Summary Comments on Subpart J

This document provides a brief summary and analysis of the key issues identified by Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) regarding Subpart J as identified in our detailed review of the document. We prepared this document to highlight issues and questions that our member organizations and other interested stakeholders may consider raising in drafting comments of their own to the Environmental Protection Agency on the Subpart J rulemaking. The following 11 issues are the key ones identified in our review:

Council Position on Dispersant Use in Prince William Sound

Cautious Approach to Use of Chemical Agents

Emphasis on Science-Based Decision-making

Toxicity and Sub-chronic Effects of Chemical Agents

Emphasis on Preauthorization

OSC Discretion and Decision-making

Unilateral Authority of EPA Administrator

Subsurface Dispersant Use

Consensus Standards

Sinking Agents

Reliance on Responsible Party and Manufacturer Science

Council Position on Dispersant Use in Prince William Sound

PWSRCAC has taken a leading role in researching chemical dispersant efficacy and toxicity in our region. Our chemical dispersants program has been in place since 1997, and through this program we have funded a number of research studies, literature reviews, and technical analyses. In 2006, our Council adopted the following position on dispersant use in the Prince William Sound region:

> *After years of observing dispersant trials, dispersant effectiveness monitoring, advising and sponsoring independent research regarding chemical dispersant use,*

> *it is the position of the Prince William Sound Regional Citizens' Advisory Council (the Council) that dispersants should not be used on Alaska North Slope crude oil spills in the waters of our region. Until such time as chemical dispersant effectiveness is demonstrated in our region and shown to minimize adverse effects on the environment, the Council does not support dispersant use as an oil spill response option. Mechanical recovery and containment of crude oil spilled at sea should remain the primary methodology employed in our region.*

PWSRCAC appreciates the Historical Background provided by EPA in the Statutory Authority section of the proposed rule, because it affirms the longstanding preference for mechanical recovery as a primary oil spill response tool, with dispersants as an alternative **only** "if other control measures are judged to be inadequate or infeasible." This is an important concept that still applies today, as mechanically containing and recovering spilled oil is always preferred over other spill treatment options because mechanical recovery is the only option that removes oil from the environment.

While PWSRCAC does not support dispersant use in our region, we understand that chemical dispersants are a secondary response tool that can and have been used both in our region and in other areas of the United States. For as long as dispersants remain as part of the National Response Framework, we advocate for a strong science-based approach to dispersant use guidance and decision-making. Our comments identify several areas where EPA could enhance the proposed rule by clarifying the thresholds or procedures for incorporating scientific data into response planning and operations.

Cautious Approach to Use of Chemical Agents

PWSRCAC applauds EPA for clarifying, through this proposed rule, that the agency has the responsibility and authority under the Clean Water Act not only to establish a Schedule for oil spill treating agents, but also to identify the waters and quantities in which they may be safely used. The National Contingency Plan (NCP) clearly establishes mechanical recovery as the primary and preferred oil spill removal method, and decisions to treat an oil spill with chemicals must be made in a cautious and deliberate manner.

PWSRCAC believes that through the proposed rule, EPA is making it very clear to manufacturers, the response community, and the general public that chemical agents should only be applied to oil spills when there is clear, science-based evidence that these agents will (1) be effective in treating the oil spill such that the adverse impacts of the oil spill will be reduced, and (2) not pose the risk of enhanced toxicity from the treated oil or the agent itself. PWSRCAC strongly supports this cautious approach, and we have identified several areas in the

proposed rule where EPA should add clarifying language to reinforce this critical concept.

PWSRCAC also recommends that EPA acknowledge that entities potentially affected by this proposed rule include a broad range of constituents who rely on the health of the marine ecosystem, including commercial fishing, subsistence uses, tourism, recreation, passive uses, and traditional and customary use.

Emphasis on Science-Based Decision-making

PWSRCAC strongly supports EPA's emphasis of science-based decision-making in the proposed rule. We recommend that wherever possible, the Schedule should establish quantitative limits or thresholds for chemical and biological agents. These thresholds will inform both preauthorization planning and On-Scene Coordinator (OSC) decision-making during an incident.

PWSRCAC has supported significant scientific research into dispersants and oil spill treating agents; many of our peer-reviewed studies are cited in the proposed rule. We have cited our comments to the published literature wherever possible, and many of our comments note areas where the proposed rule does not necessarily reflect the prevailing knowledge as captured in scientific publications.

