



Prince William Sound RCAC Annual Drill Monitoring Report

2018

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2018 Exercise Report Index

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5/31	752.431.180531.TrainOSRB1.pdf	ECO Barge OSRB-1 Initial Trainings/Exercises, various dates: 4/24/18 to 5/31/18
6/6	752.431.180606.TugSprayArms.pdf	Dispersant Spray Arms Demonstrations: Tug Commander on 5/17/2018 and Tug Courageous on 6/6/2018
6/9	752.431.180609.SheepBayOSRB.pdf	ECO Barge OSRB-2 Sheep Bay Exercise
6/13	752.431.180613.UJboom4517.pdf	U/J Booming on the 4517s: Tug Commander on 6/13/18; Tug Champion on 6/16/18; Tug Courageous on 6/18/18
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2018 Exercise Summary

Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) staff and contractors observed and evaluated over 50 drills and exercises in 2018 and wrote 35 reports. In addition to the drills and exercises, staff also participated in Alyeska's Ship Escort Response Vessel System (SERVS) 2018 fishing vessel trainings. All of these reports fall into the categories described below.

Tanker Towing Exercises

The Alyeska Marine Services Transition created the opportunity to conduct many tanker towing and tether exercises between March and November as the new tugs were put through their paces. Overall, these exercises demonstrated the tugs' ability easily meet the guideline for the Valdez Narrows and Valdez Arm for opposing the turn or assisting the turn of the tankers when needed.

Open-Water Response Exercises

The addition of four new Oil Spill Response Barges also created the opportunity for many open water oil recovery exercises. These exercises allowed the new crews to become familiar with the equipment and help test the new equipment as well. Edison Chouest Offshore also took over the operation of the Valdez Star oil recovery vessel so exercises were conducted to allow the new crews to become familiar with that vessel too.

Nearshore Response and Sensitive Area Protection Exercises

The number of nearshore and sensitive area exercises were scaled back some in 2018 but there still were a number of exercises associated with the annual fishing vessel trainings. Sensitive area protection exercises were conducted in conjunction with fishing vessel trainings and Alyeska's emphasis on the Valdez Duck Flats deployments. The Valdez Duck Flats sensitive area protection strategy is having to go through some changes due to the establishment of the new Valdez harbor.

SERVS also conducted a series of Geographic Response Strategy (GRS) deployments in Hummer Bay, Harrison Lagoon, Golden Bay, Granite Bay & Surprise Cove located in northwest Prince William Sound in September and PWSRCAC staff was able to participate in these deployments. GRS tactics are developed prior to a response to protect highly sensitive areas and include information on both booming and recovery strategies. When SERVS deploys these sensitive area protection strategies, they evaluate the potential effectiveness of these sites and provide input to the Alaska Department of Environmental Conservation (ADEC) via the GRS evaluation report. ADEC hosts these GRS sites and deployment information online for the benefit of all, and these strategies are meant to provide sensitive area information for any event or operator, not just Alyeska/SERVS. As such, they are referenced in AK regional plans and the general PWS area plans in addition to Alyeska contingency plans.

Valdez Marine Terminal Drills

The Valdez Marine Terminal (VMT) conducted many exercises in 2018, due in part to the Alyeska Marine Transition Services Transition. The equipment deployment exercises included an oil recovery demonstration at Drainage 58 by Berth 1 with the new OSRBs.

Alyeska conducted a three-day exercise in late August that included a four-hour initial response to the VMT Plan's Scenario 5 worst-case spill before moving to the VEOC for a full day of exercising the Incident Management Team. The following day was spent on a large-scale equipment deployment exercise.

Annual Prince William Sound Shipper's Exercise

Crowley Alaska Tankers conducted their first large-scale annual Prince William Sound Shipper's exercise in October after taking over for SeaRiver Maritime. This large two-day exercise was a response to a spill that threatened Port Fidalgo and included a focus on exercising the Regional Stakeholders' Committee.

SERVS Fishing Vessel Training

PWSRCAC staff attended several in- and out-of-region fishing vessel trainings. There are 400+ contracted fishing vessels participating in SERVS' program. Trainings were held in Kodiak, Homer, Seward, Whittier, Cordova, and Valdez.

