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Washington State Department of Ecology

Comments on April 24, 2019 Draft of the Oil Spill Contingency Plan Rule Update

Dale Jensen and Sonja Larsen,

Thank you on behalf of the fourteen undersigned international, national, state, and local conservation, health, and environmental organizations which represent thousands of Washington State residents, for the opportunity to provide the Washington State Department of Ecology (Ecology) with the following comments on the early draft update to the Oil Spill Contingency Plan (C-Plan) rule.

Introduction

We are writing to urge Ecology to strengthen its oil spill response regulations. The current legislatively mandated 5-year update of the State's contingency plan rule (WAC 173-182-621) presents the perfect opportunity to meet its statutory obligations to increase the requirements for oil transporters to effectively respond to a spill, including heavy oils. Heavy oils, especially diluted bitumen (dilbit) derived from Alberta's vast tar sand deposits, are likely to sink when spilled. Spills of such oils pose a unique threat to Washington State's increasingly vulnerable marine ecosystem unless they are recovered *before* they sink.

The urgency of this request is underscored by the Canadian government's imminent decision to triple the capacity of the Trans Mountain Pipeline. It is also critical to recognize the ongoing industry efforts to increase the volume of tar sands already being transported by rail, barge and tankers throughout the region.

The proposed expansion of the Trans Mountain pipeline, which already supplies Washington refineries with dilbit, has served to heighten public concern about the limitations of recovering oil, especially once it sinks. This concern was reflected in the over 14,000 public comments

Ecology received during the recent update of the Puget Sound Pipeline oil spill contingency plan that called for faster response times.

There also continues to be weekly shipments of dilbit transported by barge from the Trans Mountain pipeline terminal in Burnaby, BC to the Par Pacific (formerly US Oil) refinery in Tacoma. In addition, the Port of St. Helens on the lower Columbia River has recently approved shipments of heavy oil by rail to be received, stored, and shipped out of a facility permitted as a bio-refinery.

While the current update to the C-Plan rule provides a significant opportunity to address the threat of the increasing transport of dilbit, upon review of the draft rule update by our members it is clear that Ecology is not proposing sufficient enhancements to the oil spill response requirements that come close to addressing the need to enhance the speed and capacity to recover spilled oiled, especially those with a propensity to sink.

The proposed update appropriately acknowledges that a wide variety of oils could potentially sink based on their characteristics and environmental factors. However, this draft rule does not distinguish the unique characteristics of dilbit, which demand more stringent equipment and response time requirements than other oils in order to protect Washington's waters and all those dependent on them.

We appreciate your work thus far protecting Washington's communities, economy, and natural resources from the risk of oil spills and urge you to continue to establish the strongest possible protection from non-floating oils that are likely to submerge and sink in Washington State's waters.

The fact that the State of Washington's has not suffered the consequence of a catastrophic oil spill is not by accident but rather a reflection of our region's commitment to the concept of continuous improvement. We call on Ecology to continue to apply this concept to oil spill response as well. Furthermore, we must not conflate the infrequency of oil spills with our ability to effectively recover spilled oil.

Dilbit should be regulated commensurate to its unique risks and spill response challenges

Dilbit poses particular challenges once spilled, especially in Washington's waters for several reasons. Its chemical properties are that of both heavy and light oil. The diluents are made from varying percentages of a variety of proprietary volatile products which increases the likelihood of explosion as well as respiratory impacts. Once the light ends evaporate, the heavy bitumen is then likely to sink - hence making responding to a dilbit spill the worst of both worlds. Unless the dilbit is recovered quickly, swift currents created by the large tidal exchanges through narrow straits, would enable the oil to coat the extensive shorelines of the numerous islands punctuating this wonderous waterway.

The estuarine nature of the Salish Sea increases the likelihood of dilbit sinking. This is because the numerous riverine inputs to this inland sea not only reduces its buoyancy but also adds sediments to the water that increases the weight of the spilled oil. Furthermore, if the oil submerges but stays in the water column, the existence of numerous underwater sills separating the basins within the Salish Sea, create eddies that retain the oil within the basins. Once the oil sinks, the deep, glacially carved waterways over which most of the oil is shipped, all but renders recovery impossible. Finally, even if it was deemed desirable to use dispersants, they have been found to be ineffective in breaking down dilbit for microbial action.

We have seen multiple examples elsewhere in the country, including along the Kalamazoo River, where spilled dilbit persisted in the environment for years despite focused cleanup efforts.

Rather than establishing Best Available Protection standards--as WAC 173-182-621 requires--by increasing the speed and coordination required for a response to contain and recover heavy oil *before* it submerges and sinks, Ecology's planned update focuses on requiring diving and salvage operations to be used days and weeks after the oil has already sunk. Additional requirements for respiratory protection as well as air quality monitoring need to be established to protect oil spill responders. There should also be protocols required for notifying nearshore residents of means to protect their health and safety in the early hours of an oil spill.

