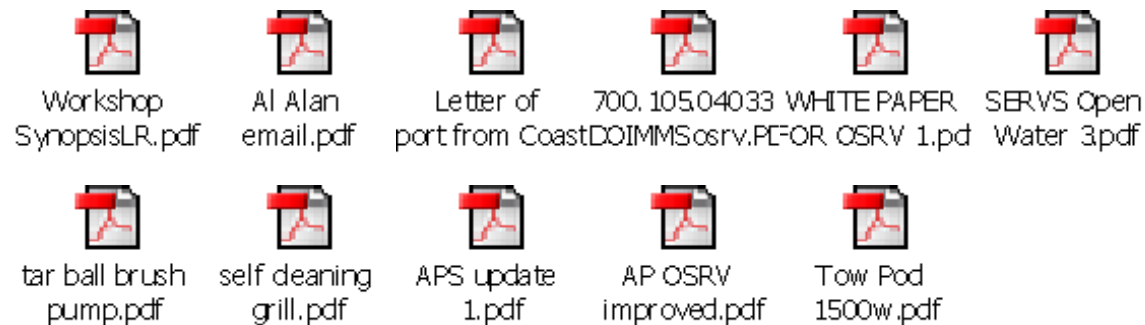


From: Tom Lakosh [mailto:lakosh@gci.net]
Sent: Monday, May 05, 2008 10:32 AM
To: 'Larry Hartig (Larry.Hartig@alaska.gov)'; Larry.Dietrick@alaska.gov
Cc: Edmond Paul Thompson (ThomEP@bp.com)
Subject: update and request in Informal Review



Notice of Update of Proposed Alternatives and Second Request for In-person Resolution of Informal Review

Requestor Tom Lakosh now provides this update of his proposed alternative skimming system, the All Purpose Oil Spill Response Vessel, (AP OSRV). The RPG has commented that Lakosh's proposed alternatives are not available because they require additional development. Requestor concedes that the AP OSRV as designed has not been tested nor is it commercially available, but an earlier version has been preliminarily vetted by experts and proposed for development as potentially providing advancement of response needs, (see attached Oil in Ice Conference Synopsis, Al Allan email, USCG and RCAC recommendations and Avis/BMT proposal), with some of the pertinent sections being:

“Multi-purpose Oil and Ice Skimmer: combination of off-the-shelf, proven components has merit but concept is not considered R&D. Applied engineering needs to be drive[n] by potential users working with manufacturers.”

“Yes, your idea just might work. It really does need to be tested full scale, and therein lies the problem. As indicated, I'll keep the ideas in mind and see if I can help identify interest/\$ to help develop the ideas.”

“This technology has tremendous potential. To develop mechanical oil spill response equipment which performs effectively in rough seas and sea ice conditions will bring peace of mind to those in the oil exploration industry as well as to Regulators and our environmental Stakeholders who demand nothing less than safe and spill-free transportation of petroleum products from start to finish.”

“The proposed AP OSRV design attempts to address a wide range of physical environments and weather conditions that present the most challenging problems for oil spill response worldwide.

After initial review of the AP OSRV concept and proposed objectives, the PWSRCAC Board of Directors believes this technology is appropriate for further research efforts.”

This concept is provided in a good faith effort to advance response capability beyond that level of commercially available technologies and to reduce overall costs that would otherwise be required for acquisition of multiple skimmers and vessels needed for each type of specialized response equipment. Because the AP OSRV could operate in high seas, high currents and concentrated broken ice conditions while providing very high recovery rates, its development could eliminate the need for a redundant Ocean Buster barge(s) with a BAT tug(s) and multiple additional vessels using the Lamor Oil and Ice Separator recovery system. Duplicate response inventories could otherwise be required as “Breakthrough Technology” for their specialized capability in addressing different problematic conditions present at different locations within any given Region of Operation under consideration. The cost advantage is obvious when it is considered that the AP OSRV could be sent to virtually any location, in any Alaskan Region during any season and operate effectively beyond the capability of most other specialized equipment. The mandated alternative is to maintain redundant inventories of specialized equipment so that the RPS could be met at specific locations where conditions are particularly problematic due to challenging ice, current and/or sea state conditions. OSRVs do not lose maneuverability when tug-barge interactions would otherwise become destructive in higher sea states requiring switching from maneuvering “on the hip” to use of a long towline, (thruster assisted barges could minimize this maneuverability problem). OSRVs are not subject to deployment delays waiting for a tug to show up where it may be temporarily occupied with another conflicting tug duty such as laden tanker escort, sentinel escort, tanker of opportunity maneuvering, docking or firefighting/fire watch.