Suggestions for Future Exercises

The list of exercises and other suggestions below is not meant to be an exhaustive list of all areas that need further focus and attention, but PWSRCAC would suggest it is a good place to begin. It should be noted that many of the concerns and exercise issues that PWSRCAC have noted through the years have remained consistent across time.

Edison Chouest Offshore (ECO) Post-Transition

ECO officially took the marine services contract from Crowley on July 1st, 2018. There were approximately 80 different exercises and training events that took place ahead of this transition. ADEC also initiated several unannounced exercises that took place after July 1, 2018. Council observed approximately half of these transition-specific events with staff or with contractor support.

In the 2017 annual report and during the September 2018 PWSRCAC Board meeting, staff explained how this transition represented the largest change to the prevention and response system of PWS since the system was first developed in the early 1990's. Staff cautioned that new, complex equipment such as the tugs and barges would likely see further mechanical issues, evolutions in equipment or procedures, or other complications as equipment began the rigors of long-term duty. The same could be said of crew to some degree, with new crew members learning their equipment, regional geography, and the greater prevention and response system in PWS. The winter of 2018/2019 was the first true winter for equipment and most of the crew aboard these assets as well.

Now, approximately one year into the ECO contract, one can point to smaller bumps along the way, but the ECO transition has, as a whole, been successful. The new barges and tugs are significantly more advanced and powerful than the Crowley vessels they replaced. There has been continued and well-orchestrated efforts to ensure crews are trained and tested in regards to their job roles. Also, there were minimal changes in personnel or equipment concerns during the first winter. However, Council would suggest that the ECO transition is still fairly fresh, and that constant diligence is required to keep things functioning at the high level we have come to expect. In 2017, PWSRCAC advocated for training and exercises that test the equipment and crews' ability to work in all of the conditions in which they are required to operate in Prince William Sound and the Gulf of Alaska. Council would make that same recommendation again in 2018, and point to specific areas for testing and verification.

Safety

ADEC called a no-notice exercise in early October 2018, with the goal of testing several of the open water barges' ability to track and find oil, hold formations to recover that oil, and ensuring that responders were using the correct personal protective equipment (PPE) as they worked on decks. This exercise occurred during hours of darkness and also tested the communications from the

Command post and Duty office to the field-based Group Supervisor managing assets. PPE arose as a concern during this exercise.

Barge-based Task Force Leaders and other responders found they could not or had difficulty using their VHF radios and respirators at the same time. Communications were difficult enough that some responders removed the respirators to be able to talk on the radio. In-respirator mics or other supplied air mask similar to what firefighters' use may be required. There was also issues with some crew members not being shaven, which may not allow the respirators to have a good seal. It is difficult to work in full PPE and there is some wasted material when doing so but periodic exercise should be conducted in full PPE to allow some of these issues to be worked out.

Another issue that has not been resolved is Alyeska's process for ensuring vapors do not overwhelm responders during the decanting or offloading of the mini-barges. Mini-barges can be filled in an environment that does not require the use of respirators. However, as oil builds up in the mini-barges vapors can be concentrated to higher levels. The procedure for decanting and offloading the mini-barges is to open the hatch to look at oil levels but this activity will likely be done by someone without a respirator and a better process for monitoring vapor levels prior to opening the hatches in the mini-barges needs to be established and tested.

Operating in Darkness and Dense Fog

Operating in darkness and foggy situations has been included in this list for the last several years as the reality is much of the winter in Alaska is darkness, and long periods of fog or reduced visibility due to weather is not uncommon for the Prince William Sound area in either summer or winter.

With the ECO transition, ADEC stipulated that a certain amount of demonstrations needed to occur in the darkness, defined as the period between civil twilight and civil darkness. PWSRCAC appreciated this transition requirement. These exercises included: 1) at least one tether demonstration in the Narrows and the Arm for a 4517 Escort tug (2 events), 2) at least one emergency towing demonstration by either a 3212, 4517, or the Utility Tug Ross Chouest (1 event), 3) one emergency towing demonstration by a 3212 specifically (1 event), 4) and at least one Open Water barge deployment in the darkness (1 event). Alyeska and ECO was able to demonstrate and meet the objectives for these darkness exercises. ADEC also initiated the no-notice exercise mentioned above which took place in the dark.

