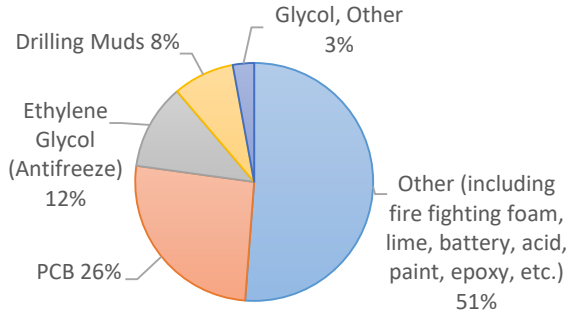
Hazardous Substance Releases: 367

Total Gallons: 81,028,905

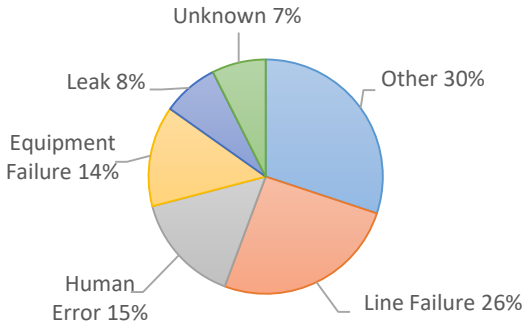
Volume Released by Facility Type



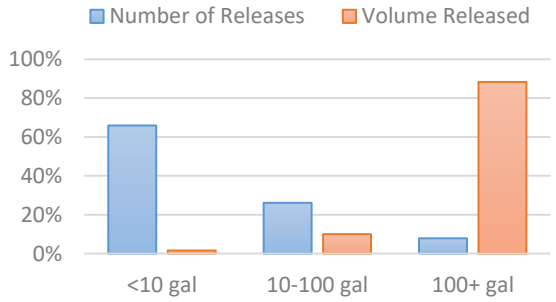
Volume Released by Product



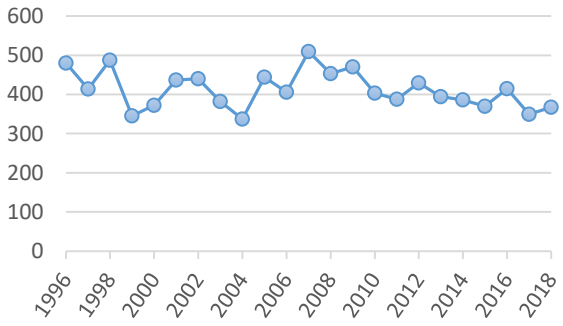
Volume Released by Cause



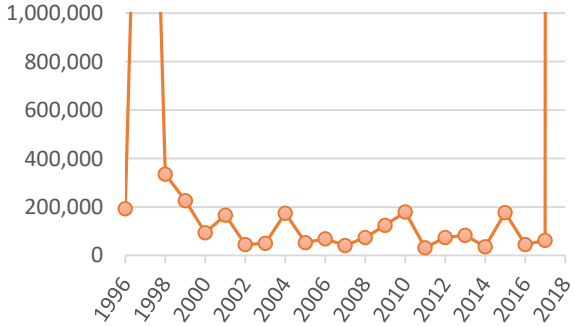
Release Totals by Volume Class



Number of Releases by Fiscal Year



Total Volume Released by Fiscal Year[2]

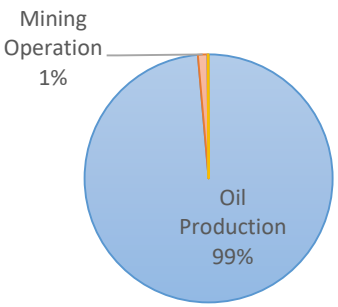


[1] For display purposes, charts 1-4 do not include the 81 million gallon PFOS/PFOA contaminated water discharge.

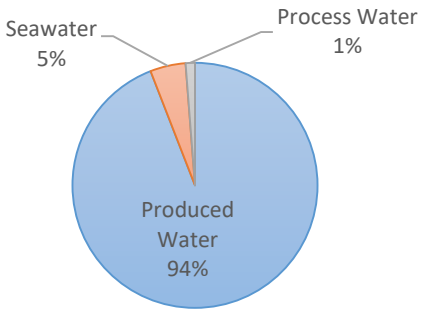
[2] The large spike in spill volume for this fiscal year is due to the 81 million gallon PFOS/PFOA contaminated water discharge that occurred at Eielson Air Force Base on 4/1/18, the large spike in 1997 is the result of a spill on 1/25/1997 when a barge capsized and lost 25,000,000 pounds of Urea (Solid).

CHART SET 4: PROCESS WATER
Process Water Releases: 30
Total Gallons: 24,405

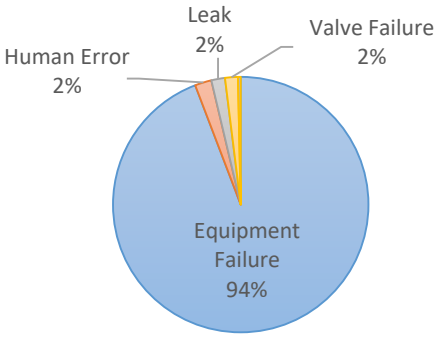
VOLUME RELEASED BY FACILITY TYPE



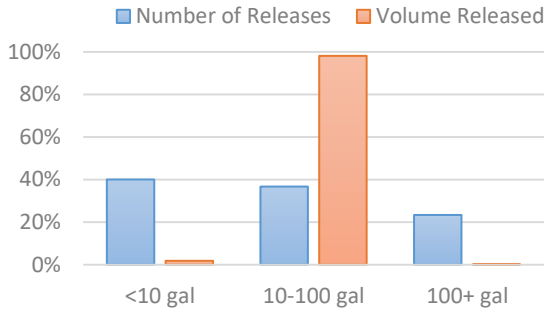
VOLUME RELEASED BY PRODUCT



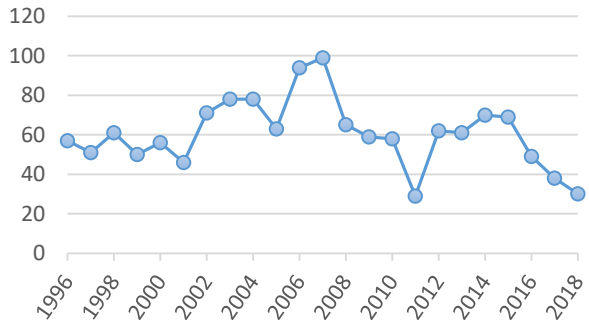
VOLUME RELEASED BY CAUSE



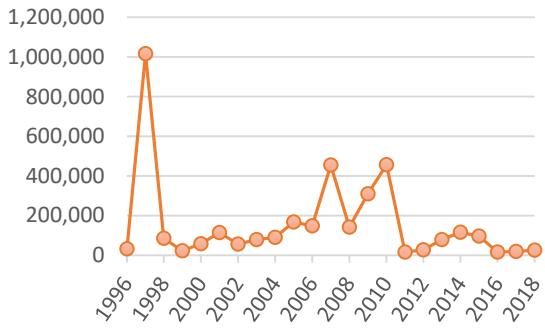
RELEASE TOTALS BY VOLUME CLASS



NUMBER OF RELEASES BY FISCAL YEAR



TOTAL VOLUME RELEASED BY FISCAL YEAR



Disclaimer: The data presented and summarized in these charts is provisional due to ongoing quality assurance and quality control. Ongoing reviews will further refine the accuracy of the data.

Notes: Some spill cases involve releases of multiple substances. In FY18, there were 2,069 spill cases which resulted in 2,125 oil and hazardous substance releases.

Some releases (such as gases and solids) are reported in pounds rather than gallons. For graphing purposes, spill quantities reported in pounds were converted to gallons using an estimated conversion factor.

3.1.6 PPR ACCOMPLISHMENTS

Spill Response Coordination and Planning

In FY18, PPR completed the public review of the restructured State and federal government plans for response to oil spill and hazardous material releases, the *Alaska Regional Contingency Plan* and four *Area Contingency Plans* (Area Plans). This process fulfilled the State Master Plan and Regional Master Plan requirements in State statutes while aligning more closely with national standards and created a common response planning platform for local, statewide, and national responders.

Dispersant Avoidance Areas within Preauthorization Zones

In January 2018, PPR along with the Alaska Regional Response Team's Dispersant Committee, successfully completed a public process to delineate dispersant avoidance areas in the preauthorization zones in 5 Subareas (Prince William Sound, Cook Inlet, Bristol Bay, Kodiak, and the Aleutians). These Subarea changes are now part of the new Geographic Zones that are located in the Area Plans described above. The guidelines now in place include provisions to protect ecologically sensitive areas, critical habitat, biological use areas, hydrogeographic features, as well as many other considerations.

Alyeska and Shipper Marine Service Provider Transition

In 2016, Alyeska Pipeline Service Company (APSC) announced the decision to change their Prince William Sound Shippers and APSC Marine Service Provider from Crowley Marine Services to Edison Chouest Offshore (ECO). The major amendments necessary for both the Valdez Marine Terminal and the Alyeska Shipper ODPCP to undergo this contractor change were approved during FY18. These amendments had significant public interest and required careful review by department staff to ensure the commitments made by Alyeska and the Shippers could be met by ECO.

Class 2 Facility Program Initiation

Early in FY18, regulations went into effect defining a new Class 2 facility, as those facilities that are aboveground refined fuel tanks with a facility-wide total capacity equal to or greater than 1,000 gallons and less than 420,000 gallons and requiring their registration with the department. The department had identified these facilities as a source of a significant number of preventable spills. Our intention through the registration process is to conduct focused outreach and training for these facilities in an effort to prevent spills.

Drill and Exercise Guidance

In April 2018, PPR released the *Oil Spill Exercise Guidance: A Manual for Planning, Conducting, and Evaluating Exercises*. The program's exercise program is a key component of our mission to ensure preparedness and response capability of regulated oil facility operators that have approved ODPCP.

We worked closely with the response community and incorporated best practices from the department of Homeland Security Exercise and Evaluation Program (HSEEP) in the manual. The manual provides ADEC staff, ODPCP holders, response action contractors, partner agencies, and other stakeholders with a common framework to design, conduct, and evaluate oil spill response exercises that demonstrate the adequacy of ODPCPs and the ODPCP holders' ability to implement their plans. It is also clarifies ADEC's role in oil spill response exercises. The development of this living document included significant collaboration and outreach with our stakeholders including an online survey in November 2016, two web-based visioning sessions in December 2016 and an in person stakeholder workshop in April 2017 to present preliminary decisions on key topics.

Exercise Lessons Learned

In FY18, PPR conducted 36 Lessons Learned debriefs for exercises conducted throughout the fiscal year. Internal and external lessons learned summaries were compiled and distributed to promote continual improvement and to identify future training needs. External Lessons Learned are compiled on an annual basis posted on the ADEC website for use by regulated operators, the larger response community, and for public awareness.

Guidance and Regulations

To provide clarity and ensure regulations are updated to align with state and federal statutory requirements, multiple guidance and regulation projects were developed during FY18. The 2015 Underground Storage Tank regulations were completely overhauled to include federal updates; these regulations were adopted in FY18 and implemented in early FY19. The dollar amounts operators are required to have on hand to meet oil spill response financial responsibility were drafted and implemented. Minor amendments and housekeeping packages for selected sections of Title 18, Chapter 75 were also implemented. Guidance Documents for ADEC staff and all regulated operators included an update to the ODPCP Application Package and Review Guidelines; Shop-fabricated Aboveground Oil Storage Tank Capacity Limit Guidance; Skimmer Derating Form and Instructions update; and a Temporary and Seasonal Notification and Registration Guidance for Class 2 Facilities.

2018 Alaska Oil Spill Technology Symposium (AOSTS)

We helped organized and hosted the AOSTS in Anchorage, March 2018 in collaboration with the U.S. Coast Guard and University of Alaska. Over 420 participants from multiple state and federal agencies, large and small energy producers, research and response communities, and many other stakeholders participated in topics ranging from archaeological and cultural resource protection to spill response emerging technologies, including advances in remote sensing technology. This year's symposium included an optional third day with outdoor equipment demonstrations.

3.1.7 PPR FY19 PROGRAM PRIORITIES

Staff Longevity and Program Functionality

During FY19, the PPR management developed and implemented a program wide survey of staff and supervisors to inform managers on key issues regarding program morale, program effectiveness, efficiency, work quality and work environment. In the past several years, the program experienced significant staff turnover which created substantial impacts on the remaining staff and on the success of the Program's mission to prevent, prepare and respond to releases of oil and hazardous substances. In fiscal year 2018, there was approximately 20% staff turnover in the Program. Staff left the Program for a variety of reasons including: moves out of state, retirement, a transfers to another Divisions within ADEC, and job opportunities outside of state service. Of current Program staff, 32% have worked in the SPAR Division for 2 or less years. Our intention is the implement program changes based on survey results during FY19 and FY20 in order to create a more positive and efficient working environment and improve staff retention.

Exercise Planning, Conducting and Evaluation

We will continue to plan and conduct exercises with industry and program staff designed to evaluate and improve industry's preparation for discharge responses per their ODPCPs. In part, this will be accomplished by program-wide training in the principles and concepts of the Homeland Security Exercise and Evaluation Program (HSEEP) that is foundational to the *Oil Spill Response Exercise Guidance: A Manual for Planning, Conducting, and Evaluating Exercises* completed in FY18. Training will help increase proficiency of or fill gaps in necessary skill sets for program staff, the regulated industry, and the larger response community. We will continue to develop both internal and external Lessons Learned based on exercises that are conducted. A key goal is to develop an effective partnership with federal agencies and the larger response community as we work with the four new Area Committees. A goal is to increase the value and cost-efficiency of response exercises though careful design to meet multiple needs without compromising key State requirements for demonstrating a clear level of capacity that aligns with identified risk(s).

Spill Response Government Contingency Plans

The next steps in implementing the statewide *Alaska Regional Contingency Plan* and four *Area Contingency Plans* include working with the state and federal On-Scene Coordinators for the geographic areas as they lead Area Committees through the process of updating and improving the content of the plans to improve their utility during emergency responses.

3.2 CONTAMINATED SITES PROGRAM (CS)

3.2.1 CS REGIONAL MATTERS (NORTHERN, CENTRAL, SOUTHEAST)

The Division's Contaminated Sites Program had successful closure to 80 contaminated site cleanup efforts and 28 leaking underground storage tanks in FY18. A total of 134 sites were added to the contaminated sites database in FY18, including 66 sites transferred from the Division's Prevention and Response program. Of the added sites, 18 were closed during FY18 and 21 were found to be either unconfirmed, non-qualifying, or informational. Of all new sites, 93 remained in active status as of June 30, 2018.

