**Attachment # 4: OPL September 9, 1998 Oil Spill Drill Evaluation Report by Environmental Compliance Option, January 1999.**

OPL
Bellingham, WA
June 10, 1999
DCA99-MP008


# Olympic Pipe Line Company
# 1998 Oil Spill Drill

## Evaluation Report

**Prepared for:**

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January 20, 1999

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# 1 EXECUTIVE SUMMARY

An Industry-led Area Exercise under the U.S. Department of Transportation, Office of Pipe Line Safety National Preparedness for Response Exercise Program (PREP) was held by the Olympic Pipe Line Company in Whatcom County, Washington on September 8-10, 1998. The focus of this exercise, known as the Olympic 1998 Oil Spill Drill was: 1) exercising the Northwest Area Contingency Plan (NWACP); 2) exercising the Olympic Pipe Line Company (OPL) Oil Spill Response Plan (OSRP) relative to outstanding PREP/Washington Department of Ecology (WDOE) core component evaluation requirements; 3) improving Spill Management Team (SMT) and agency ability to implement a National Interagency Incident Management System (NIIMS) Incident Command System (ICS)-based response management structure; 4) the use of ICS Forms to facilitate response information management; and 5) the ability of the OPL Spill Management Team (SMT) to join with Federal, state and local Tribal resource trustees and form a Unified Command (UC).

The Olympic 1998 Oil Spill Drill was designed in accordance with U.S. Department of Transportation, Office of Pipeline Safety guidelines for Developing an Oil Spill Response Exercise under the PREP and WDOE Guidelines for Designing and Conducting Oil-Handling Facility Spill Drills & Exercises. Organizations participating in this Industry-led Area Exercise included the OPL SMT; the USDOT Office of Pipeline Safety; the U.S. EPA; the USCG; the Lummi Nation; the Washington Department of Ecology; the Washington Department of Fish and Wildlife; the Whatcom County Sheriff's Office, Division of Emergency Management; and Clean Sound Cooperative, Inc. The exercise was based on a worst case discharge scenario involving a release of approximately 5,500 Bbl of Diesel Fuel into the lower reaches of the Nooksack River and subsequently into Bellingham Bay. A total of approximately ten hours of exercise play were conducted on September 9, 1998 with a formal debrief incorporating all participating agencies held September 10, 1998.

The consulting firm Environmental Compliance Options (ECO) of Bellingham, Washington facilitated and evaluated the Olympic 1998 Oil Spill Drill. The evaluation was based on direct observations made by Exercise Evaluators assigned to each ICS Section and on the response of the OPL SMT to Exercise Inputs designed by ECO to test specific OSRP core components. All 15 PREP/WDOE core component evaluation areas were tested during the exercise. Specific focus was placed on those core component areas that had not previously been demonstrated by the OPL SMT during this WDOE triennial evaluation period, i.e., PREP 3, 8, and 10.

It is the opinion of the third-party evaluators that Olympic Pipe Line Company has demonstrated an acceptable degree of proficiency in all 15 Facility Response Plan core component areas exercised during this Drill. It is the further opinion of the Exercise Evaluators that the OPL SMT

demonstrated an adequate level of operational readiness to safely respond to a worst case oil spill within the North Puget Sound geographic area and to mount an effective and timely oil spill response in compliance with the requirements of the Northwest Area Contingency Plan and the regulatory requirements of the State of Washington.

# 2 EXERCISE DESIGN

## *2.1 Introduction*

The Olympic Pipe Line Company (OPL) conducted an Area Exercise under the U.S. Department of Transportation, Office of Pipe Line Safety National Preparedness for Response Exercise Program (PREP) at the ARCO Cherry Point Refinery in Whatcom County, Washington on September 8-10, 1998. This PREP Area Exercise was conducted as part of a continuing series of spill response training exercises aimed at improving the effectiveness of the Olympic Pipe Line Company (OPL) Spill Management Team (SMT) in the unlikely event of a release from the pipeline operated by OPL.

The Olympic 1998 Oil Spill Drill was conducted to meet Federal regulatory requirements contained within the Oil Pollution Act of 1990 and the regulatory requirements of the State of Washington contained within WAC 173-181. The exercise was designed in accordance with the USDOT PREP Guidelines and with the State of Washington Department of Ecology (WDOE) Guidelines for Designing and Conducting Oil-Handling Facility Spill Drills & Exercises. The focus of the Drill was: 1) exercising the Northwest Area Contingency Plan (NWACP); 2) exercising the OPL Oil Spill Response Plan (OSRP) relative to outstanding PREP/WDOE core component evaluation requirements, i.e., PREP 3,8, & 10 and equipment deployment; 3) improving SMT and stakeholder understanding of the National Interagency Incident Management System (NIIMS) Incident Command System (ICS); 4) the use of ICS Forms to facilitate response information management; and 5) the ability of OPL to join with Federal, state and local spill response agencies and form a Unified Command (UC).