Recognizing that darkness and limited visibility are a reality, PWSRCAC suggests that more training and exercise activity take place in darkness or periods of limited visibility. Include more fishing vessels and their respective crews so proficiency of working in the dark is improved. In addition, the ECO tug fleet has specific capabilities (FLIR cameras and Rutter Radar spill processing) that allow them to better see oil in limited visibility. More exercises using this improved technology should be conducted with the use of targets on the water

for the tugs to track and position the barges to recover like they would need to for oil.

Specific operations/tactics that PWSRCAC would like to see demonstrated in periods of darkness or reduced visibility include:

- 500-2 mini-barge offloading and general nearshore load-out and support with fishing vessels.
- Duck Flats, Solomon Gulch Hatchery, and other Port Valdez Sensitive Area Protection (SAP) sites. These sites have deployed in darkness before due to real incidents and practice beforehand seems prudent.
- More exercise activity working to integrate tracking buoys, Rutter, and FLIR data with coordinating vessel movements, particularly open water barges.

Tanker-Towing / Tanker Arrest Exercises

SERVS's goal has been to conduct eight tanker arrest exercises per year, though the tanker contingency plan technically requires only four. In 2018, there were far more than eight events, as the ECO transition drove the huge volume of exercise and training activity related to towing and tanker arrest. All the transition-stipulated exercises were completed to satisfaction and the new ECO escort tugs are generally stopping tankers in about half the advance and transfer distances of the current standards.

One big change with the tanker towing and arrest exercises are now required to be conducted on a quarterly basis. Council appreciates change, as we have voiced concerns through the years that these towing and arrest exercises would typically only happen in the summer months. Our recommendation through the years was to spread these events out so that crews would have the opportunity to work in a variety of weather and stages of darkness. It is good to see that Alyeska, the PWS Shipper's and the agencies recognizes the value of training across different seasons and weather conditions.

Open-Water Response

The four open water barges, despite minor differences, are now all essentially standardized. This consistency across platforms will allow crews to transfer between barges easier, make training back-up personnel easier and simplify working with the contracted FVs fleet.

Specific Open Water-related suggestions:

- Conduct barge deployments with vessels and crews from Cordova and Whittier. During the ECO transition, the bulk of barge-related exercise and training activity occurred in Valdez. Cordova vessels have been involved to a lesser degree, and it's unclear if a Whittier vessel has ever helped with a deployment. There are Tier 1 vessels across these three different ports.

- Work to verify that four barge crewmembers is truly enough to support 18 hours of operations prior to relief crews arriving. PWSRCAC has voiced concerns through the years that a crew of four is not sufficient.
- Continue to build back-up crew bench strength so that ECO crews can be assured back-up support in a real event. Alyeska has been training TCC responders to work on the barges and we think that should continue.
- And as discussed above, more work in darkness and limited visibility.
- And as discussed above, the PPE element and radio communications are still unresolved.

Valdez Marine Terminal

In a broad sense, PWSRCAC would suggest that all tactics in the VMT technical manual be exercised in a 5-year plan cycle and that exercises take place over a variety of seasons and conditions.

Specific VMT related suggestions include:

- Continue with the multi-day Duck Flats training and conduct a similar intensive training for the Solomon Gulch Hatchery. The current training for the deployment of the Duck Flats by Alyeska is excellent and should continue. Much attention has been given to the Duck Flats deployment over the past several years, and Council staff have observed the general proficiency level of responder increase. The connection of boom ends under tension in particular has been a responder safety concern, and SERVS has done a good job addressing this topic. Continue this work on Duck Flats, but also conduct a similar Hatchery training.
- Drainage 58 and Scenario 5 improvements. Exercises to address additional recovery capacity options for Drainage 58 and scenario 5. Discharge rates in this scenario far overwhelm the two Crucial skimmers expected to perform recovery. Exercise to focus on complete containment booming at Drainage 58; the boom needs to be better anchored on its ends to prevent the large gaps observed in the past.

Sensitive Area Protection & Nearshore Response

There is a difference between nearshore response and sensitive area protection components in spill response. The missions of these two elements are not the same, though response equipment, vessels, asset management, and training are very similar and overlap. Nearshore response systems should be designed to intercept and recover oil, as that oil gets close to shore, by working the leading edge of the spill. The mission of the sensitive area protection function is to get out ahead of the spill, and boom sensitive areas prior to oil reaching and threatening those areas. The management and logistical support for both of these operations can be challenging and complex, but it's important to realize that they have different goals despite similar and/or shared resources and management.