3.2.2 CS NORTHERN REGION MATTERS

Eielson Air Force Base: The CS program continued its regulatory oversight and partnership with the United States Air Force (USAF) and U.S. Environmental Protection Agency (EPA) to ensure proper management of contaminated sites at Eielson Air Force Base. Extensive community and agency coordination continued throughout FY18, regarding a significant per- and polyfluoroalkyl substances (PFAS) plume in groundwater discovered in 2015. The PFAS plume has migrated off-base and impacted drinking water wells throughout the downgradient community of Moose Creek, and is extending into the Chena Flood Control Project area. PFAS likely associated with the USAF's activities have also been identified in a drinking water well at the Birch Lake Recreation Area. Signs stating that the water is non-potable are posted at the Birch Lake Recreation Area, but the water is used for showering, flushing toilets, and hand washing. In 2018, the USAF continued to provide safe drinking water through bottled water, water delivery and granular activated carbon filtration systems to Moose Creek and base residents. Public meetings in the community of Moose Creek have been ongoing to keep water-users informed. In 2018, the USAF continued to build and prepare to receive the F-35A Fighter Squadrons, and CS staff worked closely with the USAF to expeditiously review work plans to ensure timely, appropriate management of contamination during construction. Unfortunately, construction dewatering occurred in one area where groundwater was not known or suspected to be contaminated with PFAS, but the discharge water was determined to be contaminated part way through the project; future site characterization is planned in this area (also see PPR Northern Region Matters for early documentation of this site).

Miller Salvage Emergency Response: CS and PPR staff coordinated on a joint response at the Miller Salvage site on 20th Avenue in Fairbanks. The 22-acre property had been used as a salvage operation since the 1970's. Around 2005, half of the property was cleared and sold to Friends Church. In 2018, SPAR received a number of complaints that there were leaking drums, stained soil, and other hazards on the property, as well as evidence of squatting and other unauthorized use. PPR oversaw the characterization and disposal of hazardous waste and stained soil, while CS oversaw the characterization of soil and groundwater and evaluated risk to nearby people and the environment.

The property was completely fenced to control access and site cleanup is expected to continue into FY19.

Kotzebue Former IHS/BIA Hospital-School Pipeline Release: The CS program continued to host working group meetings during FY18 to identify next steps for the project and engage responsible parties. Staff issued work plan request letters to Northwest Arctic Borough School District (NWABSD) and Bureau of Indian Affairs (BIA). NWABSD conducted a vapor intrusion assessment at the Kotzebue elementary school. The vapor intrusion study was conducted in response to complaints of fuel odors in the elementary school that resulted in evacuations and the proximity of the school to prior fuel releases. The vapor intrusion study is ongoing. BIA is working in collaboration with the Indian Health Service (IHS) to further characterize the site, monitor groundwater, and remove an underground storage tank. CS staff and LAW prepared for legal working group and settlement meetings, both scheduled for FY19.

BP Resource Conservation and Recovery Act (RCRA) Administrative Order on Consent for North Slope Sites: In 2007, BPXA entered into an Administrative Order on Consent (AOC) with the EPA under RCRA. The AOC outlines requirements that must be met by BPXA as operator of the Prudhoe Bay Unit facility, which is an on-shore oil and gas field on the North Slope utilized for development and production of oil and gas. In FY18, CS reviewed and commented on site-specific documents, as well as documents applicable to the entire AOC, including the Background Metal Concentrations in Soil Report, the Surface Water Background Report, the Quality Assurance Project Plan, and the Annual Report. Finalizing these documents requires a high level of CS expertise and extensive coordination with EPA, BPXA and its partners and consultants, ADEC's Solid Waste Program, and ADNR. Staff worked closely with the parties to plan and oversee site work.

North Pole Refinery: The sulfolane groundwater contamination originating from the former North Pole Refinery continues to be one of the largest contaminated groundwater plumes in the State, impacting 500-600 homes in the greater North Pole area. To date, over $6 million has been used from the emergency account of the Oil and Hazardous Substances Response Fund (OHSRF). The State filed suit against Flint Hills Resources and Williams Petroleum in 2014, over the presence of sulfolane in groundwater. In early 2017, The State, the City of North Pole and Flint Hills Resources settled legal activities to provide for the expansion of the City's public piped water system. The expanded piped water distribution will serve neighborhoods already impacted by sulfolane contamination, as well as those that may be impacted in the future. Construction of the expanded system began in 2018, and will continue into 2019. The State did not settle with Williams, so that portion of the lawsuit is expected to go to trial in March of 2019. A two-year study undertaken by the National Toxicology Program to evaluate the effects of chronic exposure to sulfolane ended in 2017; however conclusions from the study are not expected to be available for several more years. Monitoring for sulfolane in groundwater continues both on the refinery property, and off the property in the greater North Pole area. Because a former fire training center was on the refinery property, where fire-fighting foams were used in the past, the State is currently sampling wells within

the vicinity of the sulfolane plume and piped water expansion footprint, to understand the distribution of PFAS compounds in North Pole area groundwater.

Former Bentley Tax Lots, Fairbanks: CS staff continue to provide oversight of contaminated sites associated with former Bentley Trust lands in Fairbanks. With CS involvement, the State entered into a Prospective Purchasers Agreement with COSCTCO Wholesale to redevelop the former Sam's Club retail location in Fairbanks and to better understand and address any impacts from vapor intrusion resulting from solvent releases at a former Bentley Mall dry cleaner. In FY18 CS staff also coordinated with USEPA Region 10 RCRA Program and Bentley Mall owners to manage hazardous waste associated with the former dry cleaner in order to facilitate development of a new Starbucks Coffee Shop on the former Tax Lot.

Fairbanks Regional Fire Training Center (RFTC): The CS program continued working with the City of Fairbanks on response to PFAS contamination in groundwater and drinking water from past activities at the RFTC. The city continued providing alternative water to affected residents. Many properties with wells found to be contaminated were connected to the Golden Heart Utilities public water system during FY17. The City connected additional properties to public water during FY18 and continued quarterly monitoring on wells that contain PFAS at concentrations between 35 and 60 ng/L, as such properties are not slated for connection to public water.

Fairbanks International Airport PFAS plume: CS program and the Fairbanks International Airport (FAI) staff initiated response activities following the discovery of PFAS contaminated groundwater extending off the airport property. FAI quickly began sampling wells and offering bottled water delivery to all residents in the Dale Road neighborhood northwest and downgradient of the airport. In the summer of 2018, the airport began construction of water mains and service connections to College Utilities to provide clean water for any residents with wells that contained PFAS above the EPA Lifetime Health Advisory level (LHA), which is 70 ng/L for the sum of PFOS and PFOA. Following the CS program's publication in August 2018 of a technical memorandum formally establishing action levels that include PFNA, PFHxS and PFHpA in addition to PFOS and PFOA in the sum of 70 ng/L, FAI agreed to provide alternative water where exceedances of the new action levels were detected. Most service connections will be complete by the end of the 2018 field season; however, homes with well water that exceeds the recently established action levels, but not the LHA, will be connected in 2019. FAI also made significant progress on overall site characterization, installing several temporary well points and sampling groundwater, surface water, and soil at several locations throughout the site. In addition, FAI has modified its practices to prevent additional AFFF releases during required equipment testing or training activities and is coordinating with CS staff on cleanup options for contaminated soil at the fire training area.

Phytoremediation of Petroleum Contaminated Soils and Groundwater, Kaltag and FIA:
The CS program was involved in two phytoremediation projects during FY18 – one project continues in the Yukon River Community of Kaltag, while another was initiated near the Fairbanks

International Airport. In Kaltag, ADEC conducted a soil excavation in 2014 at the Kaltag School, and established a land farm and phytoremediation plot to treat petroleum-contaminated soils. With assistance from the University of Alaska Fairbanks (UAF) and Kaltag community members, the land farm is being tilled during summer months, and UAF staff and students have planted phytoremediation plot with native willow trees and grasses. Willows continued to grow during 2018, with some reaching heights of 2 to 3 meters. Some planted grass varieties have continued to grow tall or dense, but native grasses have also colonized the plots. Evaluation of plant, soil, and microbial data from Kaltag is underway to help identify most promising plant-based cleanup options. Phytoremediation was also initiated with native Poplar trees at the Fairbanks International Airport, where trees were supplemented with bacterial endophytes – microbes that naturally occur in association with plants and can facilitate contaminant biodegradation. The Poplar trees were planted in ways to encourage root formation to the shallow groundwater that contains petroleum and fuel additives contamination from a former bulk fueling facility. Groundwater and tree core samples will be periodically collected to evaluate contaminant biodegradation and tree health during the cleanup. Both phytoremediation projects represent new ways to address contaminant cleanups using naturally-occurring plant-bacteria relationships.

Galena Air Force Station/Airport: During FY18, CS staff continued to provide oversight on USAF cleanup activities and the implementation of remedies at the former Galena Forward Operating Location (FOL). To date, Records of Decision (RODs) have been signed for eight of the ten Comprehensive Environmental Response Compensation and Liability Act (CERCLA) regulated sites at the FOL. In 2018, ADEC worked with USAF and the City of Galena to address community concerns related to the implementation of the proposed remedy for Site SS006/SS019, where trichloroethylene (TCE) contamination has been detected in soil and groundwater.

Red Fox (Vulpes vulpes) at the Galena air Force Station, 2018. (Photo/ADEC)

PFAS contamination associated with the use of aqueous film forming foam (AFFF) was first identified in soil and groundwater at the FOL in 2016-2017. Additional samples were collected

during FY18, which confirmed the contamination identified previously. However, PFAS has not been detected in drinking waters wells for new town or old town Galena.

National Petroleum Reserve – Alaska Legacy Wells: CS and the U.S. Bureau of Land Management (BLM) continue to coordinate on the assessment and cleanup of Legacy Wells in the National Petroleum Reserve – Alaska (NPR-A), that were constructed between 1944 and 1981 for the purpose of oil exploration. Of the total 136 Legacy Wells, BLM identified only 50 in their 2013 Summary Report that BLM believed warranted further investigation and/or response action. The proposed effort was detailed in BLM's 'Strategic Plan.' During the 2017-2018 winter season, BLM contractors focused on what was termed the 'Wolf Creek Well Cluster,' consisting of Wolf Creek Wells Nos. 1 – 3, Titaluk No. 1, and Square Lake No. 1. Of these five well locations, two were determined to have minimal contaminant extent for which further action is unnecessary. The remaining three will require further assessment to clarify identified site conditions, although the perceived potential risk is low. It is ADEC's understanding that additional Legacy Wells located on ANCSA-conveyed lands outside the NPR-A are slated for evaluation during the 2019 season, including Gubik Test Wells #1 and #2, and Grandstand #1. BLM reassigned their oversight coordinator position this past year.

3.2.3 CS CENTRAL REGION MATTERS

Pitkas Point: The CS program coordinated with the Alaska Department of Commerce, Community, and Economic Development (ADCCED), the Alaska Department of Education and Early Development (ADEED), and the State Office of Management and Budget (OMB) on a proposal to characterize and clean up contamination at the former Pitkas Point School. During operation of the school, the real property was leased by ADEED from a municipal land trust (MLT) and the Lower Yukon School District (LYSD) was issued a use permit by ADEED. The school was closed in 2013. In order to terminate their lease agreement, ADEED and LYSD must clean up the contaminated site and remove derelict buildings. Funding provided by the legislature will be used to clean up contamination and remove derelict buildings beginning in FY19. Upon completion of the cleanup, the property will remain in MLT ownership.

Wards Cove Packing- Graveyard Point: The CS program continued its efforts to coordinate site characterization and cleanup at the former Graveyard Point Cannery located in Bristol Bay. This historic cannery was operated by numerous entities since the early 1900s and the cleanup is being led by Wards Cove Holding Company, LLC (Wards Cove). In 2016, ADEC identified Nestle USA, Inc. as a potentially responsible party (PRP) through their acquisition of a previous operator. ADEC with assistance from LAW are engaged with Ward's Cove and Nestle to develop a path forward on site characterization and cleanup.

Ward Cove Packing, Bristol Bay Alaska - an aerial view of the Graveyard Point cannery. Excavated soil and main area of contamination is located inside chain link fence. (Photo Erin Gleason/ADEC)

Ward Cove Packing, Bristol Bay Alaska -view of the Graveyard Point cannery from the beach. Note historic buildings, retorts, and numerous 55 gallon drums. (Photo Erin Gleason/ADEC)

Former APA Cannery (Ugashik): Another historic Bristol Bay cannery in the process of characterization and cleanup is the former Alaska Packers Association cannery in Ugashik. Potentially responsible parties (PRPs) include the individual who currently owns the site and also Big Heart Pet Brands through their acquisition of a former owner/operator. CS is working with the PRPs to develop alternate cleanup levels for the site and provide for the removal and disposal of approximately 40,000-gallons of bunker C fuel oil still present in above ground storage tanks at the site. CS and LAW are working on a compliance order by consent with the current and former owners to determine which PRPs will be responsible for the different portions of the cleanup.

Alaska Packers Association cannery in Ugashik, Bristol Bay Alaska - View of four above ground storage tanks and former power house building at the Ugashik cannery. View of four above ground storage tanks and former power house building at the Ugashik cannery (Photo Erin Gleason/ADEC)

Jewel Lake Dry Cleaners-Lot 12B redevelopment: CS staff provided technical assistance and oversight for the re-development of a property in Anchorage impacted by a former dry cleaner. The Jewel Lake Dry Cleaners-Lot 12b site was closed with institutional controls in 2013. Tetrachloroethylene (PCE) was disposed of on lot 12b from a former dry cleaner on the adjacent property. The property is being developed into a U-Haul facility which required the excavation, management, and disposal of contaminated soil regulated by RCRA, which is overseen by EPA. CS coordinated with the developer, their consultant, and EPA on a "contained-in" determination, allowing the soil to be managed in-state and greatly reducing the overall project cost and facilitating redevelopment and use of the property.

Aniak White Alice Site - TCE Remedial Investigation: A remedial investigation was conducted at the former Aniak White Alice site in an effort to better understand that nature and extent of contamination, evaluate potential risks to human health, and gather data to conduct a feasibility study that will describe and compare cleanup options for the site. Data collected in FY18 indicate TCE contamination at the site is not causing a current risk to human health as long as the sub-slab depressurization system continues to operate at the Joe Parent Vocational Education Center.

Former Mom and Pop's Grocery & Gas – Old Glenn Hwy: Fuel release(s) occurred at this site in the early 1990s; however, site characterization and cleanup did not begin until 2009 following a lengthy PRP search. Recent work at the site has been funded by ADEC due to a lack of viable responsible parties. In FY18, additional groundwater monitoring wells were installed in an attempt

to delineate the extent of contamination to the east. The groundwater plume has impacted numerous downgradient properties and while drinking water wells have not been impacted, the full extent of the plume remains unknown. Additional groundwater characterization is planned for FY19.

