SUMMARY

Design Workshop:
Prince William Sound Response Capacity Analysis

Prince William Sound College Training Room
Valdez, Alaska

November 3, 2015

Participants
Anna Carey, Steve Russell (ADEC)
Mike Day, Scott Hicks, Andres Morales (APSC/SERVS)
Catherine Berg (NOAA)
Sharry Miller (PWSC)
Scott Pegau (OSRI)
Roy Robertson, Jeremy Robida, Donna Schantz, Linda Swiss, Nelli Vanderburg (PWSRCAC)
Jim Herbert, John LeClair, Alisha Sughroue (PWSRCAC – OSPR)
Sierra Fletcher, Tim Robertson (Nuka Research)
CDR Joe Lally, LT Keyth Pankau, LT Jason Scott (USCG)

Purpose of the project & workshop
The purpose of the project is to:

1) Better understand PWS response system *as a system*
2) Analyze impact of potential enhancements/modifications
3) **NOT FOR** regulatory compliance

The purpose of this workshop is to:

1) Ensure that PWSRCAC staff, board, and key partners understand the purpose of the project and the analytical approach.
2) Gain input on research questions, assumptions, and inputs that will be used for the analysis.

This project is being conducted as part of PWSRCAC's current Fiscal Year budget. They are currently working on the next 5-year plan, but anticipate potentially implementing additional analysis and/or outreach related to this project.

Presentation
Tim Robertson (Nuka Research) presented the approach Nuka Research has developed to conduct a response capacity analysis using the Response Options Calculator (ROC), which models oil weathering and potential on-water recovery. Another option is to use the Recovery System Calculator (RSC), also developed by Genwest Systems, Inc., which facilitates the analysis of individual systems (i.e., strike teams) though does not incorporate oil weathering directly (instead, inputs such as slick thickness are entered by the user rather than modeled). The presentation focused on the use of the ROC to develop estimated potential capacity of an overall response system based on a series of modeled scenarios, with the potential to change

inputs such as response system composition, transit time, wind, water temperature, time of year, and other factors. Nuka Research has used this approach in previous response capacity analyses.

Slides are available at: nukaresearch.com/pws

Approach
The group first agreed on the conditions for a baseline response scenario (see below):

- Location: Abeam of Naked Is. in tanker lanes
- Type of Release: Continuous release over 10 hrs (may be changed to batch spill)
- Size of spill: 150,000 bbl
- Oil: 2012 ANS crude (if RSC is used for potential recovery, ROC can still be used for weathering model to determine slick thickness, etc. at different times)
- Time of spill: 2 am
- Date of spill: Spring equinox
- Duration of modeled response: 5 day response (modeled)
- Wind = 25th percentile for spring
- Water temp = Median for spring
- Recovery in darkness would be included for open water task forces (OWTF) at a reduced throughput (TBD); transit & offloading OK (using civil twilight to delineate)

Next, the group discussed subsequent scenario inputs to understand the impact of changes in wind speed, season, skimmer type, and transit/offload time on potential recovery capacity.

After extensive discussion, the group instead recommended that the approach should be to analyze "systems within the system" as representative of the system overall. For example, to compare the potential recovery achieved with different variations of a single open-water strike team (OWST), instead of estimating total potential recovery from all the OWST that could possibly be mobilized in PWS.

The intent behind this alternate approach is two-fold: (1) focus time and resources on exploring options to optimize the system by studying one strike team at a time, rather than developing inputs to model the whole system, and (2) foster collaboration by disassociating the results from existing regulatory measures of performance or planning requirements (i.e., the response planning standard, or recovery calculations used in the state contingency plan).

In studying the optimization of OWST and nearshore strike team (NSST), consideration will be given to decant time, availability of mini-barges, and queuing for secondary storage offload.

The ability of responders to implement the J-boom configuration is a concern to some, but not something that can be studied in this analysis. Nor will it study the impact of resources coming from outside PWS (as this would require a study of the whole system) or modifications to strike teams beyond those listed above.

Research questions
Research questions will determine the inputs and assumptions used for the analysis. The group discussed multiple options, as discussed above, but ultimately suggested that the study should focus on the optimization of system configurations relate to containment (swath width and speed of advance), skimming, and both primary and secondary storage. This will be

examined for both OWST and NSST.

- What is the optimal configuration of containment, skimming, and storage (primary and secondary) for the following on days 1-5:[1]

    - OWTF: Transrec weir
    - OWTF: CB8 w/ oleophilic skimmer
    - NSST w/ CB4:
        - Weir skimmer
        - Oleophilic skimmer
    - NSST w/ J-boom:
        - Weir skimmer
        - Oleophilic skimmer
    - Valdez Star
    - NSST w/ CB2:
        - Weir skimmer
        - Oleophilic skimmer

Next steps

1. Nuka Research circulates draft workshop summary for review (Deadline: Nov. 20, 2015)
2. Nuka Research circulates proposed method based on workshop input, and specs for strike teams to be studied (Deadline: Dec. 15, 2015)
3. Nuka Research briefs participants on preliminary results; ID additional analysis if warranted (Deadline: TBD w/ PWSRCAC; early 2016)
4. Final results, report, and presentation (Deadline: May 31, 2016)

Materials Related to this Project are Posted at:

nukaresearch.com/pws

[1] Model will assume that strike teams are operating in thickest oil; does not consider location relative to slick or changes in slick such as windrows.