While it is important to ground oil spill response policy and decision-making in science, it is equally important that EPA acknowledge areas where the foundational science contains uncertainties. In the wake of the Deepwater Horizon spill response, there has been significant effort among federal agencies and leading researchers to clarify areas where there is consensus about chemical treating agents (primarily dispersants), and areas where uncertainty prevails. In light of this fact, we encourage EPA to be as transparent as possible about areas where scientific data is sparse or consensus is lacking. In order for the public to have confidence in oil spill response decision-making, there must be clear and plain acknowledgement of scientific uncertainty.

PWSRCAC also recommends that EPA consider and acknowledge the fact that the current rulemaking, like the previous Subpart J regulation, relies upon manufacturer-provided science on both efficacy and toxicity. This creates an inherent conflict of interest, and while EPA is establishing parameters and criteria for these studies, we suggest that the agency go a step further and observe or supervise independent science to verify results of manufacturer studies.

PWSRCAC maintains a dispersants research literature synthesis and database, updated annual, which we recommend as a reference.[1]

Toxicity and Sub-chronic Effects of Chemical Agents

Petroleum oil products are a highly complex set of chemicals that consist of a variety of constituent components, many of which are toxic to humans, flora and fauna. Toxic impacts may be acute or chronic, direct or indirect. Chemical or biological agents used to treat oil spills may influence the toxicity of oil products and their constituents, and it is critical to compile as much information as possible about potential toxicities before treating agents are applied to a spill. Ongoing studies from the Deepwater Horizon well blowout show that dispersant use during that spill had adverse impacts to respiratory function in both humans and fish. (Fu et al., 2015; UAB, 2015)

EPA has traditionally relied upon a limited set of toxicity tests on a few select species to establish toxicity data for oil spill treating agents. Two temperate species have been used as the basis for toxicity evaluations, even for areas like Alaska where these species do not exist. Toxicity testing has been limited to a narrow range of acute effects that may overlook other important mechanisms through which chemical treating agents may cause harm to wildlife and the environment. The proposed changes to Subpart J make some adjustments to the testing approach, but these are not sufficient to inform a complete understanding of toxicity, particularly for sub-chronic effects.

PWSRCAC recommends expanded requirements for toxicity testing to evaluate the full spectrum of potential adverse endocrine, immune, or developmental effects to human populations or the environment. A multi-species, system-level approach is essential to accurately predict both the protective and detrimental effects to both humans and the natural environment from the application of dispersants to accidentally released oil. We recommend that EPA consider how other programs – such as drinking water or food safety – assess potential toxicity to humans and the environment and apply the same rigor to chemical agents. The proposed new focus that addresses endocrine disruptors is an excellent first step.

Emphasis on Preauthorization

The proposed rule heavily emphasizes the preauthorization process. PWSRCAC recognizes that preauthorization planning is important and should be undertaken in a collaborative and scientifically rigorous manner. However, we are concerned that EPA is over-emphasizing preauthorization at the potential expense of case-by-case decision-making. The proposed rule correctly notes that

[1] http://www.pwsrcac.org/programs/environmentalmonitoring/dispersants/dispersant-literature-reviews/

given recent advances in connectivity, it is much easier for OSCs to consult with natural resource trustees and subject matter experts to inform all aspects of oil spill response. Since it is so much easier to convene a discussion in real time, case-by-case decision making should be feasible for most spills, eliminating the need to prescribe decisions through pre-authorization. Wherever possible, consultation with trustees and scientific experts should be a priority – even in cases where preauthorization is in place.

The emphasis on preauthorization planning also creates the false impression that oil spill treating agents are regularly or commonly used in the U.S. With the exception of the Deepwater Horizon oil spill, non-mechanical oil spill response methods are still the exception, not the rule. Given how infrequently oil spill treating agents are used, the amount of time and energy devoted to preauthorization planning may be better allocated to establishing a strong mechanism for case-by-case decision-making or other types of oil spill preparedness and planning.