Former Adak Naval Complex, Operable Unit B-2 (OUB-2): In FY18, the CS program provided regulatory oversight as the Navy and its contractors completed their sixth year of a Non-Time Critical Removal Action (NTCRA) at Operable Unit B-2 of the former Adak Naval Complex. The Navy, EPA, and CS staff have been working since 2000 to characterize and remediate Munitions and Explosives of Concern (MEC) contamination remaining on the northern end of Adak Island from WWII training ranges and more recent Cold War use of the facility. In 2013, the Navy began implementing the NTCRA at five Remedial Action Areas (RAAs) where MEC was determined to be present. By the end of 2018, all five of the original RAAs will be completed, including the two most heavily impacted areas, an open burn/open demolition area in Moffett Valley (RAA-01) and an historic disposal area and coastal landfill in RAA-05. Between 2013 and 2018, over 16,000 explosive items have been removed from the five RAAs and disposed of by explosive detonation. Over 180 tons of metal debris has been removed as part of the project and shipped to Washington State for recycling.

King Salmon Air Station: CS staff provided oversight of field efforts conducted by the Air Force and its contractors to investigate emerging contaminants and cleanup other contamination at the King Salmon Air Station. A preliminary assessment for per- and polyfluoroalkyl substances (PFAS) was completed, identifying areas where PFAS may have been released into the environment and assessing the need for further action. Removal actions on site included the remediation of an open burn/open detonation range through the in-depth screening, excavation, and removal of munitions contaminants and miscellaneous metal debris. Annual base-wide long term monitoring was conducted to assess contaminant trends and evaluate the effectiveness of implemented remedies and institutional controls.

Former Adak Naval Complex, Operable Unit B-2 (OUB-2)-View of Remedial Action Area (RAA) – 01 in Moffet Valley, Adak Alaska. This is a former open burn/open demolition area for munitions. Note the remnant blast craters. Two long reach armored excavators are visible in the photographs. Note the wooden platforms placed as roadways to minimize impact to the tundra wetlands (Photo/Abtim)

Chernofski Harbor Supply & Storage - Chernofski Harbor-Mutton Cove, Unalaska Island, Alaska: During FY18 CS staff provided regulatory oversight during field activities conducted by the U.S. Army Corps of Engineers and its contractors at Chernofski Harbor Supply and Storage formerly used defense site (FUDS), located 53 miles southwest of Dutch Harbor on Unalaska Island. The site investigation identified and evaluated environmental impacts due to WWII military activities through soil sampling, and investigated the site's logistical conditions for future cleanup work. A removal action work plan is expected for FY19 for five Containerized Hazardous, Toxic, and Radioactive Waste sites, including the removal of transformers, batteries, 55-gallon drums, and several aboveground fuel storage tanks.

3.2.4 CS SOUTHEAST REGION MATTERS

Wrangell Junkyard- Emergency Response Cleanup: In July 2017, following the 2016 completion of a cleanup and stabilization treatment of some 18,500 cubic yards of lead contaminated soil at this abandoned former salvage yard in Wrangell, ADEC issued a contract to construct a polluted soil monofill in a rock pit owned by ADNR located on the road system in Wrangell. In late August of 2017, in response to local concerns about the proposed construction, the project was suspended to allow the Wrangell community, including the local tribe and the city, to explore additional funding

and potential on- and off-island disposal options with ADEC. ADEC agreed to prepare the proposed monofill site, but postpone transport of the treated material until April 1, 2018.

A former salvage yard in Wrangell Alaska, June 2018 showing treated lead contaminated soil being loaded into 8-cubic yard flexible intermodal bulk containers for transport and disposal out of state. (Photo/NRC)

Between September 2017 and March 2018, ADEC met with the Wrangell Cooperative Association (WCA) and the City and Borough of Wrangell (CBW) to discuss the project and address their questions; investigate 14 potential alternative disposal locations; and respond in writing to a variety of technical questions and information requests from WCA, their consultant, and CBW about the project, the site selection process, the EcoBond soil treatment, post-closure monitoring of the monofill, availability of additional funding, and the detailed costs and logistics of shipping the material out of state for disposal. In addition, ADEC conducted additional sampling and modeling to demonstrate that the monofill would be safe. In May 2018, the Governor, in response to concerns raised by the community, signaled a change in direction by requesting an additional $5 million be added to the capital budget to ship the polluted soil out of Wrangell, rather than constructing the monofill. The legislature authorized the additional funding, but stipulated it come from the Oil and Hazardous Substance Response Fund. With the additional funding, work began in June 2018 to load the stockpiled soil into flexible intermodal bulk containers for barge transport south, with an estimated project completion in mid-October 2018. Project cost upon completion is estimated to total approximately $18 million.

Former Capital City Cleaners at Nugget Mall: The Nugget Mall is located in Juneau and houses a variety of stores and restaurants. Capital City Cleaners operated in the mall annex building from 1985 until sometime before 2003. A Phase I Environmental Assessment conducted in 2015 documented chlorinated dry cleaning solvent contamination (tetrachloroethylene (PCE) and cis-1,2-dichloroethylene) in groundwater, soil, and soil gas. Since 2015, the responsible party has engaged with their consultant to delineate the extent of contamination. In addition, a soil vapor extraction unit has been installed and maintained. The air inside the building was sampled on multiple occasions and no contaminants were found in indoor air. The most current data indicates that

chlorinated solvent contamination may have moved off-site south across Mallard Street towards Teal Street. Over the past year, site characterization activities have been hindered by negotiations on the sale of the property. During the next year, CS is looking forward to engaging with the new property owner to finish characterization and continue monitoring of the groundwater contamination.

Yakutat FUDS: In FY18, the U.S. Army Corps of Engineers performed contaminated soil removal actions in Yakutat, Alaska at the former Point Carrew Garrison 50,000-gallon Reserve Diesel Aboveground Storage Tank (AST), Point Carrew Garrison Powerhouse, Base End Station Powerhouse, and the Garrison Laundry Area. Over 16,000 tons of petroleum contaminated soil were excavated and barged offsite for disposal. Preliminary results indicate that contamination at the Point Carrew Garrison Powerhouse, Base End Station Powerhouse, and the Garrison Laundry Area was successfully removed. A subsequent removal action to address the contamination remaining at the 50,000-gallon Diesel AST is planned for FY20.

Former Point Carrew Garrison Yakutat, Alaska FUDS 50,000-gallon Aboveground Storage Tank excavation, 2018(Photo/ USACE)

Former Point Carrew Garrison Yakutat, Alaska FUDS Contaminated Soil Loaded on Barges for Disposal (Photo/USACE)

Skagway Ore Basin, Skagway: The sediments of Skagway Basin contain levels of lead, zinc, and mercury that exceed sediment guidelines for the protection of benthic organisms. This contamination is a result of historic practices relating to loading ore onto ships. Following many project coordination meetings between ADEC and the responsible party/stakeholder group, a risk assessment was developed and executed to help inform risk-based site management decisions. Findings of the risk assessment demonstrate that the site is largely depositional and a "clean cap" has formed over much of the sediment contamination; ore-related metals were not causing toxicity to benthic organisms (but sewage inputs may be); the mass of contamination present in the sediment is still influencing the aquatic food chain (mussels, shrimp, crabs), but concentrations in mussels are

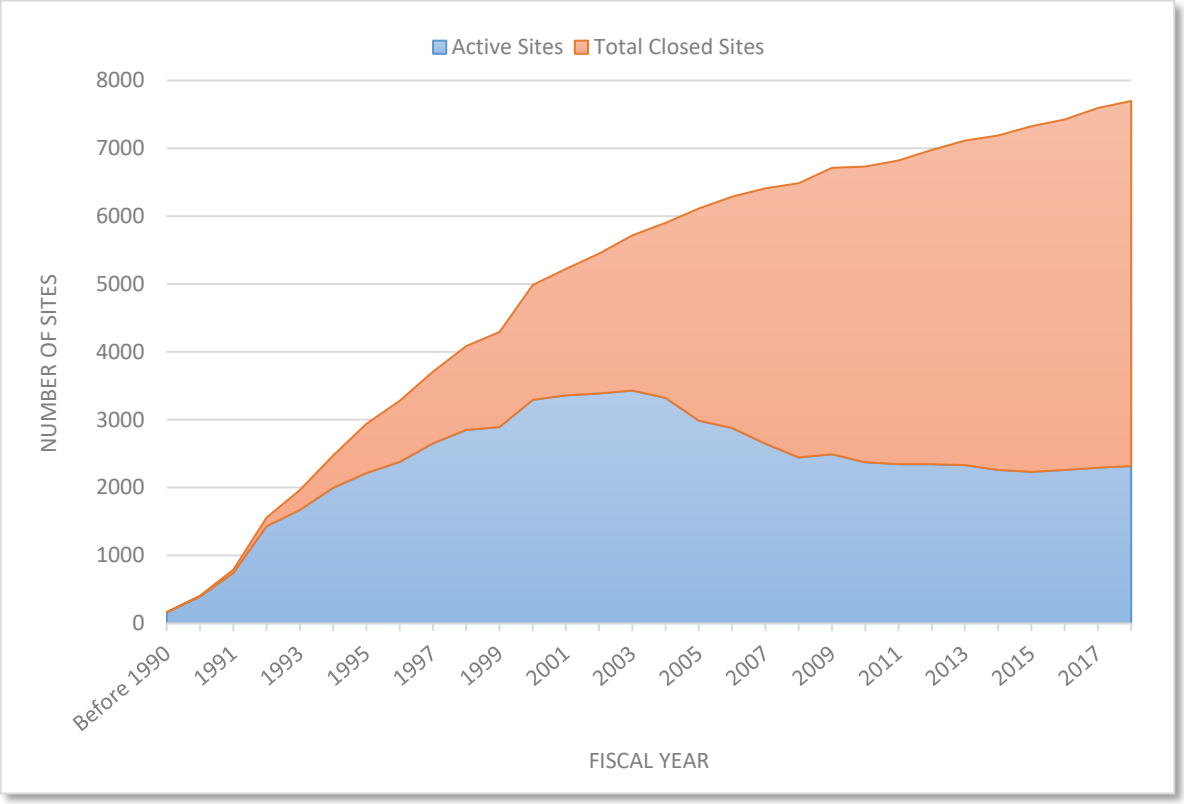
decreasing over time; ore-related metals exceeded the conservative screening values for the consumption of shellfish; and there appear to be low hazards to birds and mammals. There remain questions about human health exposure, particularly risks posed by shellfish consumption. ADEC and the responsible party/stakeholder group continue to meet intermittently to plan a remedial option for the Ore Basin that is both protective of human health and the environment and will meet the usability and infrastructure needs of the community.

3.2.5 CS DATA REVIEW

About 7,700 contaminated sites in Alaska have been documented since program inception. Of the total number of sites placed on the contaminated sites database over approximately 30 years, about 70% have been closed. As of June 30, 2018, there were 2,317 open sites listed on the contaminated sites database. Even though 1,513 sites have been added to the contaminated sites database over the last 10 years, the overall number of active sites in the inventory has decreased during that time from 2,445 in 2008 to 2,317 in 2018, thanks to diligent efforts on site cleanup and closure.

Chart 1 depicts the open and closed sites trend since 1990. The year 2005 marked a turning point, when the number of closed sites initially exceeded the number of open sites. The gap has widened steadily since 2005, indicating measurable progress and improvement in methods for accomplishing risk reduction at the thousands of legacy contaminated properties in Alaska.

CHART 1: CUMULATIVE ACTIVE AND CLOSED SITES



By the close of FY18, the program made progress toward but did not meet its performance measure goals of demonstrated annual progress on 100% of high priority contaminated sites posing the greatest risk to human health and the environment and completing 150 total site closures. Total closures for leaking underground storage tanks (LUST) – a federal performance measure set annually at 10% of the total inventory of open LUST sites at the beginning of the fiscal year – were also not achieved. These shortfalls are due to a concerted focus by program staff to address risks at the highest priority sites, where complete exposure pathways (such as contaminated groundwater used for drinking, or subsistence resources are impacted). However, many of these sites are challenging and complex due to contamination issues, remote locations, multiple responsible parties, and unwilling or unavailable responsible parties to clean up these sites. Nevertheless, the department makes every effort to focus its resources on those highest priority sites where the greatest risks are documented.

PERFORMANCE MEASURE	ANNUAL GOAL	NUMBER ACHIEVED IN FY18
Measureable progress on 100% High Priority Sites	100%	65%
LUST Closures (Federal Performance Measure)	32	28
Total of all Site Closures (LUST and Non-LUST)	150	108

About 24% of the closures were issued with institutional controls in FY18, up from 14% in FY17 but still less than the 45% in FY15. About 77% of the 5,382 total closed sites (as of June 30, 2018) are without any land use restrictions (no institutional controls). Institutional controls are used for risk-based cleanups that do not provide for unrestricted land use; they allow properties to return to safe and beneficial reuse, as well as to be sold and transferred, provided that property owners agree to ensure these controls are maintained over the long term. This approach is protective of human health and the environment and supports development goals and the economic health in Alaska's communities.

Progress on mitigating risks at high priority sites

The Contaminated Sites Program evaluates relative site risk by using a tool called the Exposure Tracking Model (ETM). The model summarizes the location of contamination, what environmental media (such as soil or groundwater) are impacted, and how the contamination may potentially reach humans or ecological receptors (exposure pathways). A site's ETM ranking has direct bearing on the priority of the site. Sites with complete exposure pathways for human and ecological risk are elevated in priority. The CS Program's mission is to focus its resources on the contaminated sites with the highest risks. By tracking annual progress on high priority sites, the CS Program strives to ensure these sites do not languish and that the sites posing the highest risks to human health and the environment are addressed and controlled.

CHART 2: PROGRESS ON HIGH PRIORITY SITES.