Requestor’s updated AP OSRV design incorporates Oleophilic brushes that eliminate the need for secondary ice separation process inboard, (as shown in the SERVS file drawings), but ice chips < ½ “ may still need to be melted with floating heating coil trays and emulsions broken by sprayed de-emulsifier for processing to salable quality. The addition of air bubbles at two levels provides mechanical filtration of the water column to the depth of the OSRV and helps clean oiled ice, generating a higher total efficiency. The addition of the Foil Net allows for more effective slow speed/static skimming, particularly in ice by creating a higher current at the surface that assists oil and ice submergence under the inclined plane. In addition to the submergence effect, the foils provide a mechanism for air bubble distribution but because the entire Foil Net flexes, the foils just deflect when larger ice sheets/bergy bits are in the path of the skimmer. Lakosh also developed the Tow Pod for high-speed, remote-controlled boom towing in open water that can also function as auxiliary OSRV propulsion. The attachments show several iterations of the design with the latest features being the tar ball brush pump and self-cleaning grill mounted on the APS Update and using the Foil Net shown in the AP OSRV improved drawing, (attached). This new skimmer design presents about 60 times the surface area for ice separation than is currently used by permittees on the North Slope or as otherwise suggest by other offshore developers. All other ice skimming techniques used in Alaska cannot effectively separate the oil from broken ice. The Lamor Oil and Ice Separation system is much more effective than Alaskan systems but has low recovery rates, relative to the AP OSRV, has operational limits of low sea states because it is fixed against the hull, a narrow current band, (1.75 to 2.75 knots), and recovered oil would still require substantially more processing to generate resalable oil because of ice <1.5” entrained by its brush mops.

The use of outriggers and/or Tow Pods allows for independent operation of OSRVs/OSRBs thereby reducing/eliminating the need for boom towing vessels that are not only expensive to maintain, man, train and deploy, but that also limit the RMROL of the more robust tug, OSRV, barge and/or skimming system. The proposed changes to the Ocean Buster ISS are similarly recommended to address recovery of very viscous emulsions containing debris that even Almaritim has admitted are still problematic.

A similar opportunity for cost savings and advancements in capability exists with consideration of the suggested BAT Hinchinbrook Entrance Tug, the SXT 121, which has received preliminary vetting by Glosten and Voith, (except for the X-BOW which Glosten suggests should otherwise be more akin to the Damen Axe-Bow). The PWS RCAC is advocating for consideration of a salvage tug similar to the Don Inda or Abeille Bourbon, and a new tug will likely be necessary to meet the new USCG salvage towing requirement in any event, (the bow and bridge of current escorts are not designed for distal GOA rescue or in undetected Barrier Jets in the Entrance, are not as stable or dry as salvage tugs and existing escorts would probably need more power as well). These very large and expensive vessels, even with their multiple thrusters fore and aft, would have trouble effecting towline connection in heavy seas and would have very little other utility in the escort system. Requestor's proposed alternative: would cost less than half the price of new European salvage tugs; could be designed with at least equivalent sea keeping capability, and; would be able to perform primary, secondary and HE escort tug duties better than any tug presently in our inventory. The Ulstein X-BOW minimizes vessel pitch for crew comfort and allows high speeds in severe seas for timely rescue when it's needed the most. This bow design provides a wave resistant bridge and accommodation for rescued vessel crews and passengers as well. The VSP drives with active roll stabilization provide unparalleled maneuverability that allows the tug to keep its bow into the waves, (dry aft deck), while nimbly approaching the disabled tanker for safe towline connection and the unparalleled roll stability also provides for safe deck operations in severe sea states. The aft Z-drive is only need for extra power to turn a tanker into the wind in severe seas but the TractorPlus design has proven itself as an effective escort tug in Puget Sound.