## *2.2 Scope of the Exercise*

The Olympic 1998 Oil Spill Drill was an Area Exercise conducted under the guidelines of the PREP with extensive participation by Federal, state and local natural resource trustee agencies and stakeholders. Invited observers also participated in the exercise on a not-to-interfere basis. Organizations participating in the Drill included:

- Olympic Pipe Line SMT
- U.S. Department of Transportation, Office of Pipe Line Safety
- U.S. Coast Guard

- U.S. Environmental Protection Agency
- Lummi Nation
- Washington Department of Ecology
- Washington Department of Fish and Wildlife
- Whatcom County Sheriff's Office, Division of Emergency Management
- Clean Sound Cooperative, Inc.
- Cowlitz Clean Sweep, Inc.
- Marine Spill Response Corporation.

The Olympic 1998 Oil Spill Drill was jointly planned by OPL; the U.S. DOT Office of Pipe Line Safety; the U.S. EPA; the Lummi Nation; Equiva Services, LLC; and the WDOE with input and assistance from other stakeholders. The exercise planning team consisted of the following parties:

| Design Team Member | Organization |
|---|---|
| Frank Hopf | Olympic Pipe Line |
| C. Craig Hammett | Olympic Pipe Line |
| Doug Beu | Olympic Pipe Line |
| Sandy Conlan | Olympic Pipe Line |
| Patricia Patterson | Olympic Pipe Line |
| Dan Swatman | Olympic Pipe Line |
| Bruce Johnson | Equiva Services, LLC |
| Melanie Barber | US DOT, Office of Pipe Line Safety |
| Carl Kitz | US EPA |
| Paul O'Brien | WDOE |
| Elin Storey | WDOE |
| Ralph Jefferson | Lummi Nation |
| Shandra Fitzpatrick | Lummi Nation |
| Denny Quirk | Clean Sound Cooperative, Inc. |
| Mike Myers | ARCO Cherry Point Refinery |
| Andy Snella | Environmental Compliance Options |
| Scott McCreery | Environmental Compliance Options |

The Exercise Design and Development Team organization is presented in Appendix A.

For information regarding the exercise concept, objectives, control plan, or evaluation please contact Mr. Craig Hammett, (425) 235-7746 or Mr. Scott McCreery, Environmental Compliance Options, (360) 676-0837.

### *2.3 Exercise Scenario*

The Olympic 1998 Oil Spill Drill was conducted over approximately 10 hours of Drill play, between 0600 and 1600 September 9, 1998. Pre-Drill refresher training on the Incident Command System (ICS) was held the afternoon of September 8, 1998. The spill event upon which the exercise was based was simulated to have occurred at 0255 on September 9, 1998. Actual exercise play began with real-time notification of regulatory agencies per the OPL OSRP at approximately 0600 September 9, 1998. The exercise began with the stand-up of the ICS and presentation of the Initial Incident Briefing (ICS 201 Brief) at approximately 0700 September 9, 1998. An ICS 201 packet was provided to all exercise participants upon check-in at the EOC the morning of September 9, 1998. The exercise then proceeded through the ICS Flow of Events and concluded at approximately 1600 September 9, 1998, with the submission of an Incident Action Plan (IAP) to the Unified Command detailing planning for the next operational period. The ICS Flow of Events is presented in Appendix B.

The exercise was conducted in real-time; time compression was employed only with respect to the time allotted for aerial overflights. The exercise was based on a discharge scenario developed by Environmental Compliance Options in conjunction with OPL staff. The simulated discharge upon which the exercise was based involved a release of approximately 5,500 Bbl of diesel fuel. The complete exercise scenario is presented in Appendix C.

## 3 EXERCISE EVALUATION

Environmental Compliance Options (ECO) facilitated the Olympic 1998 Oil Spill Drill and ICS training held May 21, June 17, and September 8, 1998. Representatives from ECO acted as Coach-Evaluators during the exercise, formally evaluating the performance of the OPL SMT.