The Methodology for Evaluating Spill Response Capacity is Outdated, Inaccurate, and Should Be Replaced

The most significant problem with this rule update is Ecology's failure to update the methodology used to evaluate the ability of contingency plan holders to respond to all oil spills. It was known when the vessel C-plan rule was being developed in 2012 that the current methodology was and remains outdated and has resulted in an unrealistic level of public expectation as to the protection being afforded Washington's marine environment.

History has shown that the vast majority of spilled oil in Washington waters has been recovered from shorelines rather than skimmed off the surface due to a variety of reasons underscored by the application of an outdated method of evaluating the speed and effectiveness with which oil spills can be recovered from our waters.

Fortunately, WAC 173-182-621 states (1) Ecology will review the planning standards at five-year intervals to ensure the maintenance of best achievable protection to respond to a worst-case spill and provide for continuous operation of oil spill response activities to the maximum extent practicable and without jeopardizing crew safety.

While there have been small improvements to individual plans, the current draft update to the Contingency Plan rule represents the first time the rule as it applies to vessels has been comprehensively updated since 2013 (WSR 13-01-054). [1]

According to WAC 173-182-621 **(**https://app.leg.wa.gov/WAC/default.aspx?cite=173-182-621) Oil spill contingency plan best achievable protection five-year review cycle must include:

(3) The review cycle will be used to evaluate a variety of spill operations, tools, and technologies including, but not limited to, the following:
… 3(e)Ensuring that the technology is deployable and effective in a real world spill environment…

and

(4) Ecology may use the following processes to inform and update the use of BAP in the planning standards by:...

4(b) Evaluating the recovery systems identified in the technical manual during the five-year cycle to determine best achievable technology, and inform the development of future planning standards...

(d) Conducting or reviewing studies, inquiries, surveys, or analyses appropriate to the consideration of new technologies, **plan evaluation methods including EDRC, or best operational practices.**[2]

EDRC is the Effective Daily Recovery Capacity which is a measure of a skimmer's ability to recover oil on open water. It does not include real world limitations including visibility, sea state, storage etc.

As far back as 2012 the Federal Bureau of Safety and Environmental Enforcement (BSEE) funded a study by Genwest with a primary objective "to recommend improvements to the current use of the Effective Daily Recovery Capacity (EDRC) formulation as a measure of a skimmer's ability to recover oil on open water and to scientifically validate these recommendations (https://www.genwest.com/wp-content/uploads/2017/04/Genwest_EDRC-Project_Final_Report.pdf)

[1] amends chapter 173-182 WAC, Oil spill contingency plan, to reflect changes found in chapters 88.46, 90.48, and 90.56 RCW passed by the legislature in 2011. Rule revisions are needed to update planning standards. Statutory Authority for Adoption: Chapters 88.46, 90.48, 90.56 RCW, and chapter 122, Laws of 2011 (E2SHB 1186) authorizes and directs department of ecology to implement rules on this subject. Adopted under notice filed as WSR 12-17-073 on August 14, 2012.

[2] [Statutory Authority: Chapters 88.46, 90.48, 90.56 RCW, and 2011 c 122. WSR 13-01-054 (Order 11-06), § 173-182-621, filed 12/14/12, effective 1/14/13.]

The Genwest report's findings were known during the development of the current C-Plan rule, that incorporated EDRC as its evaluation tool. The report found, "A strong and consistent theme identified by participants, was the limitations of the current EDRC and the need for an encounter-rate, performance-based measure of daily recovery potential for skimming systems."

The report goes on to say, "The importance of these activities cannot be overemphasized. Vessel and equipment staging is one of the most important aspects of oil spill preparedness and response, as it includes not only the type and amount of response resources, but the time required to arrive on scene upon notification of a spill. The nature and amount of spillage possible, the distance of possible spill sources offshore, etc. The method used by Oil Spill Removal Organizations (OSROs) to plan for and provide the right balance of shore-based facilities and offshore, centrally-located vessels, barges, and support platforms. Multi-purpose vessels such as those currently used as Platform Supply Vessels (PSVs) in the Gulf of Mexico can provide significant improvements for rapid and effective response (MSRC, 2011)." (emphasis added).

This last finding is particularly relevant in that there has been reluctance by the industry to equip tug boats with gear to assist in an oil spill despite their likelihood to be among the first vessel on scene of a spill (e.g., Neah Bay ERTV). However, the response organizations operating in Prince William Sound have adopted the use of tugs in their response assets. The implementation of the 2019 law ESHB 1578, an Act Relating to reducing threats to southern resident killer whales by improving the safety of oil transportation, should consider this finding as it requires the addition of tug escorts for small oil tankers, ATBs and some oil barges in the narrow waters of Rosario Strait.