Apart from the seakeeping and power deficiencies of our escorts in severe sea states, their inability to exert sufficient forces to evade collisions and groundings within PWS in adverse circumstances using the safer but less effective single escort arrest procedures adopted in this C-plan is in question. Although DEC could not order structural modifications of tankers due to federal preemption, the parties should at least explore the possibility of modifying transom bollards and chocks to allow connection of both escorts at the tanker stern if it speed reductions are not deemed practical. The performance standards in 33 CFR 168.50 allow escorts to act "...singly or jointly in any combination as needed..." to "...safely bring the tanker under control..." but we have yet to devise a method to safely utilize the power of both escorts in a timely manner. Operation of two tugs in close proximity would necessarily require exclusion of the less maneuverable conventional tugs as escorts, but they would be excluded in the individualized escort BAT analyses required by law anyway. The ability to employ simultaneous use of two advanced escorts for braking and steering, (PRT braking in transverse arrest and ETT steering to starboard in indirect mode), at the transom would likely eliminate the need for speed reductions but it would be advisable to close the shoreward half of the traffic lanes in Valdez Arm to laden tanker traffic in order to provide sufficient sea room for tanker arrest in any event. If an ETT is a necessary escort for each transit, however, we would need an ETT to be available all of the time and maintenance sometimes leaves us with only one ETT, precluding simultaneous laden tanker transits. Construction of the SXT 121 would cover this situation where it could operate in indirect mode for effective tanker steering during continuous escort from the VMT to the Entrance. In fact, the extra power/size of the SXT 121 may well eliminate the need for dual escort arrest altogether thereby eliminating the need to restrict its use to the first of two laden tankers in simultaneous transit.

Although DEC may possibly be able to sustain a conclusion that Requestor's proposed conceptual designs are not sufficiently developed to warrant classification as BAT for their proposed duties, as the RPG has pointed out in its Comments, permittees may undertake their own research and development to meet their BAT obligations. I'm confident that if the effort was expended, we would be blessed with the same substantial advancements in reduction in risk of spill damage as have been achieved with the

ETT and Millennium Class Tankers, and to a lesser extent, the Alaska Class tankers and PRT. The risk reduction provided by redundant tanker propulsion and steering warrants special exemptions from certain escorting/transom modification requirements but a tethered tractor tug would likely still be necessary for avoidance of collisions with high speed ferries and cruise ships. The need for more and/or better salvage and response equipment should, however, be painfully obvious at this juncture and Requestor's proposed alternatives should be closely examined for their cost cutting potential if not solely for their superior capabilities. Requestor is therefore again requesting an in-person meeting to conduct a dialogue on these and other issues in a good faith effort to resolve these matters before any subsequent decisions or litigation force acquisition of less capable and more expensive alternatives that would be required to meet the BAT regulatory mandates. Moreover, if these issues are not fully addressed in Informal Review, any subsequent adjudication may have no remedy available other than permit revocation, causing an extended cessation of oil revenue that nobody wants. We can work out an orderly upgrade of equipment now without the threat of revocation, but any negotiations must be conducted in good faith with a serious commitment to substantial improvement of our spill prevention and response capability across the entire range of tanker traffic as it may occur within 200 nm of the Alaskan shoreline. Recent oil prices have also given us an opportunity to advance capability without painful reductions in revenue and with creative cost sharing among non-tank vessels, facilities, USCG, MMS, BLM and international vessel traffic, there may be very little reduction in revenues if any at all. The proper sharing of costs may, in fact, increase crude oil revenues because many of SERVS major assets could also be required for the response at non-crude facilities and to meet the salvage, firefighting, lightering and spill response requirements of non-crude carriers and non-tank vessels. No other spill response contractor has these large vessels that are clearly of the minimum size required to safely operate in Alaska's severe conditions that are even present in otherwise sheltered bays due to williwaws.

There are many subtle considerations, (e.g. it may be possible to show preference for those Shippers that have substantially reduced risk at considerable cost), that should be fully debated in-person and that is why both the PWS RCAC and Requestor have sought the concurrent non-formal venues for resolution of outstanding C-plan deficiencies. Irrespective of the reduction of some risk, it is not permissible to eviscerate spill response regulations. Permittees must still make a good faith effort to meet the RPS and sensitive area protection requirements within their Regions of Operation using sufficient quantities of "Best Available Technology" as defined by statute and regulations. Please allow further negotiations on these issues as there may be negotiated solutions for improving spill response and risk mitigation that may not otherwise be available in subsequent litigation. Requestor is willing to pursue negotiations for extended periods, so long as they are conducted in good faith, provide for an orderly resolution of discrete issues, and provide for a due process appeal of disputed legal and factual issues. Tom