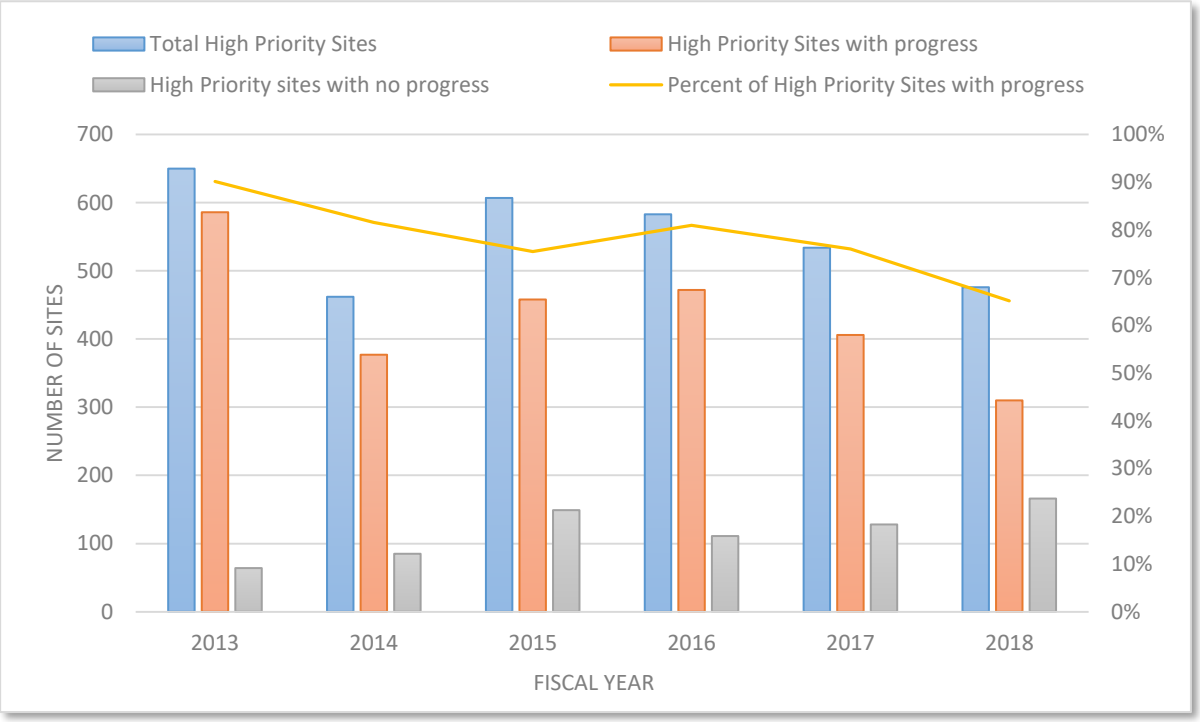


CHART 3: ACTIVE SITES BY RISK PRIORITY

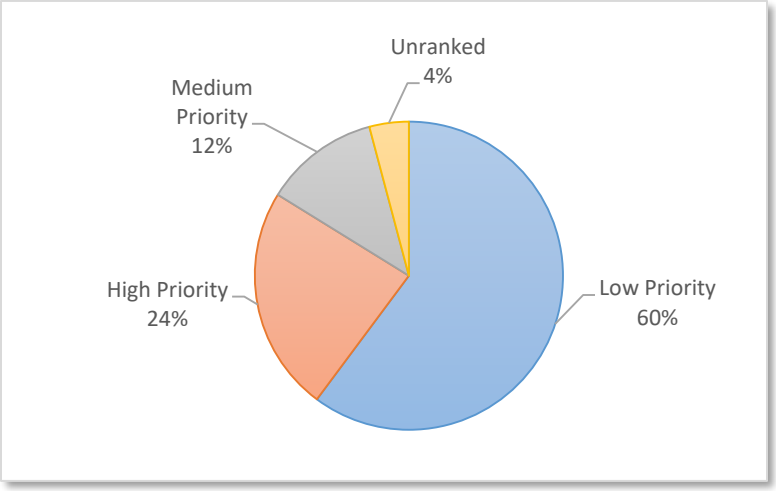


Chart 3 summarizes how active contaminated sites have been ranked using the Exposure Tracking Model (ETM). The result provides an evaluation of primary human health and/or ecological risks based on the potential for exposure to contaminants at each site and establishes whether it is low, medium or high priority. Shifting our focus away from addressing stalled medium and lower priority sites and towards high risk, high priority sites has resulted in a decline in the number of closures the last three years. This reflects the greater complexity and other challenges associated with mitigating risks at high priority sites, where closure is not easily achieved.

A total of 134 sites were added to the contaminated sites database in FY18, including 66 sites transferred from the PPR program. Of the added sites, 18 were closed during the fiscal year, and 21 were found to be either unconfirmed, non-qualifying (as defined by the CS database inclusion criteria), or informational. Of all new sites, 95 remained in active status as of June 30, 2018.

CHART 4: DEPICTS THE SITE CLOSURE TREND OVER THE PAST EIGHT YEARS

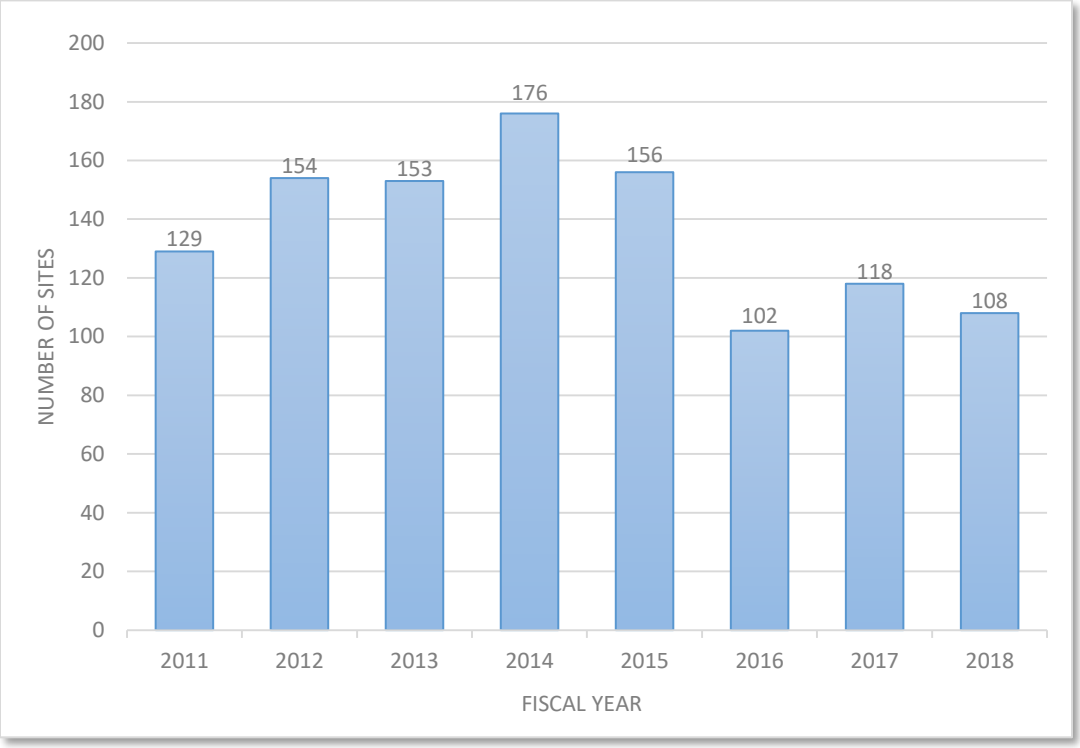


Chart 5 illustrates how long sites had been in our inventory that were closed during FY18. It is worth noting that more than 50% of the sites closed during the fiscal year were added to the database in the past 18 years. This statistic is an indicator that some very old sites stay open due to lack of a responsible party, lack of adequate or current environmental data, or extensive or persistent contamination that requires decades to remediate. Sites closed in recent years may often benefit from simpler environmental problems as well as available resources or interest in resolving liability issues and facilitating property transfers. Nevertheless, much work remains. Of all the sites added to the inventory between January 1979 and December 2005, about 1300 such sites remain in active status.

CHART 5: ILLUSTRATES HOW LONG SITES HAD BEEN IN OUR INVENTORY THAT WERE CLOSED DURING FY18

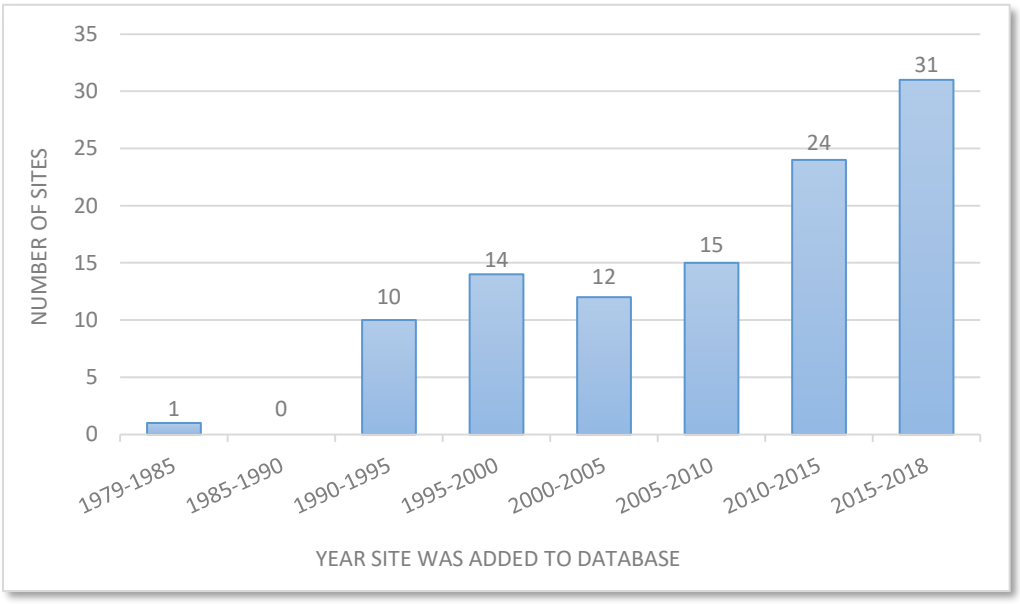
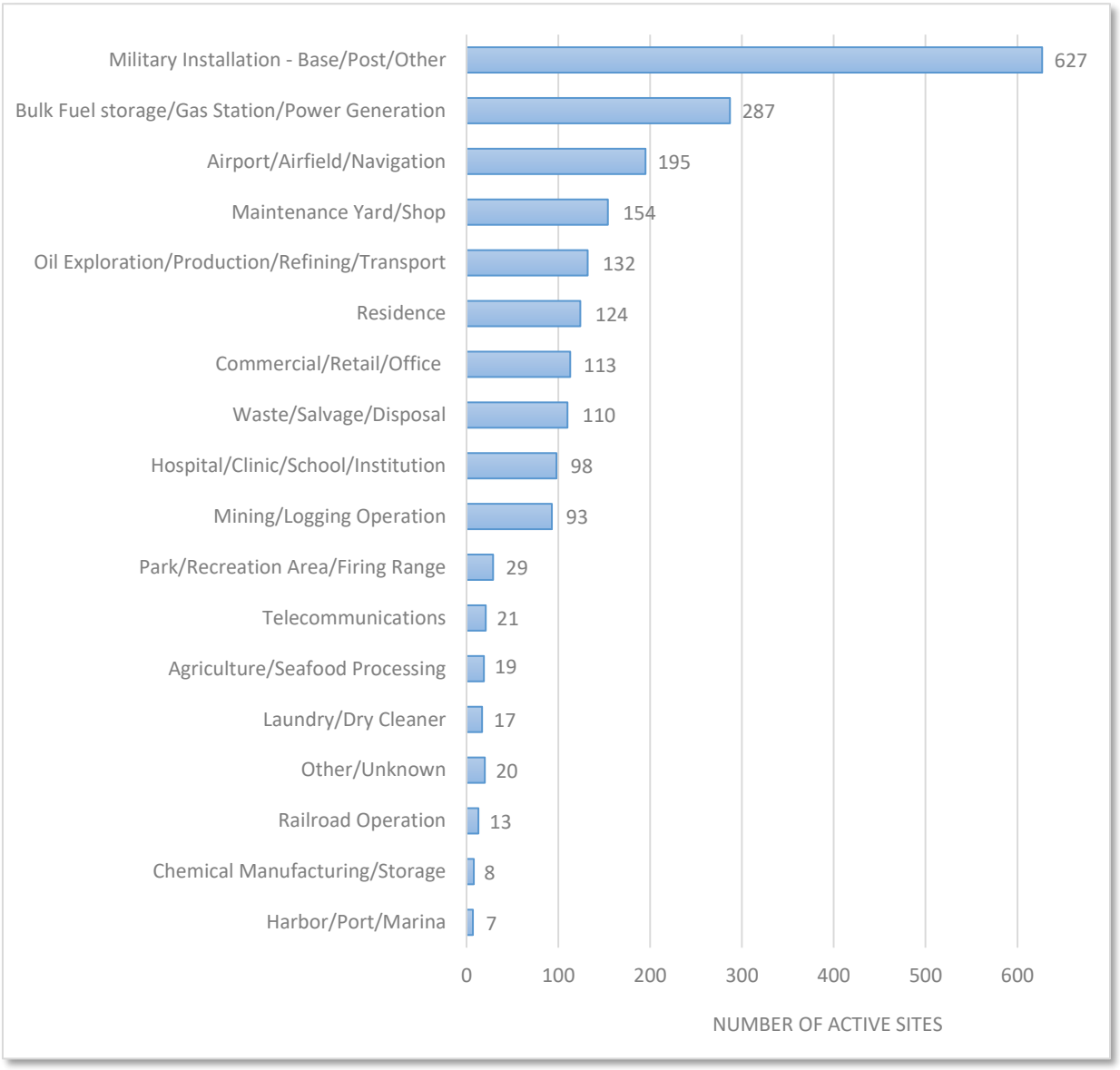


Chart 6 shows active sites by type. Military installations are the largest category, comprising about 30% of all active sites. Federal military and civilian agencies are responsible for over half of all open sites as of the end of FY18. About one-third of open sites are in private ownership, while state and local government open sites combined are less than one-fifth.