In reference to the need to replace the outdated EDRC evaluation methodology with the alternative Estimated Recovery System Potential (ERSP) tool that was already in development at the time of the current rule completion, the 2012 Genwest Report finds: "In conclusion, the ERSP Calculator helps in meeting the following objectives. It could… Replace the use of the EDRC calculation involving a skimming system's daily capacity, and provide an operationally-based planning standard for mechanical recovery systems… EDRC sets an unrealistically high expectation even though it is a "planning" standard. ERSP is a more defendable measure of a systems capability but it is not intended to be a 'performance' standard."[3]

The public and those who are elected to represent them, are entitled to have an accurate understanding of what can be reasonably expected of a planning standard.

The Best Achievable Protection standards called for in WAC 173-182-621 also includes **"**(c) Sponsoring a technology conference during the five-year cycle in cooperation with persons, organizations, and groups with interests and expertise in relevant technologies;"

[3] EDRC Project Final Report. 2012. Prepared for The Bureau of Safety and Environmental Enforcement (BSEE) By Genwest Systems, Inc. https://www.genwest.com/wp-content/uploads/2017/04/Genwest_EDRC-Project_Final_Report.pdf

The May 20-21 2015 BAP conference agenda clearly recognized the need to update the tools agencies used to evaluate planning standards:

> 1435-1440 Introductions of New Topic, Effective Daily Recovery Capacity, Current State and Federal Regulations/Requirements - *US Coast Guard, Ecology*
> 1440 – 1600 Development of the Estimated Recovery System Potential (ERSP) Calculator – *Alan A. Allen Spiltec and Dean Dale, Genwest Systems Inc.*

On August 17, 2016 the Bureau of Safety and Environmental Enforcement (BSEE) issued a press statement on the release of four new oil spill response calculators as part of an ongoing effort to improve future clean-up efforts.

The press statement asserts that BSEE views the new response calculators as a "best practice" and strongly encourages their use to allow spill responders to better assess the oil removal capabilities of different equipment, and assist them in selecting the most effective approaches for responding to the potential spill scenarios contained within a response plan. In particular BSEE found that the:

> Estimated Recovery System Potential (ERSP) Calculator – Provides a systems-based approach that is a significant improvement over the existing Effective Daily Recovery Capacity (EDRC) planning standard. While EDRC focused only on the capacity of the skimming device and removal pump, ERSP addresses the entire system's ability to encounter, collect, contain, remove, store and offload recovered oil and water. The improvements address concerns expressed by the *Deepwater Horizon* Commission that the EDRC standard does not accurately estimate the removal capacity of mechanical recovery equipment.[4]

Not only does Ecology's continued reliance on EDRC as its tool to evaluate industry's purported oil spill recovery capacity fail to meet its statutory obligations to require Best Achievable Practices but also results in unrealistic public expectations as to the ability to recover spilled oil, no less oil that has a propensity to sink.

For example, Ecology currently credits oil spill response organizations with having enough equipment and personnel on scene with the ability to recover 12,500 barrels of oil (1/2 million gallons) in the first six hours of a catastrophic spill. One only needs to review the type and amount of oil spill response equipment caches on the Worldwide Response Resource List (WRRL) to realize that much of the State's capacity will be drawn from cascading resources that takes hours if not days to arrive on scene (https://fortress.wa.gov/ecy/coastalatlas/storymaps/spills/spills_sm.html?&Tab=nt3).

[4] https://www.bsee.gov/newsroom/latest-news/statements-and-releases/press-releases/oil-spill-response-planning-aided-by-new

While there are equipment caches distributed around the Salish Sea, there is a surprising lack of complete and capable task forces that include barges. The aging, self propelled vessels have minimal storage capacity. The website also reveals a wealth of Lund skiffs which have a very limited capacity to operate in rough water. Much of the recovered oil storage requirements are made with large (singled-hulled) barges moored in Port Angeles and "barges of opportunity."

Ecology's website states, "We currently do not have funding to sponsor research and development projects, but we are interviewing response equipment experts to get their opinions about promising new response technologies. We also track and monitor progress of other federal, state, and industry projects." (https://ecology.wa.gov/Regulations-Permits/Plans-policies/Contingency-planning-for-oil-industry/Best-Achievable-Protection).

However, the May 14-15, 2019 BAP workshop which affords the spill response community, tribal governments, and interested public to share lessons learned from spills and planning efforts, and review new technologies, does not even include discussion of the need to have a realistic oil spill recovery model. This only serves to allow Ecology continue to delay meeting its obligations and perpetuates unrealistic public expectations as to the protection being afforded our treasured waterways.

We urge Ecology to seize the opportunity provided by this 5 year Contingency Plan rule update to strengthen our region's protection from oil spills based on the best available science that includes the adoption of ESRP over EDRC.