Case-by-case decision-making is important because there are still significant uncertainties about the efficacy and toxicity of oil spill treating agents. Most of the data that is used to inform decision-making is derived from laboratory experiments that are often a poor proxy for real-world performance. Preauthorization plans cannot foresee all possible circumstances during which a spill response may occur, and the effectiveness and toxicity of treating agents is influenced by a complex and nuanced array of inputs. Five years after the Deepwater Horizon spill, there are still significant gaps in knowledge about the effectiveness and toxicity of subsea dispersant use. A recent report by the U.S. Geological Society notes that there is insufficient science to support dispersant use decision-making (Holland-Bartels and Pierce, 2011). We simply do not have reliable science to foresee the short and long-term consequences of oil treating agents; therefore, the precautionary principle must be applied during all incidents, even when they occur within the bounds of preauthorization.

PWSRCAC recommends that EPA refocus the proposed rule to ensure that case-by-case decision-making processes are assured wherever possible, even in areas where oil spill treating agents have been preauthorized. No plan can substitute for professional judgment, real-time data, and local knowledge.

OSC Discretion and Decision-making

The proposed rule represents a significant improvement over the current Subpart J process, which requires that manufacturers of oil spill treating agents provide documentation to the EPA. EPA then reviews the documentation for accuracy and, if complete, publishes to the Schedule. This system relied on the OSC to evaluate the information in the Schedule and to "judge whether and in what

quantities a product may be used to control a potential discharge." The proposed changes to Subpart J would assign a more active role to the EPA in reviewing and vetting the information submitted by a manufacturer, and would require EPA to make a determination about whether or not to include a product on the Schedule based on a technical review of the data. This is a major improvement over the current system, and PWSRCAC strongly supports EPA's proposal to take a more active role in reviewing submissions to the Schedule.

However, we are concerned that the proposed rule as written gives the OSC broad discretion to override preauthorization and make exceptions to virtually all components of the proposed rule. While the OSC will presumably have a strong background in pollution response and incident management, this person may not have the scientific or technical background to make decisions that override Subpart J product listings and regional preauthorization planning. The value of preauthorization planning is the fact that subject matter experts and natural resource trustees have a clear role in developing these plans and policies. Similar rigor should be applied to case-by-case decision-making.

The proposed rule as written empowers the OSC to use real-time data to inform decision-making. PWSRCAC supports this idea of science-based decision-making, but cautions that the OSC may not have sufficient independent expertise to interpret and apply such data. Natural resource trustees with local knowledge must have an active role in response decisions regarding chemical or biological agents. The Area Committee (AC) and Subarea Committees (unique to Alaska), State and Federal Trustee Agencies, Tribal entities, and Scientific Support Coordinator (SSC) all play important advisory roles to inform the OSC about scientific issues related to the use of oil spill treating agents.

PWSRCAC recommends that EPA revise the rule to create clear accountability for the OSC to consult with subject matter experts and trustee agencies. It should also clarify where consultation vs. concurrence is required to override preauthorization plans or make independent decisions about oil spill treating agents.

Unilateral Authority of EPA Administrator

PWSRCAC has strong concerns about the proposed language that would give the EPA Administrator, under Subpart H, unilateral authority to bypass both Subpart J and regional preauthorization plans. As a national political appointee, the EPA Administrator should not be in the position to override consensus decisions or policies developed by local natural resource trustees. This option undermines both Subpart J and the preauthorization planning process. PWSRCAC does not believe that decisions about local application of spill treating agents in Alaska should be made in Washington, D.C. by a single agency

head. We recommend removing this provision from the proposed rule. If it is retained, we suggest that the EPA Administrator should be required to obtain concurrence from his or her counterpart within federal trustee agencies – i.e. the NOAA Administrator, DOI Secretary, etc.

PWSRCAC recommends that EPA require that in any case where exceptional decisions are made to use oil spill treating agents – whether that decision originate with the OSC or the EPA Administrator – a transparent public record must explain these decisions and their scientific rationale.

Subsurface Dispersant Use

PWSRCAC has concerns about the manner in which the proposed rule considers subsurface dispersant use as an established approach. PWSRCAC does not believe that there is enough data demonstrating that dispersants add value to subsurface oil spill response. In an area like Prince William Sound, where we do not have exploration and production but do have the potential for a subsea release from a damaged or sunken tanker, we are concerned about the potential for the new Subpart J rule to open the door to preauthorized use of subsurface dispersants in Alaska.