A Coach-Evaluator from ECO was assigned to each ICS Section throughout the exercise. Coach-Evaluators were stationed within the ICS Sections, directly observing Section operations, decision-making and ICS Form production as well as documenting Section-specific SMT performance. ECO personnel also actively coached the ICS Sections, making themselves available to answer questions regarding appropriate SMT actions and ensuring that critical aspects of the response effort were addressed. Coach-Evaluators had previously, during ICS training provided to the OPL SMT on May 21, 1998 and June 17, 1998, worked directly with the ICS Section(s) to which they were assigned and had developed a working relationship with

Section personnel and an understanding of Section strengths and weaknesses. Such familiarity allowed the Coach-Evaluators to effectively facilitate SMT performance with limited direct intervention into SMT actions.

### *3.1 Exercise Inputs ("Measles")*

The Lead Controller and Evaluation Director developed approximately 135 scripted exercise inputs prior to the exercise. Those inputs were designed to influence Section activities and to facilitate the stimulation and subsequent evaluation of the ICS Section to which the input was directed. Section-specific exercise inputs were designed to test core SMT competencies and to specifically test those aspects of response management codified by the PREP/WDOE core component requirements.

Inputs to the exercise play were captured in the Master Scenario Events List (MSEL). The MSEL is a collection of individual exercise scenario inputs that are designed to specifically test certain aspects of SMT organization or the ability of the SMT to respond to external influences. These inputs allowed the scenario to be "driven" in one direction or another and allowed the pace or intensity of the response effort to be manipulated by the Exercise Conduct Organization. The Exercise Controllers (see Section 3.2 below) presented inputs to the OPL SMT in the form of telephone calls, faxes, radio messages, etc. The MSEL for the Olympic 1998 Oil Spill Drill is presented in Appendix D.

### *3.2 The Exercise Control Group*

The Exercise Control group was comprised of a Control Coach and Control personnel from ECO. The role of the Exercise Controllers was to implement the exercise inputs and document SMT reaction to those inputs. The Control Coach advised the Controllers on the use of exercise inputs and monitored the pace of the exercise, adjusting the timing and content of inputs to facilitate the testing of specific areas of SMT proficiency. Exercise participants were directed to act upon exercise inputs from Control as if the inputs were real. Controllers documented SMT reaction to, and follow-up on, exercise inputs on the individual MSEL forms. Controllers were instructed, in part, to:

- Be aware whether the Section(s) they controlled were overworked or under worked.
- Be cognizant of the need for their Section(s) to provide follow-up to appropriate inputs, e.g., to return a call from a Controller providing the requested information, etc., in order to fulfill all core requirements.

Successful reaction to the exercise inputs was enhanced through development of a close working relationship between the Controller and Coach-Evaluator for each Section. When a Controller had questions regarding the status of their Section's reaction to exercise inputs, the Controller was able to consult with the Coach-Evaluator and request that the Coach prompt the Section to follow-up on an input. Likewise, the Coach-Evaluator could instruct the Controller to slow the pace of exercise inputs, providing the Section an opportunity to "catch up" prior to the next wave of inputs or the next meeting called for in the ICS Flow of Events. Such collaboration provided a significant degree of control over the pace of Section activities and an integrated approach to exercise stimuli, maximizing the utility of the exercise as a training evolution.

### *3.3 Evaluation Comments*

A formal exercise critique involving all exercise participants was held on September 10, 1998. During that critique, each ICS Section was asked to provide a concise critical evaluation of the effectiveness of that Section's performance during the exercise and to provide comment on areas of success and areas for future improvement. Synopses of each Section's self-critique comments are presented in Appendix E.

In addition to this SMT self-critique, members of the Exercise Conduct Organization compiled their Section-specific evaluation comments generated during the exercise. The Evaluation Director from ECO then reviewed these comments and incorporated them into a formal post-exercise evaluation, the results of which are presented below. General and exercise-specific evaluation criteria for each core component tested during the spill response are noted, followed by bulleted, italicized evaluation comments. References to specific actions or ICS Forms/products that support the evaluation are provided, where appropriate.

PREP 1. NOTIFICATIONS:

Demonstrate that proper notification to Federal, State, and response organizations identified in the Oil Spill Response Plan (OSRP) and the Area Contingency Plan (ACP) are made within the timeframes and in the priority specified in the response plans.

- Exercise-Specific Objective: Demonstrate proper notifications to appropriate authorities and response contractors, and activation of the OPL Spill Response Team.