CHART 6: NUMBER OF ACTIVE SITES BY CATEGORY

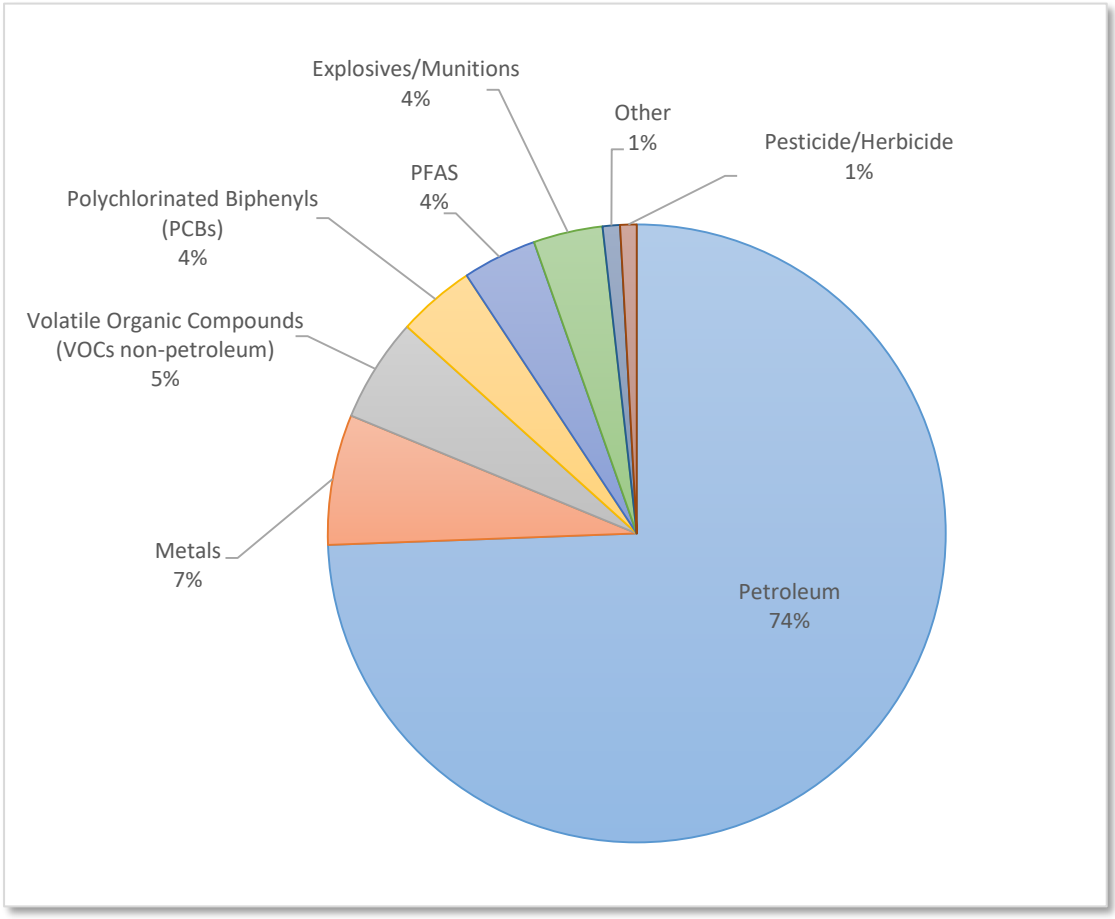


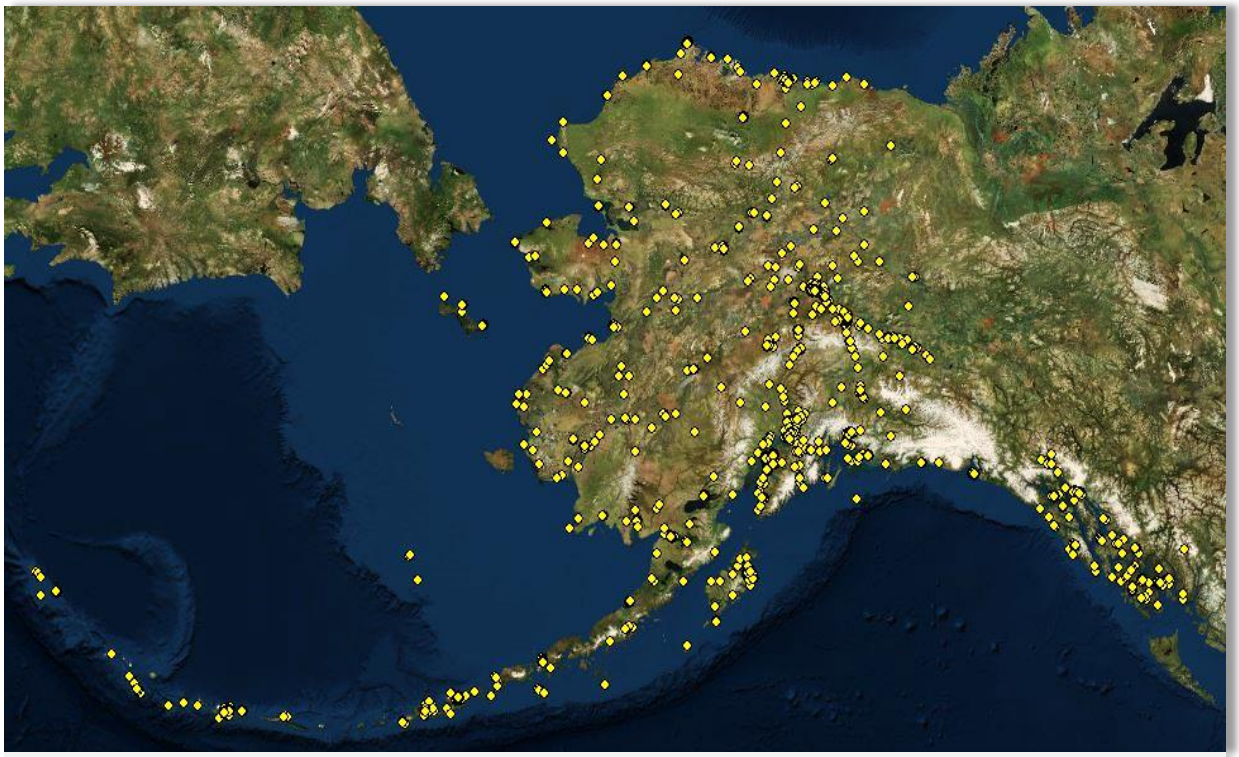
The majority of active sites are from releases of petroleum products. Some of these sites have additional contaminants, including volatile and semi-volatile compounds, metals, PCBs and other contaminants.

Site Management Statistics

- Project work plans/reports reviewed and approved for site assessment, site characterization, removal action, cleanup, remedial design/remedial action, feasibility studies, records of decision, risk assessment, and others: 1774
- Onsite inspections: 202
- Long-term monitoring complete: 1
- Sites where IC compliance reviews were conducted: 186
- Sites where IC follow-up tasks conducted: 71
- Sites with ICs removed: 4
- Active sites with ICs established: 5
- IC sites that had periodic reporting by the RP/landowner/consultant: 40
- Sites where an IC record was established: 31

CHART 7: ACTIVE SITES BY CONTAMINANT CLASS





Map of all active contaminated sites in the State of Alaska by area, slightly more than half of the open sites are located in South Central Alaska; 40% in the Interior and NS; and less than 10% in Southeast.

3.2.6 CS ACCOMPLISHMENTS

Emerging Contaminants

In August of 2017, CS and PPR jointly issued an advisory letter and fact sheet on the risks of aqueous fire-fighting foams (AFFF). The two-part communication was transmitted to first responders, municipal fire-fighters, Department of Defense (DOD) facilities, and ADOT&PF, which manages many of the airports in Alaska's communities. The communication discussed the risk of per- and polyfluoroalkyl substances (PFAS) that are constituents in AFFF and recommended a review of AFFF inventories and replacement of older formulations that contain long-chain PFAS with newer formulations. The advisory was provoked by the discovery of significant contaminant plumes emanating from Eielson Air Force Base, (which contaminated groundwater and drinking water on-base and downgradient throughout the Moose Creek community), the Fairbanks Regional Fire Training Center, and the Fairbanks International Airport.

The Contaminated Sites program continued responding to PFAS contamination found in groundwater and nearly 300 drinking water wells, primarily at private residences but also a few public water systems. Response actions focused on protecting public health by identifying impacted wells and providing treated or alternative sources of drinking water. Staff collaborated with the DEC Drinking Water program, AK Department of Health and Social Services, and the responsible parties on public outreach and response at sites with drinking water impacts.

As a result of the advisory communication in 2017 and at CS's request, the ADOT&PF initiated an inventory of airport facilities where these AFFF products had been used and is working with program to carry out groundwater sampling near these facilities, prioritized based on whether groundwater in the vicinity is used for drinking.

In the spring of 2018, the SPAR Director initiated an informal PFAS stakeholder group that included participants from other DEC divisions, state agencies, local governments and industry to share information on these contaminants of evolving concern and efforts underway by various agencies to address them. Three teleconferences were held. The first was to gather Alaska specific information prior to the national EPA PFAS Summit held in May in Washington D.C. The subsequent meetings entailed discussing evolving standards and advisory levels nationally including the DEC Action Levels established in August, FAA and DOD requirements for continued AFFF use, other sources of PFAS contamination, and on-going response efforts in Alaska.

CS staff participated on an Interstate Technology & Regulatory Council (ITRC) work group that developed several fact sheets summarizing background and technical information on PFAS for use by regulatory staff, industry, consultants and the general public. The documents are available at the following website: https://pfas-1.itrcweb.org/

Site Discovery

In FY18, the CS Site Discovery staff completed Abbreviated Preliminary Assessment reports for the Naukati Shooting Range, Sealevel Mine Tidelands, and the Hadley Smelter and provided them to EPA. Field work at these sites was conducted in FY17. Staff also conducted field work and drafted an Abbreviated Preliminary Assessment Report at the Miller Salvage site, in Fairbanks. Additionally, staff initiated a site discovery and prioritization project for dry cleaning facilities in Fairbanks. CS staff conducted research regarding locations and operating histories of current and historic dry cleaning operations. This project has extended into FY19 when a final summary report will be provided to EPA.

Brownfields

Brownfields program staff continue to coordinate and network with EPA, municipalities, tribes, and tribal response programs (TRPs) to address contamination challenges throughout Alaska's communities and support re-use and re-development opportunities at brownfields sites. In response to requests by TRPs, the Brownfields section of the CS program provided a two-day training April 3-5, 2018 on conducting Phase I/II Environmental Site Assessments to 28 TRP staff and tribal members. This was the second time this training was provided by DEC to TRPs; it was previously offered in 2013. Collaboration has continued with Alaska regional and village Native Corporations and federal agencies to seek solutions to contaminated lands conveyed from the federal government to Alaska Native Corporations under the Alaska Native Claims Settlement Act (ANCSA). The initial

2016 outreach efforts evolved into development of the Contaminated Lands Partnership Working Group in coordination with the Alaska Native Tribal Health Consortium, representatives from the Statement of Cooperation (SOC) agencies, ANCSA village and regional corporations, tribes, and other interested entities. To assist in this effort, ADEC was awarded additional brownfields funding to verify the accuracy of ANCSA conveyed contaminated sites listed in the BLM report to Congress (2016) and incorporate appropriate site information into the Contaminated Sites database.

Home Heating Oil Tanks

CS continued developing a Home Heating Oil Tank (HHOT) Pilot Project to assist homeowners in responding to heating oil releases when doing so on their own would cause an undue financial burden. CS initiated site characterization and response work at three residential properties where the owners were determined to be unable-to-pay for the necessary response. Staff continued outreach to other homeowners with HHOT spills and offered technical assistance and guidance on the investigation and cleanup process.

Uniform Environmental Covenants Act

Alaska adopted the Uniform Environmental Covenants Act (UECA) through passage of Senate Bill 64 by the House and Senate during the 2018 legislative session and sent it to the governor's office on May 10, 2018. Governor Bill Walker signed it into law on September 19, 2018. The act establishes a legal framework for utilizing environmental covenants as institutional controls (ICs) to manage land use at contaminated sites where unrestricted future land use is not appropriate due to contaminants that remain on-site. An effective environmental covenant law helps to manage residual contamination and risk, manage current and future landowner's liabilities, and promote property transfers and economic development through reuse of contaminated sites.

Laboratory Approval Program

In July 2017, State regulations went into effect changing how the laboratory approval program (18 AAC 78.800) operates and transferred oversight of the program from the Division of Environmental Health to the Division of Spill Prevention and Response. Work developing new documents and procedures for the program occurred at the end of FY17. In FY18, the program began receiving, reviewing, and approving applications for approval from laboratories. During FY18, the program received applications from and issued approval to 32 laboratories. The program is expected to maintain about 35 laboratories, so most work in FY19 will be processing applications for renewal of approval.

UST Program MOU with EPA

The Underground Storage Tank unit completed an update of the 1989 Memorandum of Understanding (MOU) with EPA Region 10. The new MOU was signed by both the ADEC Commissioner and EPA Region 10 Regional Administrator and became effective August 22, 2018. The MOU is necessary because Alaska does not have full State Program Authorization from EPA to implement the UST program, in part due to a lack of statutory penalty authority for violations.

UST Enforcement

Five UST facilities comprising 14 individual USTs were placed on delivery prohibition for various lengths of time and reasons. Four tanks at one facility were placed on delivery prohibition for five days due to a lapse in financial responsibility. All four tanks were returned to service as soon as financial responsibility was renewed. Three tanks at a second facility were placed on delivery prohibition for failure to complete required annual testing and for needed spill prevention repairs. The facility remained on delivery prohibition for 29 total days while testing and repairs were being accomplished. A third facility totaling three individual USTs was placed on delivery prohibition for a total of 8 days due to failure to maintain financial responsibility and proper leak detection records. Two USTs at a fourth facility were under delivery prohibition as a result of a lapse in financial responsibility. The fifth facility has two USTs that were placed on delivery prohibition as a result of the owner/operator shutting down the operation and abandoning the facility. Ongoing enforcement efforts are being utilized to attempt to remedy this particular case.

A total of 87 Notices of Non-Compliance (NNC) and ten Compliance Letters were issued to a total of 91 facilities for a variety of routine operational compliance issues. All have been corrected and returned to full operational compliance.

One NOV was issued to a facility for failure to maintain financial responsibility as well as failure to complete required operational upgrades within the allowable time period. As of October 9, 2018 financial responsibility has been reinstated and ongoing efforts to complete the required equipment upgrades are being coordinated with the UST facility owner/operator and UST service providers.

Regulations

Regulations governing prevention and compliance of underground storage tanks (UST), 18 AAC 78, were substantially changed to incorporate the 2015 federal UST rules from 40 CFR 280. Changes included new annual and tri-annual leak prevention and leak detection device testing, removing the deferment for piping leak detection on emergency generator tanks and removing the deferment of regulation of airport hydrant system and field constructed tank USTs. Additional restructuring, formatting and housekeeping changes were also included in the regulation package. After over two years working through the update process, changes were adopted in late FY18.

Proposed amendments to the Site Cleanup Rules (18 AAC 75, Article 3) to update cleanup levels for approximately 26 compounds in soil and in groundwater and revising associated adopted by reference documents were issued for public review and comment in the spring of 2018. The regulations were finalized and adopted by the Commissioner in late June 2018.

Training

In June 2018, scientists with the University of Tennessee-Knoxville and Oak Ridge National Laboratory traveled to Alaska to provide customized, hands-on training in Juneau, Anchorage and

Fairbanks to CS staff in the use of several online risk and cleanup level calculator tools developed by UTK/ORNL and which underpin the cleanup levels and calculations in regulation. The trainings were attended by some 40 staff.

Project Manager Tools/Guidance

Updated guidance on vapor intrusion was published in November of 2017. At the same time, a fact sheet on additional information about exposure to TCE was issued. Updates were also published in February 2018 for the Procedures for Calculating Cleanup Levels, Procedures for Calculating Cumulative Risk, and the Risk Assessment Procedures Manual, all of which are adopted by reference in the Site Cleanup Rules and were revised as part of updating the cleanup levels in regulation.