Improving Response Time is the Most Important Tactic to Limit the Impacts of a Dilbit Spill

The 2018 Strengthen Oil Transportation Safety Act (E2SSB 6269) gave the Department of Ecology authority and a clear directive to update contingency plans to specifically address the unique characteristics and risks of potentially non-floating oils.

However, despite these gains, Washington's oil spill response program has not kept up with the latest science associated with realistically calculating oil spill response effectiveness as well as the growing and changing risks non-floating oils pose to our region. The National Academy of Sciences found that existing response equipment is inadequate to respond to oil once it has sunk: "In cases where traditional removal or containment techniques are not immediately successful, the possibility of submerged and sunken oil increases. *This situation is highly problematic for spill response because (1) there are few effective techniques for detection, containment, and recovery of oil that is submerged in the water column, and (2) available techniques for responding to oil that has sunk to the bottom have vari- able effectiveness depending on the spill conditions.*"[5] (emphasis in original).

[5] https://www.nap.edu/catalog/21834/spills-of-diluted-bitumen-from-pipelines-a-comparative-study-of. pp 24

Specifically, we are asking that before releasing the draft C-plan rule to the public, that Ecology include specific and significant reductions in the time in which oil spill responders are required to encircle a spill of dilbit with oil spill containment boom designed for swift currents. In addition, Ecology must require that spill responders have appropriately fitted and capable respiratory protective gear. These changes would reduce the likelihood of the oil spreading or sinking so that skimming operations can be effective.

Spill Response Organizations Must Use the Best Available Technology (WAC 173-182-030(4))

In addition to these enhancements to the recovery of oil from the surface of the water, spill response organizations need to be required to have the latest technology to detect oil once it has submerged and to develop new techniques to improve the effectiveness of underwater recovery efforts. For example the ability to use water penetrating LIDAR to detect sunken oil was discussed at the BAP conference May 21-22, 2019. It has become increasingly clear over the years that Ecology and the entire NW Area Committee are preparing to increase the likelihood of deploying dispersants as a spill response tool. The reason for this is obvious. The failure to require the adequate stockpiling of equipment task forces and trained personnel in high risk places like the San Juan Islands, results in dispersants becoming the default response tool.

Decisions About the Use of Dispersants Must Be Deliberative, Cautious, and Transparent

Despite the questionable effectiveness of dispersants or the advisability of making oil more bio-available, Ecology must require that the scientific support officers in the incident command are prepared to provide data as to the relative productivity of existing ocean conditions prior to making a decision whether to deploy dispersants. If the decision is to be described as a tradeoff between impacts to the shorelines and birds (assuming effective) vs impacts to the marine environment, then there must be some way of evaluating what is likely to be impacted subsurface. The same is true for damage assessment work, including for sinking oils.

It is suggested that until other sources of information can be obtained, that the incident command be informed of the current chlorophyll concentrations and upwelling intensity as proxies of relative productivity as compared to the regular sampling that has occurred for over a decade.

Wildlife Response Requires Additional Detail and Capacity

We also ask that updates to the wildlife response sections address the full range of wildlife response actions, including reconnaissance; deterrence; pre-emptive capture and relocation; recovery, stabilization, and rehabilitation; and the immediate removal of oiled carcasses. Updates to the wildlife response sections also need to specifically address the nekton and benthos marine animals that could be impacted by a non-floating oil spill. The current draft contingency plan update requires wildlife response actions to initiate within twelve hours of spill notification with the arrival of just two wildlife response personnel and the deterrent

equipment to have arrived on scene. It is essential that wildlife response actions are initiated as soon as possible. In particular, deterrence actions that keep wildlife from entering a spill, are critical to have underway in the first hours following a spill.

Regional Studies Should Be Reviewed and Their Recommendations Incorporated

Finally, there are regional studies that include recommendations to address contingency plan deficiencies (e.g., the 2015 San Juan County Oil Spill Response Capacity Evaluation). These recommendations should be included in this update, or at the very least, thoroughly considered.

Special attention needs to be given to the protection afforded the San Juan Islands given that risk is defined by the product of likelihood and consequence. Located between the source of the dilbit oil terminal to the north and the markets for the oil to the South, San Juan County is exposed to the highest likelihood of a spill, especially when considering navigational challenges such as Turn Point and the conflicting traffic heading to and from the Port of Vancouver. The consequence of a spill in the San Juan Islands would have the greatest likelihood of impacting the endangered population of Southern Resident Killer Whales due to their prevalence on those waters. Furthermore, oil spill recovery would be very challenging given the swift currents and depth of the Straits, both underscoring the importance of requiring early containment of a spill in this biological oasis of the State.

Thank you for taking the time to address this important issue. Additional comments and proposed approaches and standards are discussed in the attached technical comments i.

Sincerely,

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