Sensitive Area Protection

- The testing for the various GRS sites throughout Prince William Sound has been excellent and these exercises should continue.
- The new Valdez boat harbor is now operational and changes need to be made the Valdez Duck Flats protection scheme. Exercises will need to be conducted to test the new boom configurations.

Nearshore Response

Nearshore response exercises will always be high on the Council's priority list simply because of the sheer volume of fishing vessels associated with this response area. All of these vessels need to be proficient with the equipment, and equipment does continue to change over time. One example of changing equipment was internalized mini barge pumps or new 13-disc Crucial skimmer.

- The Tanker Contingency notes that Nearshore will perform recovery operations for twelve hours a day. It's inevitable that many of those hours will require operating in reduced visibility during winter months, or even foggy days in summer. As nearshore operations generally do not take place during these situations, we do not have very good benchmarks regarding what operations can safely be conducted, or how to adjust tactics accordingly. More exercises are needed to refine these limited visibility Nearshore parameters.
- SERVS has been working to ensure responder safety by taking air reads at open hatch covers while offloading Mini Barges. The open covers are necessary to some degree so that responders can watch liquid levels drop and adjust or turn off pumps accordingly. SERVS should consider mounting air monitoring sniffers on a longer pole, or using a hose or tube to get responders further away from the hatches they are opening. PWSRCAC has concerns that vapor levels could be elevated by concentrating the oil in a mini barge as mentioned previously. It's good that SERVS is working to quantify vapors in this potentially hydrocarbon rich atmosphere, and ultimately protect responder health, but the process still needs some refinement

Dispersant/ISB related

Dispersant, SMART monitoring, and ISB-related exercises tend to be practiced as individual components, and this separation of components may not reflect how these tactics would be employed in a real event. For example, it's possible that both aircraft and tug-based spray dispersant spray system would be in play at the same time, and both these efforts would need SMART monitoring from a vessel on the water as well as spotter aircraft.

- Council suggests during an exercise or training, more of the various components of dispersant application be run simultaneously and managed as they could occur in a real event, versus as separate components.

Unannounced Exercises

Unannounced drills provide the only real measure of a plan holder's ability to respond at a point in time and at a moment's notice. These drills have the ability to test areas of a response that cannot easily be tested otherwise, such as personnel readiness and resupply capabilities. There could even be unannounced aspects to a known event, such verifying responders have proper PPE once they arrive on scene or discussing what an elevated and unsafe air read would mean for responders and given process, etc.

- No-notice exercise are valuable and should be continued periodically to help ensure readiness. SERVS uses these types of exercises to good effect to monitor their rapid response fleet.

Technical Manual Tactics

Both the Prince William Sound Tanker and VMT contingency plans have technical manuals to define and explain how specific tactics and equipment would be expected to be employed during a spill.

- While some of these tactics are deployed frequently, others have not been exercised very often, if at all. A concerted effort should be made to systematically exercise each of the tactics in the technical manuals within five years of each planning cycle.

Fishing Vessels

The SERVS Fishing Vessel Program is the backbone of the oil spill response system in Prince William Sound. As such, there is a significant amount of energy and time that goes into the program. However, the reality is that most fishing vessel crews only receive the annual training and do not get called out for additional drills. It's simply difficult to build and maintain proficiency when only practicing with the equipment once a year. There are many aspects to the open-water, nearshore, and sensitive area protection elements, and even as a Tier 1 vessel, there's simply limited opportunities for practice and becoming proficient with these tasks. These activities include working in periods of darkness with open-water barges and in the nearshore environment, managing nearshore task forces for more than a single day exercise, and implementing sensitive area protection strategies ahead of the response area. More opportunities are needed for fishing vessels to become, and remain, response ready.

- While the SERVS fishing vessel program appears to be healthy in regards to the number of participating vessels, PWSRCAC recommends that SERVS continue to verify vessel availability, particularly in winter months when the fleet is far more inactive. This could include turn key exercises.

- The crewing aspect of availability is largely untested. SERVS reports “vessel” availability, but past no notice exercise events have shown that the crew component is often a scramble of captains trying to find crew, often cannibalizing other crew in the process. PWSRCAC suggest that SERVS should continue to build additional crew depth via a crew pool and that “extra” responders are allowed to train at annual trainings. This could then be verified through simple turn key exercises.