DEC FY18 Brownfields Assessments and Cleanups (DBAC): Seven DBAC applications were received in FY18 for assessment or cleanup work, and the following four were approved:

- Organized Village of Kake – Keku Cannery hazardous building material abatement; this project is currently ongoing
- Native Village of Gakona – Heinz Site, site characterization; this project is currently ongoing
- Native Village of Venetie – Arctic Village Former Power Plant hazardous building material abatement and site characterization; this project was found to be outside DBAC funding capacity and was canceled
- Tanana Chiefs Conference – Yukon Trading Post contaminated soil cleanup; this project is currently ongoing

EPA Targeted Brownfields Assessments (TBAs):

- Old Matanuska Town Site – Native Village of Eklutna for site characterization; this project is currently ongoing
- Kathy O Mobile Home Park – Memorandum of Agreement (MOA) for site characterization; this project is currently ongoing
- L&L Mobile Home Park – MOA for site characterization; this project is currently ongoing

EPA Competitive Assessment and Cleanup Grants

- Kodiak Island Borough – coalition community wide assessment grant ($300,000 for hazardous substances/$300,000 for petroleum) for conducting site characterization and cleanup planning at multiple eligible sites; this project is currently ongoing
- Municipality of Anchorage – coalition community wide assessment grant ($150,000 for hazardous substances/$150,000 for petroleum) for conducting site characterization and cleanup planning at multiple eligible sites; this project is currently ongoing

3.2.7 CS FY19 PROGRAM PRIORITIES

Uniform Environmental Covenant Act

Following passage of this bill into law in FY18, a regulatory and procedural framework will be established to implement this act. An internal staff working group will be established to develop guidance and covenant templates, evaluate and propose revision to the institutional controls section of the regulations, and provide input on implementation. An external working group comprised of public and private stakeholders may be convened to provide input with regard to public and private property ownership within the state and to inform the development guidance and amendment of regulation to implement the UECA law.

Emerging Contaminants

CS staff will continue to work closely with the Department of Defense, ADOT&PF, DHSS, the Drinking Water program, EPA and others on responding to PFAS contamination, with a priority focus on identifying and addressing any current drinking water exposure.

In FY19 CS staff will conduct Preliminary Assessment/Site Investigations (PA/SI) to identify and evaluate drinking water sources that may be impacted by PFAS from AFFF used for training and emergency response activities at or adjacent to airport facilities statewide. This project is designed as a preliminary screening of a limited number of drinking water wells at or downgradient of airports that are certified under 14 CFR 139. This federal rule requires certified airports to have trained firefighters and AFFF on site to respond to emergencies and annual testing and deployment response equipment. The drinking water sample results will be used to evaluate potential exposure to PFAS contaminated groundwater; determine whether alternative water supplies or treated water are necessary; and to decide whether to request further investigation and/or cleanup from the responsible parties at specific sites.

Regulation Packages

CS will propose new and updated soil and groundwater cleanup levels in 18 AAC 75 for six PFAS to address the discovery of these contaminants in groundwater in an increasing number of communities around the state. The cleanup levels address the six compounds identified by EPA in the third Unregulated Contaminant Monitoring Rule issued in 2012, and apply EPA's drinking water health advisory level for five PFAS when they are detected in drinking water. The five PFAS have a similar molecular structure of between six and eight fluorinated carbons. A separate cleanup level is proposed for a sixth PFAS, perfluorobutane sulfonate, due to its shorter chain structure of four fluorinated carbons. Soil cleanup levels for these six compounds are also proposed.

The CS program intends to propose amendments to 18 AAC 75 to update cleanup levels for petroleum hydrocarbon ranges, including new analytical methods for both soil and groundwater, to clarify and update other sections of the regulations.

CS may issue new draft regulations to update provisions for institutional controls to conform to the recently passed law based on the Uniform Environmental Covenants Act, but is contingent upon the results of stakeholder involvement in the development of draft rules and other procedures.

Training

CS plans to hold a 2-day, statewide program meeting in FY19 focused on a series of technical and regulatory topics, including enforcement, legal authorities, RCRA regulations, project data quality objectives/lab data review, and principles of risk assessment. The meeting aims to address some of the languishing training needs of the approximately 21 staff who have joined the program in the past four years or less and to meet recurring training requirements for site inspector and enforcement credentials. The program is seeking to bring a new PFAS technical training, offered by the Interstate Technical and Regulatory Council, to Alaska in FY19.

Technical Tools

The ADEC Four-Phase Calculator is in the final design stages with the developer, University of Tennessee/Oak Ridge National Laboratory. This tool will provide the regulated community with an additional option for calculating the actual site risks from petroleum hydrocarbon contamination, allowing a more tailored cleanup level approach and additional flexibility toward site closure. In FY19 the CS will conduct a peer-review of the new tool to ensure it functions correctly and to make any additional final changes before making it available for use.

UST Priorities

With the adoption of comprehensive changes to 18 AAC 78 going into effect September 27, 2018, the UST unit will be heavily focused on assisting both the UST owner/operator universe as well as the UST service provider universe in making the transition to the new 2015 federal UST rules that were adopted by the state. Focus will be on helping all regulated facilities come up to compliance in the new regulatory areas of release detection, release prevention and those tanks there are affected by former regulatory deferments.

Home Heating Oil Tanks

With a Capital Improvement Project (CIP) appropriation of $300,000 for FY19, CS intends to continue the HHOT Pilot Project at selected sites where responsible parties have demonstrated an inability to respond due to financial hardship and add new sites as appropriate. There are currently approximately five sites in the Pilot Project at different stages in the response process. CS will work with the Prevention, Preparedness and Response Program in FY19 to develop a streamlined approach to accessing HHOT Pilot Project funds during the response phase in an effort to minimize the environmental impact and long term cleanup costs.

State-Owned Contaminated Sites

In FY19, CS staff will continue to conduct site characterization and cleanup activities at select high-priority state-owned sites using available CIP funds. Concurrently, staff intend to finalize an MOA

with ADOT&PF and continue to coordinate ADEED and ADNR on addressing state-owned contaminated sites. The goal is to formalize a process for collaboratively prioritizing and responding to contaminated sites for which the State is responsible. The ADOT&PF MOA is a priority because the department is responsible for a majority of state-owned contaminated sites and it has the contracting capability, technical staff, and heavy equipment to aid in response.

3.3 RESPONSE FUND ADMINISTRATION (RFA)

The RFA Program manages the Oil and Hazardous Substance Release Prevention and Response Fund (OHSRPRF), also known as the "Oil/Haz Fund" or "Response Fund", as a viable, long-term funding source for the state's core spill prevention and response programs. The RFA Program is the administrative, operational, technological, and financial arm of the division. The program manages the expenses and revenues in the Prevention and Response Accounts of the Response Fund by recovering state costs for responding to spills from responsible parties. In the case of a major spill response, RFA staff play an integral role by acting as the State Finance Lead within the Incident Command System.

3.3.1 RFA DATA REVIEW

The financial data in this section is compiled by the RFA Program for FY18. There are two different sets of financial data; one set includes only cost recovery data where responsible parties have been billed for department oversight costs and the other includes all cost recovery, grants, and Reimbursable Service Agreements (RSAs) data. The industry types shown below reflect the type of facilities where releases have occurred. The "Other" industry category includes lighthouses, telecommunications, parks and recreation sites logging operations, and other small industry categories. The residential category includes home heating oil tank spills and other types of residential spills where cost recovery of oversight costs have not been exempted.

CHART 1: TOTAL AMOUNT BILLED CATEGORIZED BY INDUSTRY TYPE

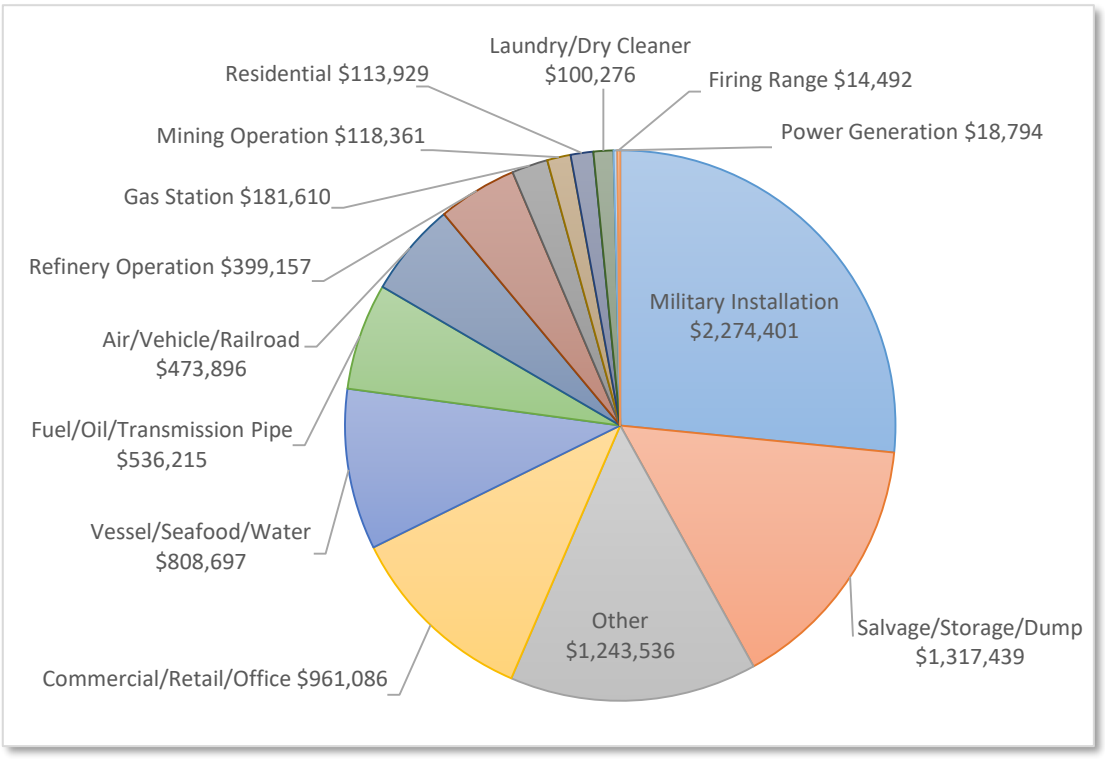


CHART 2: FY18 TOTAL BILLED VERSUS AMOUNT RECOVERED BY INDUSTRY TYPE FOR FY18 BILLED INVOICES (FY18 BILLED INVOICES ONLY)

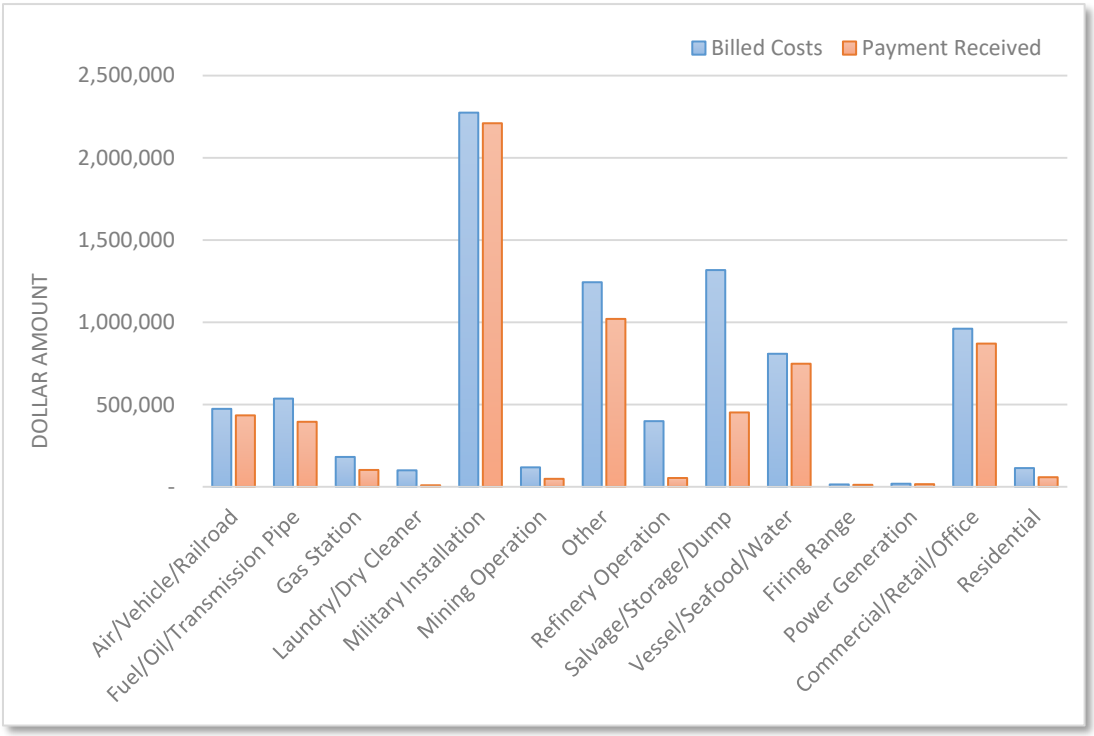


Table 1 SPAR Recovered Costs by Industry Type (Recovered Through Cost Recovery, Grants, and RSA's). Revenue collected during the fiscal year for FY18 invoices.

Industry Type	Billed Costs	Percentage of Billed Costs	Payment Received	Percentage of Payments Received	Sum of Pending Balance	Percentage Outstanding
Air/Vehicle/Railroad	473,895.63	5.53%	434,324.03	6.75%	39,571.60	1.86%
Fuel/Oil/Transmission Pipe	536,215.33	6.26%	395,286.63	6.15%	140,928.70	6.62%
Gas Station	181,609.53	2.12%	102,515.03	1.59%	79,094.50	3.71%
Laundry/Dry Cleaner	100,276.44	1.17%	9,401.20	0.15%	90,875.24	4.27%
Military Installation	2,274,400.66	26.56%	2,209,824.88	34.36%	64,575.78	3.03%
Mining Operation	118,361.24	1.38%	48,605.19	0.76%	69,756.05	3.27%
Other	1,243,535.58	14.52%	1,020,604.75	15.87%	222,930.83	10.47%
Refinery Operation	399,156.90	4.66%	53,627.86	0.83%	345,529.04	16.22%
Salvage/Storage/Dump	1,317,439.03	15.39%	452,024.70	7.03%	865,414.33	40.63%
Vessel/Seafood/Water	808,697.41	9.45%	748,241.27	11.63%	60,456.14	2.84%
Firing Range	14,491.95	0.17%	12,220.90	0.19%	2,271.05	0.11%
Power Generation	18,794.12	0.22%	16,197.32	0.25%	2,596.80	0.12%
Commercial/Retail/Office	961,085.81	11.23%	870,570.46	13.54%	90,515.35	4.25%
Residential	113,929.34	1.33%	58,382.28	0.91%	55,547.06	2.61%
Grand Total	$ 8,561,888.97	100.00%	$ 6,431,826.50	100.00%	$ 2,130,062.47	100.00%

Table 2 SPAR Recovered Costs by Industry Type (Recovered Through Cost Recovery Only). Revenue collected during the fiscal year for FY18 invoices.