The unprecedented and highly contested use of dispersants during Deepwater Horizon seems to be considered by EPA as justification for expanding dispersant use and encouraging preauthorization for subsea releases, when there is very little science to support subsea dispersant use decision-making. Techniques for measuring effectiveness of subsurface dispersant applications are unproven. Oil that came ashore during the Deepwater Horizon oil spill contained dispersant, indicating that some proportion of the "dispersed" oil actually impacted the shoreline. In fact, a mixture of oil and dispersants continues to make landfall, years after this spill. Non-degraded oil has been documented throughout the Gulf of Mexico environment. All of this casts serious doubts on the efficacy of the subsurface dispersant application during that spill, and certainly points to the need for additional research before subsurface dispersants can be considered a mature spill treatment option.

The State-of-Science for Dispersant Use in Arctic Waters working group, a consortium of leading dispersant scientists in which PWSRCAC participates, has expressed uncertainty about the effectiveness of subsea dispersants under some conditions, and about the ability to measure effectiveness for sub-surface applications.

For these reasons, PWSRCAC urges the EPA to remove subsurface dispersant application from Subpart J at this time, and revisit the issue in the future when

there is more definitive science to inform the tradeoffs involved in applying dispersants to subsurface oil spills.

Consensus Standards

The proposed rule contains a number of new or changed requirements for efficacy and toxicity testing for chemical and biological agents, with the goal of using standard, repeatable approaches that will make it easier to compare results across products and manufacturers. The State-of-Science for Dispersant Use in Arctic Waters working group is in the process of establishing a consensus opinion about the importance of standardization in dispersant testing and monitoring methods, and they have noted in their deliberations that standard measurement methods are crucial to acceptable data generation.

PWSRCAC advocates for the use of consensus standards where available to ensure consistent methodologies are applied during scientific testing. We are concerned that EPA is proposing to abandon the consensus standard for dispersant effectiveness that has been in place for years and is currently used in 20 countries, including the U.S. We understand that there are advantages and disadvantages of both the existing (swirling flask) and proposed (baffled flask) technique for dispersant effectiveness testing, and we recommend that EPA ensure that, if the standard technique is changed, comparable standards are provided for the baffled flask test. It is most important to ensure that efficacy tests are carried out in a controlled and replicable manner. EPA should ensure that – regardless of the technique - dispersant efficacy tests are conducted by **certified** chemists working in **certified** laboratories using **certified** procedures (ASTM swirling flask test).

PWSRCAC agrees that the development of new consensus standards may be appropriate to inform scientific testing and comparison of oil spill treating agents. We recommend that any new standards adopted in Subpart J meet the following criteria: 1) improve reproducibility of the tests within a laboratory; 2) certified cross validation between laboratories; 3) provide adequate discrimination between agents being tested; and 4) facilitate testing of all necessary variables (such as temperature and salinity) that may influence efficacy or toxicity.

Sinking Agents

The Statutory Authority section of the proposed rule makes note of the historic prohibition of sinking agents, which dates back to 1984. PWSRCAC strongly supports EPA's ban on the use of sinking agents in the proposed rule. However, we are concerned that the rule creates some ambiguity about other agents that may act like sinking agents under certain conditions (such as oil mineral aggregates or clays), and we urge EPA to clarify that *any agent that causes oil to*

sink to the bottom is considered a sinking agent under conditions that may lead to sinking, and is therefore banned from use in U.S. waters.

Reliance on Responsible Party and Manufacturer Science

Throughout the proposed rule, requirements are proposed for testing and monitoring to be conducted by the Responsible Party, RP, (at the time of a spill) or the Chemical Agent manufacturer (for listing agents on the Schedule). PWSRCAC strongly urges the EPA to consider all possible opportunities to require independent science or rigorous peer review of all studies that are conducted by the RP or vendor. When a spill occurs, the RP faces significant civil and criminal liability based on environmental damages, including damages caused by spill treatment decisions. This creates a conflict of interest for assessing potential adverse impacts from treating agents.

Similarly, the product manufacturers and vendors have a financial interest in selling their product, and therefore have a motive to present results that might overestimate potential effectiveness or understate toxicity. We recommend that the EPA consider opportunities to audit or independently vet studies to ensure fairness and transparency.