  - *OPL SMT Performance: Adequate. Initial notifications were conducted and documented per the OPL OSRP. Notifications were implemented immediately upon notification of the "incident". Required notifications to the National Response Center; USCG MSO Puget Sound; US EPA Region 10; the Washington State*

*Department of Emergency Management; the WDOE NW Regional Office; and the Whatcom County Sheriff's Office, Division of Emergency Management were completed and documented within approximately 25 minutes of initiation of this aspect of the Drill.*

*While all notifications required by regulation and stipulated in the OPL OSRP were made, the OPL SMT failed to provide timely notification to the Lummi Nation, a Drill Design Element specifically requested by the Lummi representative to the Drill Design Team. As noted elsewhere within this report, one of the major lessons-learned in this Drill was the realization by OPL of the vast local knowledge that is available through the Lummi Nation. Access to this local knowledge immediately upon identification of a release in this area is critical to maximizing the effectiveness of any response effort. The OPL needs to ensure that the Lummi Nation becomes a priority element within the notification requirements for a release in this geographic area.*

PREP 2. STAFF MOBILIZATION:

Demonstrate the ability to assemble the spill response organization identified in the OSRP and the ACP.

- Exercise-Specific Objective: Mobilization of the OPL SMT, meeting WDOE 1-hour benchmark and mobilization of the Primary Response Contractor/OSRO.

  - ***OPL SMT Performance: Adequate. SMT notification and mobilization was simulated for SMT arrival at the ARCO Cherry Point EOC at approximately 0700 09SEP98. Per the scenario and as reflected in the OPL OSRP, the Area Supervisor of the OPL North Area would be contacted and would, in turn, contact a local Field Operator who lives near the incident location. The nearest OPL Field Operator lives within 10 miles of the simulated spill site. As such, trained OPL personnel would be on-site to meet the WDOE 1-hour response organization benchmark. Likewise, with a spill occurring at approximately 0300, most SMT members would be on-site at the ARCO Cherry Point Refinery by0700, with other SMT members who reported directly to the OPL Operations Center in Renton, Washington arriving soon thereafter. As such, transition from the Initial Responders to the RP IC and stand-up of***

*the ICS at the EOC at or before 0700 relative a spill occurring at 0300 was fairly realistic.*

*Per the ICS Form 201 page 2, Summary of Current Actions, developed as part of the Drill during a pre-Drill ICS 201 Workshop held on 08SEP98, Clean Sound Cooperative, Inc., the Primary Response Contractor/OSRO designated in the OPL OSRP, was notified at 0346 09SEP98. Clean Sound indicated they would have open water skimming capabilities in place in Bellingham Bay at GRP B3 by 0600.*

PREP 3. RESPONSE MANAGEMENT SYSTEM:

Demonstrate the ability to operate within the spill management system described in the OSRP.

- Exercise-Specific Objective: Utilize Position-Specific Job Descriptions included in the OSRP and assign tasks accordingly. Initiate emergency response procedures and transition to OPL IC upon stand-up of the ICS.

  - *OPL Performance: Adequate: In accordance with the OPL OSRP and as described in the scenario, emergency operations were initiated immediately upon discovery of the spill. This was OPL's first implementation of a formal NIIMS ICS SMT structure. The dedication to training in the NIIMS ICS and to integrating the ICS into the OPL response posture was clearly evident. Initial response actions were taken and an initial incident response structure was quickly enacted per the OPL OSRP. Transition from the initial responders to the OPL IC was conducted in a smooth and timely fashion.*

    *Establishment of dedicated Situation Display and Resource Tracking capabilities within the OPL Command Post greatly enhanced the ability to quickly establish an effective ICS during the response. OPL's adoption of an electronic situation display program and their effort to implement a large-scale electronic Situation Status Display clearly enhanced the ability to quickly develop a graphic depiction of the situation and facilitated planning for all phases of the response effort. Use of this display during the Drill significantly enhanced management of the response effort.*

3A. UNIFIED COMMAND: Demonstrate the ability of the spill response organization to form a Unified Command with Federal Representation, State Representation, Local Representation, and representation by the Responsible Party.

- Exercise-Specific Objective: Demonstrate integration of the OPL Incident Commander (IC), the U.S. EPA and U.S. Coast Guard Federal On-Scene Coordinator (FOSC), the WDOE State On-Scene Coordinator (SOSC), and the Tribal On-Scene Coordinator (TOSC) into a Unified Command for development of the Incident Action Plan (IAP).