Industry Type	Billed Costs	Percentage of Billed Costs	Payment Received	Percentage of Payments Received	Sum of Pending Balance	Percentage Outstanding
Air/Vehicle/Railroad	187,939.04	5.18%	148,367.44	9.88%	39,571.60	1.86%
Fuel/Oil/Transmission Pipe	476,121.84	13.11%	335,193.14	22.33%	140,928.70	6.62%
Gas Station	181,609.53	5.00%	102,515.03	6.83%	79,094.50	3.71%
Laundry/Dry Cleaner	100,276.44	2.76%	9,401.20	0.63%	90,875.24	4.27%
Military Installation	105,461.36	2.90%	40,885.58	2.72%	64,575.78	3.03%
Mining Operation	118,361.24	3.26%	48,605.19	3.24%	69,756.05	3.27%
Other	461,991.12	12.72%	239,060.29	15.93%	222,930.83	10.47%
Refinery Operation	399,156.90	10.99%	53,627.86	3.57%	345,529.04	16.22%
Salvage/Storage/Dump	1,006,855.10	27.73%	141,440.77	9.42%	865,414.33	40.63%
Vessel/Seafood/Water	244,665.12	6.74%	184,208.98	12.27%	60,456.14	2.84%
Firing Range	3,785.83	0.10%	1,514.78	0.10%	2,271.05	0.11%
Power Generation	18,563.85	0.51%	15,967.05	1.06%	2,596.80	0.12%
Commercial/Retail/Office	212,563.44	5.85%	122,048.09	8.13%	90,515.35	4.25%
Residential	113,797.86	3.13%	58,250.80	3.88%	55,547.06	2.61%
Grand Total	$ 3,631,148.67	100.00%	$ 1,501,086.20	100.00%	$ 2,130,062.47	100.00%

There are numerous reasons why billable costs are not recovered; a responsible party's inability to pay is the primary reason. In FY17, RFA, in partnership with LAW, established an internal inability to pay process that involves negotiations with the billable party to recover partial costs and/or establish an installment payment plan. In FY18,

RFA further refined that process to include making ability-to-pay determinations for individuals and businesses by using EPA financial modeling software. Other reasons for low recovery rates relate to third party liability issues, unclear responsible party determination, and disputed liability. It can take a significant amount of time while RFA consults with the project manager, LAW, and the responsible party to determine who the proper billable party is and verify liability. Regulations explaining this process and establishing an interest rate for overdue payments were finalized during FY16; interest accrual on unpaid invoices was implemented in June 2016.

3.3.2 RFA Accomplishments

SB 158 was introduced at the request of the Governor during the 2018 legislative session and was enacted in spring 2018. SB 158 allows the division to provide free technical assistance to homeowners who grapple with the often substantial burden of dealing with a release. A section of the bill provides for retroactive cost recovery forgiveness beginning on January 2018. In the past, homeowners were subject to the additional financial burden of department oversight costs; billing homeowners for oversight was a substantial impediment toward site cleanup. The new cost recovery exemption allows for better collaboration and site management between department staff and homeowners.

3.3.3 RFA Program Biennial Report Elements

Alaska Statute AS 46.08.060 requires the division to report on certain aspects of the Response Fund. This report is due no later than the tenth day following the convening of each first regular session of the legislature. The report can be very large. In the interest of reducing paper, the report tables are described in the appendices section of this report and are provided separately on our website at https://dec.alaska.gov/spar/reports.

3.3.4 History of the Response Fund

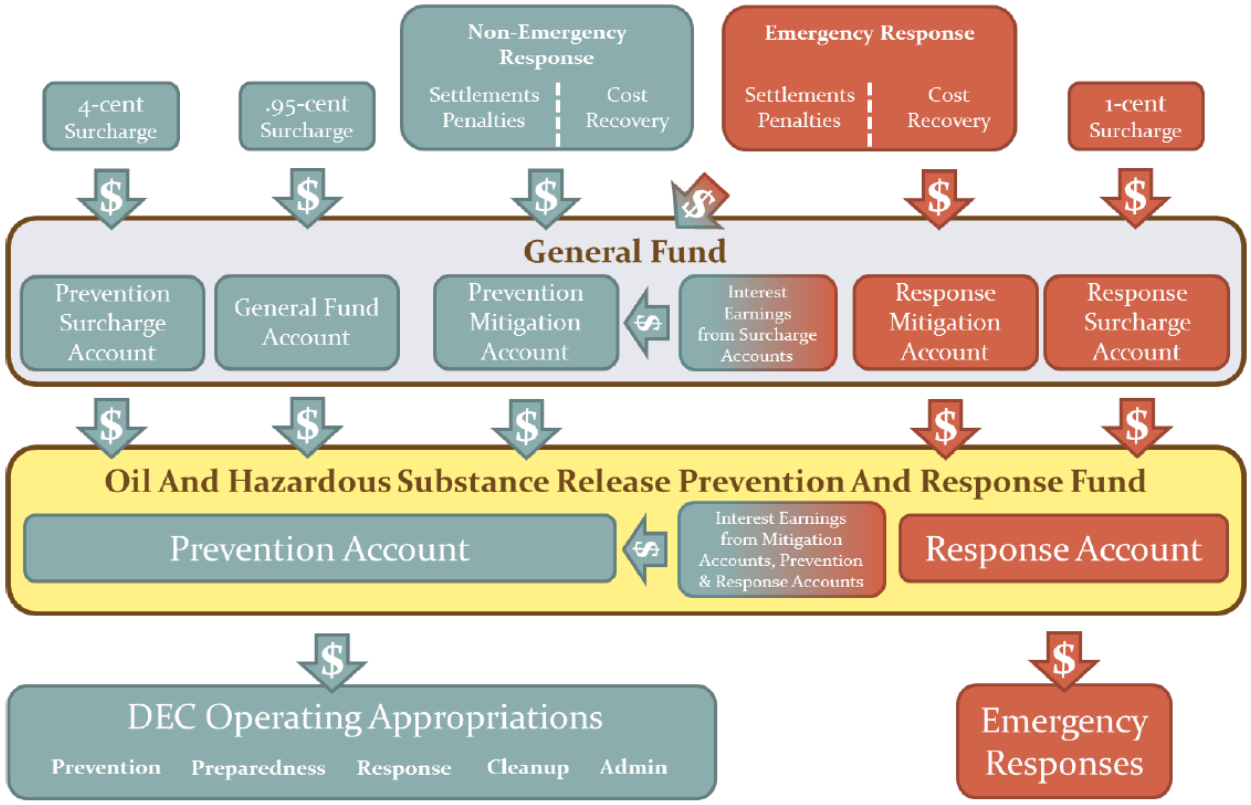
The Response Fund was created by the legislature in 1986 to provide a readily available funding source to investigate, contain, clean up and take other necessary action to protect public health, welfare and the environment from the release or threatened release of oil or a hazardous substance. Alaska Statute 46.080.030 states: "It is the intent of the legislature and declared to be the public policy of the state that funds for the abatement of a release of oil or a hazardous substance will always be available." (SLA 1986 Sec.1 Ch. 59).

The statutes governing the Response Fund were amended in 1989, 1990, 1991, 1994, 1999, 2006, and 2015. These amendments increased the scope that defines how the Response Fund can be used and it also increased the ADEC's reporting requirements. In addition, the 1994 amendment made major changes to the Response Fund structure

by dividing the Response Fund into two separate accounts (the Response Account and the Prevention Account). The changes became effective on July 1, 1994.

The 1999 amendment changed the requirement for an annual fund status report to the legislature to a biennial status report. The 2006 amendment changed the surcharge levied on crude oil produced in the state. HB3001C amended Sec. 28 of AS 43.55.300 and imposed a Prevention Account surcharge of $.04 (formerly $.03) per barrel of oil produced from each lease or property in the state, less any oil the ownership or right to which is exempt from taxation. Sec. 26 of AS 43.55.201 was also amended to change the Response Account surcharge of $.02 to a $.01 per barrel of oil produced from each lease or property in the state.

Due to declining oil production and related revenues, 2015 legislation (HB 158) amended AS 43.40 to add a new $.0095 per gallon environmental surcharge on refined fuel sold, transferred or used at the wholesale level. The tax includes gasoline and heating oil but not aviation fuel or fuel used on the Alaska Marine Highway system. Other exemptions include fuel sold to a federal or state government agency for official use; fuel refined and used outside the United States; liquefied petroleum gas; and fuel sold or transferred between qualified dealers. The surcharge became effective on July 1, 2015 and the revenue generated by the new surcharge is appropriated annually to the Prevention Account. Electric Cooperatives and municipalities were exempted from the refined fuel surcharge per AS 29.71.030 and AS 10.25.540 (b)(2) respectively; these exemptions were unforeseen when HB158 was drafted. The oversight has resulted in substantially less refined fuel surcharge revenue than originally anticipated. Due to the exclusion of municipal fuel purchases, the refined fuel surcharge has generated $1.3 million less than the Department of Revenue originally had estimated in their FY18 fiscal note. The revenue shortfall is expected to grow to $2.0 million by FY21.



3.3.5 RESPONSE ACCOUNT

The Response Account may be used to finance the state's response to an oil or hazardous substance release disaster declared by the governor, to address a release or threatened release that poses an imminent and substantial threat to the public health or welfare, or to the environment. If the Response Account is accessed for any incident other than a declared disaster, the ADEC Commissioner must provide the Governor and the Legislative Budget and Audit Committee a written report summarizing the release and a summary of the State's actions and associated costs, (both taken and anticipated) within 120 hours of the event.
The Response Account receives funding from two different sources:

1. a surcharge of $0.01 (one cent) per barrel that is levied on each taxable barrel of oil produced in Alaska (was $0.02 prior to 2006) deposited into the response surcharge account;
2. fines, settlements, penalties, and costs recovered from parties financially responsible for the release of oil or a hazardous substance deposited into the response mitigation account.

The $.01 (one cent) per barrel surcharge is suspended when the combined balances of the surcharge account, the response mitigation account, and the unreserved and unobligated balance in the Response Account itself reaches or exceeds $50 million. The Response Account balance reached $50 million for the first time during the quarter ending December 31, 1994. Therefore, beginning April 1, 1995, the surcharge collection was suspended. Access to the fund for the response to the North Slope Pipeline spills occurred on November 20, 2006. This action lowered the balance of the

account below $50 million. On April 1, 2007, the Department of Administration imposed the $.01 (one cent) surcharge to restore the balance to $50 million. Spill responses reduced the balance again over the years and on July 1, 2013, the $.01 surcharge was re-imposed to restore the balance to $50 million.
The combined balance of the Response Account as of June 30, 2018 was $41.2 million. As a result, the $.01 cent surcharge will remain active through FY19.

3.3.6 PREVENTION ACCOUNT

The Prevention Account may be used to investigate, evaluate, clean up, and take other necessary action to address oil and hazardous substance releases that have not been declared a disaster by the governor or do not pose an imminent and substantial threat to the public health or welfare of the environment. The Prevention Account may also be used to fund Alaska's oil and hazardous substance release prevention programs and to fund activities related to cost recovery.
The Prevention Account is financed with a $.04 (four cents) per barrel surcharge and fines, settlements, penalties and interest. The Prevention Account receives funding from four sources:

1. a surcharge of $.04 per barrel that is levied on each taxable barrel of oil produced in the state which is deposited in the prevention surcharge account;
2. fines, settlements, penalties, and costs recovered from parties financially responsible for the release of oil or a hazardous substance deposited into the prevention mitigation account;
3. interest earned on the balance of each of the following accounts deposited into the general fund and credited to the Prevention Account: (a) the prevention account; (b) the prevention mitigation account; (c) the response account; and (d) the response mitigation account;
4. a surcharge of $.0095 (less than one cent) per-gallon on refined fuel sold, transferred or used at the wholesale level in Alaska, with certain exemptions.

The legislature annually appropriates money from the prevention surcharge and prevention mitigation accounts into the Prevention Account to support the State's oil and hazardous substance spill clean-up efforts and spill prevention and preparedness planning activities (AS 46.08.040(a)(2)) which is part of the SPAR annual budget).

The Prevention Account balance based on the Department of Administration's quarterly report on the Oil Surcharge account showed an unobligated balance of $8.9 million at the end of FY17. The sharp increase over the past year is due to a legal settlement of over $5.0 million relating to Aniak White Alice Communication System PCBs. HB158 passed the legislature in the spring of 2015 in response to the fact that the Prevention Account balance has trended towards decline in recent years. The majority of releases and resulting contaminated sites are associated with refined fuel so HB158 assessed a $.0095 per gallon (less than a penny) surcharge on most refined fuel. This legislation was anticipated to bring in approximately $7.5 million annually to fund SPAR's important prevention and response activities. Due to unforeseen exemptions previously mentioned, the Refined Fuel Tax is bringing in significantly less than expected (See Table D; 2018 receipts of $6.6 million for Refined Fuel Tax).

4 APPENDICES

SPAR has a number of databases to track various oil and hazardous substance projects. SPAR also tracks the financial expenditures, obligations and revenues for each project. A number of financial and program tables are produced annually by SPAR and are formally transmitted to the Alaska State Legislature each year in the SPAR Annual Report as required by AS 46.08.060.
The financial and program tables are listed below with a brief description and statutory reference, links to these tables can be found on our website at https://dec.alaska.gov/spar/reports

Table A: Expenditures and Obligations

This table summarizes the expenditures and year-end obligations for appropriations funded by the OHSRPRF in FY18.

Table B: Prevention Mitigation & Response Mitigation Revenues

This table summarizes by project, deposits made in FY18 to the Prevention and Response mitigation accounts, and includes all monies collected by the department as cost recovery, fines, penalties or settlement payments related to activity funded by the OHSRPRF.

Table C: Prevention Mitigation & Response Mitigation Revenues by Project

This table lists all projects for which total deposits in excess of $1 thousand made in FY18 to the prevention and response mitigation accounts. All monies collected by the department as cost recovery, fines, penalties or settlement payments related to activity funded by the OHSRPRF.

Table D: Revenue Source History

This table summarizes the various funding sources appropriated to the OHSRPRF from FY02 through FY18. The table includes program receipts or revenues from outside parties for specific program expenditures; mitigation revenue which includes interest earned on surcharge deposits, cost reimbursements, fines penalties or settlement payments from parties financially responsible for incidents or sites for which the state expended monies; and oil surcharge revenue which includes collections in the prior year of the conservation surcharge imposed on oil produced in the State.

Table E: Contracts in Excess of $10,000.00

This table lists all contracts in excess of $10 thousand funded by OHSRPRF in FY18. The list provides the contract obligations and related expenditures.

Table F: Prevention Account Summary

This table summarizes the operating, capital and other allocations made from and to the OHSRPRF in FY18.

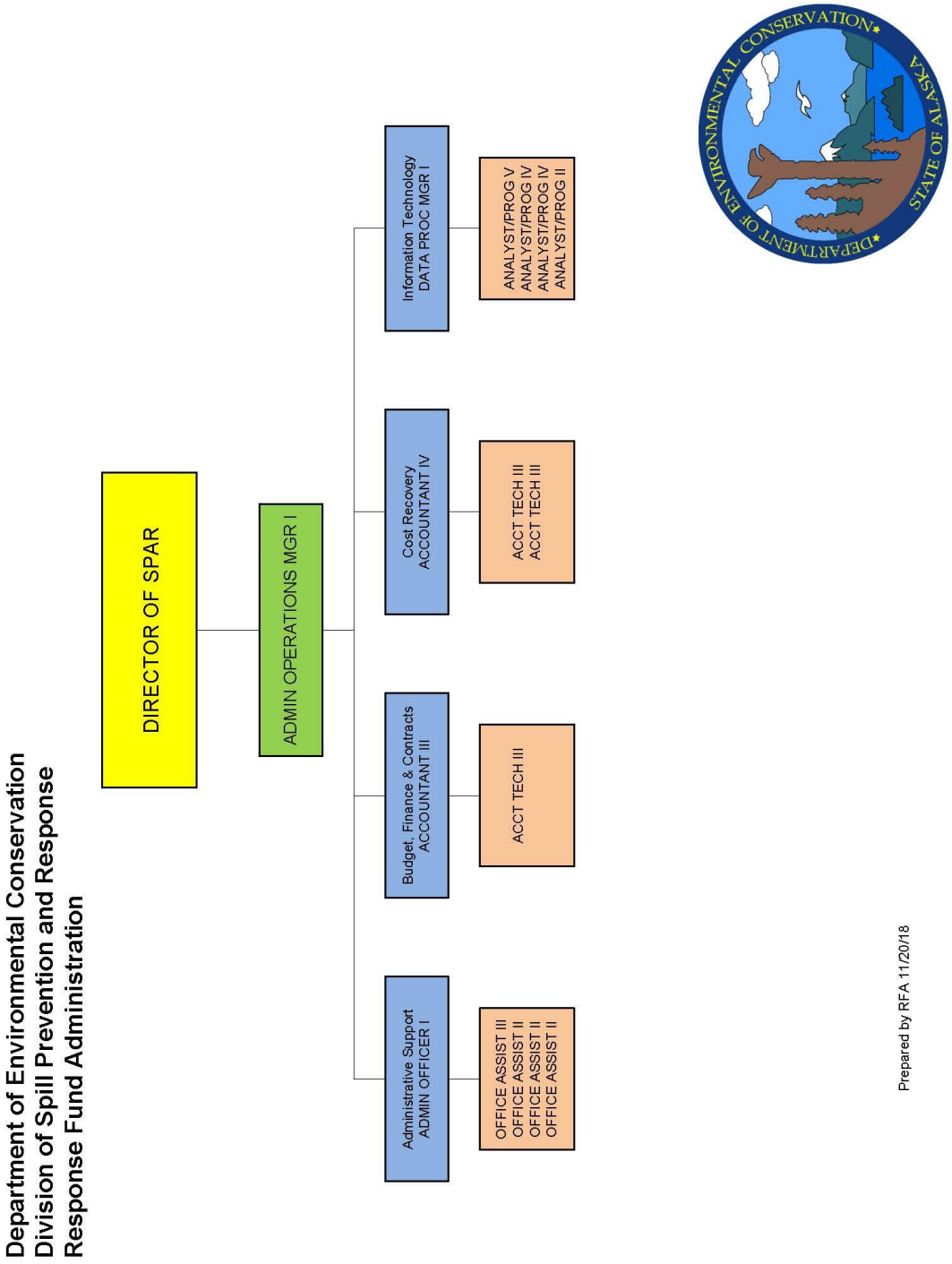
Table G: Project Expenditures

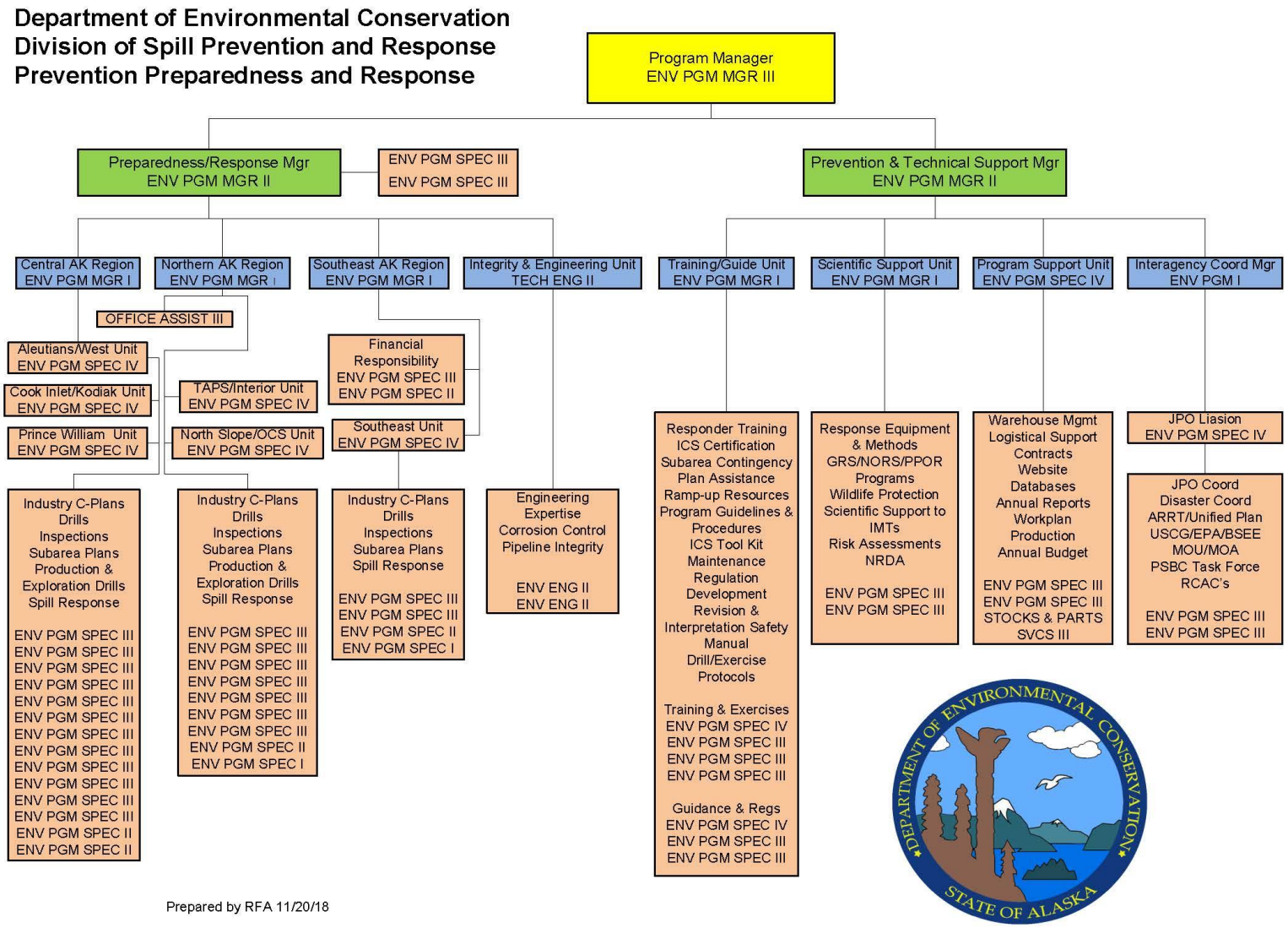
This table lists all projects for which total expenditures in excess of $1 thousand occurred in the OHSRPRF in FY18.

5 ACRONYMS AND ABBREVIATIONS

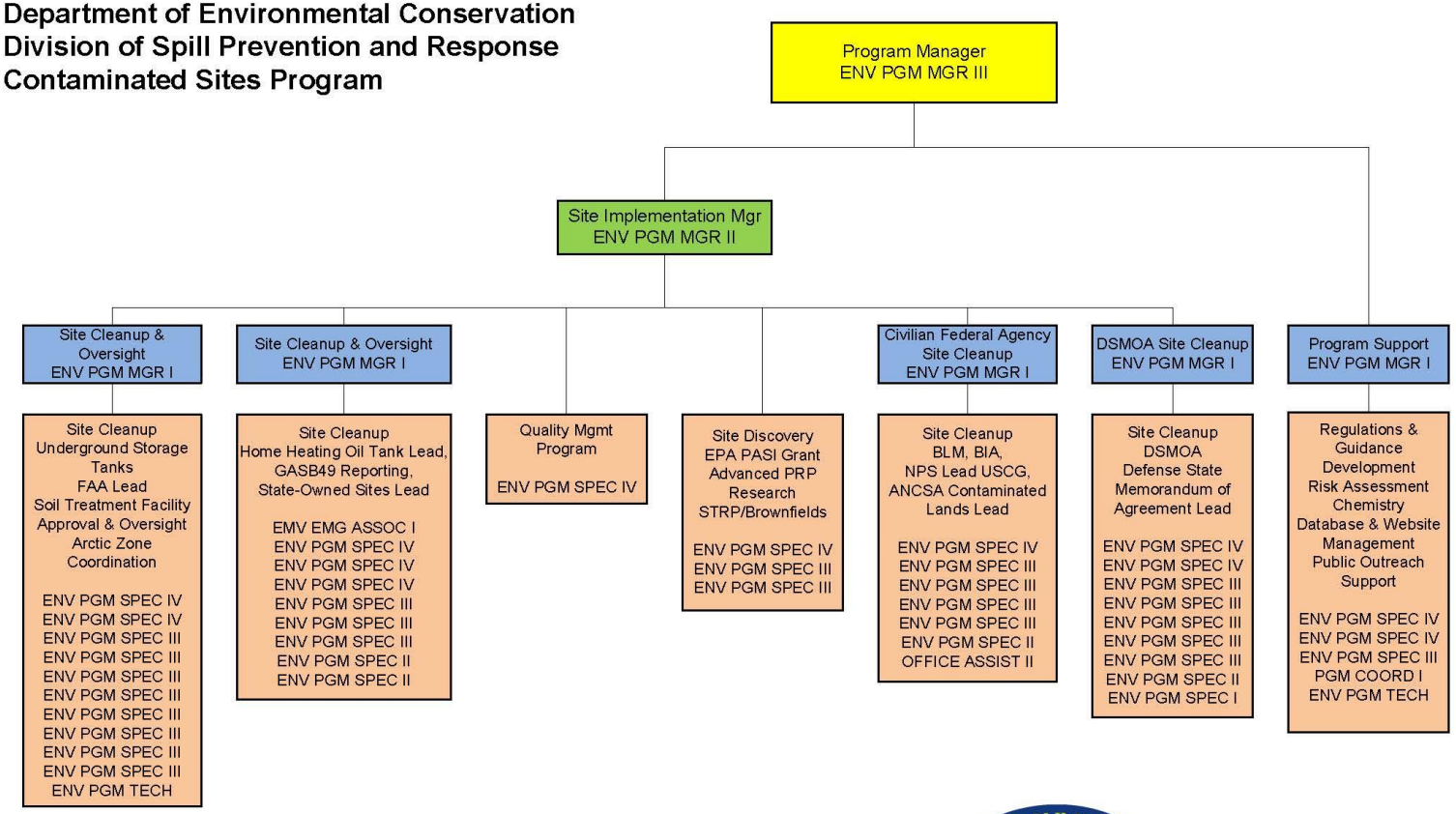
A list of acronyms and abbreviations used frequently throughout this report can be found on our website at https://dec.alaska.gov/spar/reports.

6 DIVISION STRUCTURE (FUNCTIONAL ORG CHART)




Department of Environmental Conservation
Division of Spill Prevention and Response
Prevention Preparedness and Response
Program Manager
ENV PGM MGR III
Preparedness/Response Mgr
ENV PGM MGR II
ENV PGM SPEC III
ENV PGM SPEC III
Prevention & Technical Support Mgr
ENV PGM MGR II
Central AK Region
ENV PGM MGR I
Northern AK Region
ENV PGM MGR I
Southeast AK Region
ENV PGM MGR I
Integrity & Engineering Unit
TECH ENG II
Training/Guide Unit
ENV PGM MGR I
Scientific Support Unit
ENV PGM MGR I
Program Support Unit
ENV PGM SPEC IV
Interagency Coord Mgr
ENV PGM I
OFFICE ASSIST III
Aleutians/West Unit
ENV PGM SPEC IV
Cook Inlet/Kodiak Unit
ENV PGM SPEC IV
Prince William Unit
ENV PGM SPEC IV
TAPS/Interior Unit
ENV PGM SPEC IV
North Slope/OCS Unit
ENV PGM SPEC IV
Financial
Responsibility
ENV PGM SPEC III
ENV PGM SPEC II
Southeast Unit
ENV PGM SPEC IV
Industry C-Plans
Drills
Inspections
Subarea Plans
Production &
Exploration Drills
Spill Response
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC II
ENV PGM SPEC II
Industry C-Plans
Drills
Inspections
Subarea Plans
Production &
Exploration Drills
Spill Response
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC II
ENV PGM SPEC I
Industry C-Plans
Drills
Inspections
Subarea Plans
Spill Response
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC II
ENV PGM SPEC I
Engineering
Expertise
Corrosion Control
Pipeline Integrity
ENV ENG II
ENV ENG II
Responder Training
ICS Certification
Subarea Contingency
Plan Assistance
Ramp-up Resources
Program Guidelines &
Procedures
ICS Tool Kit
Maintenance
Regulation
Development
Revision &
Interpretation Safety
Manual
Drill/Exercise
Protocols
Training & Exercises
ENV PGM SPEC IV
ENV PGM SPEC III
ENV PGM SPEC III
ENV PGM SPEC III
Guidance & Regs
ENV PGM SPEC IV
ENV PGM SPEC III
ENV PGM SPEC III
Response Equipment
& Methods
GRS/NORS/PPOR
Programs
Wildlife Protection
Scientific Support to
IMTs
Risk Assessments
NRDA
ENV PGM SPEC III
ENV PGM SPEC III
Warehouse Mgmt
Logistical Support
Contracts
Website
Databases
Annual Reports
Workplan
Production
Annual Budget
ENV PGM SPEC III
ENV PGM SPEC III
STOCKS & PARTS
SVCS III
JPO Liasion
ENV PGM SPEC IV
JPO Coord
Disaster Coord
ARRT/Unified Plan
USCG/EPA/BSEE
MOU/MOA
PSBC Task Force
RCAC's
ENV PGM SPEC III
ENV PGM SPEC III
Prepared by RFA 11/20/18
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
STATE OF ALASKA

Department of Environmental Conservation
Division of Spill Prevention and Response
Contaminated Sites Program



Prepared by RFA 12/13/18