  - ***OPL Performance: Adequate.*** *A Unified Command was established with representation by the US EPA and the WDOE within approximately 4-hours of the simulated notification to the agencies. Agency representatives simulated their arrival at the EOC to approximate actual travel time to the facility from the time of notification. Timely integration of the TOSC into the Unified Command was hindered by a delay in notification to the Lummi Nation. Upon assumption of the roles of FOSC and SOSC, Federal and state personnel were briefed on the spill response situation by the RP and directly integrated into the response decision-making process. Once on-scene, the TOSC was also briefed and directly integrated into response decision-making. Changes in the response organization were monitored and reflected via ICS Forms 203 and 207. A large-format Response Organization Chart reflecting UC participation was displayed in the Situation Status Display area. Copies of the ICS Forms 203 and 207 reflecting changes in the UC were available at the Situation Status Display and Distribution Center.*

    *Failure by the RP to make timely notification to the Lummi Nation had potentially critical implications for the success of the response effort. A key lesson learned during this Drill was the wealth of local knowledge regarding the Nooksack River and local area that is available through the Lummi Nation. Failure to immediately integrate Lummi resources into the response decision-making process negatively affected the initial response effort. The Olympic Pipe Line Company should review their initial notification procedures to ensure that local Tribal communities are among the first tier of notifications required in their OSRP and*

*that local Tribal knowledge and resources are among the first brought to bear during an oil spill emergency response effort.*

*The Drill scenario involved the transition of the FOSC role from the U.S. EPA to the USCG once potential impacts and associated response efforts became focused on open-water areas of Bellingham Bay. This transition occurred at approximately 1045 09SEP98. Final UC composition included LCDR Rob Loesch, USCG Marine Safety Office Puget Sound as FOSC; Mr. Paul O'Brien, WDOE Northwest Regional Response Supervisor as SOSC; Mr. Ralph Jefferson, Lummi Nation as TOSC; Mr. Scott McCreery of ECO simulating the role of the Whatcom County Sheriff's Office, Division of Emergency Management as LOSC; and Mr. Doug Beu, OPL as the RP IC.*

*Upon transition of the FOSC role from the U.S. EPA to the USCG, the oncoming USCG FOSC stated to the UC that "the USCG is now directing the response," a comment that resulted in confusion for the RP and other members of the UC. Clarification of the statement was immediately called for by the SOSC and the acting LOSC, the implication being that in assuming direction for the response, the USCG was making a statement of no-confidence regarding the RP's management of the response effort and was "Federalizing" the response. The result of the ensuing lengthy conversation was the statement by the USCG FOSC that the USCG was <u>not</u> Federalizing the response; however, the original statement had clear indications for other members of the UC and particularly the IC.*

*The COTP Puget Sound has previously clearly stated the USCG's position that the USCG will advise and support the RP IC until such time as the RP demonstrates an inability to effectively lead the response effort. The comments of the USCG FOSC at this Drill were in marked contrast to this previously stated position and have fomented confusion within the regulated community. It is strongly recommended that the USCG clarify their position regarding the role(s) of the FOSC to the regulated community within the COTP, Puget Sound Zone and that those USCG personnel acting with the authority of the FOSC at Drills or spill events clearly reflect this position in their actions and words.*

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3B. RESPONSE MANAGEMENT SYSTEM: Demonstrate the ability of the response organization to operate within the framework of the response management system identified in the Oil Spill Response Plan (OSRP).

(1) OPERATIONS: Demonstrate the ability to coordinate or direct operations related to implementation of action plans contained in the respective response and contingency plans developed by the Unified Command.

- Exercise-Specific Objective: Demonstrate coordination with agencies. Implement Geographic Response Plan (GRP) and Incident Action Plan (IAP) in timely fashion.

  - *OPL Performance: Adequate. The Operations Section quickly identified and enacted appropriate Geographic Response Plans (GRPs) in accordance with the Northwest Area Contingency Plan (ACP) and with the Drill Design Planning process. Initial GRPs enacted included GRP B-36, B-37 and B-38 (a&b) and open water skimming operations at GRP B-3. The Operations Section worked closely with representatives from the Lummi Nation and with the Planning Section Environmental Unit in the development of pertinent and realistic plans for the next Operational Period. Likewise, the Operations Section worked effectively with the Logistics Section in ensuring that all needs for response resources were addressed and worked closely with the Resource Unit in confirming that the tracking of the disposition of resources within the response was accurate.*

    *Of note, the OPL Operations Section did an excellent job communicating with field personnel and in implementing field monitoring efforts developed in collaboration with the Planning Section.*

(2) PLANNING: Demonstrate the ability to consolidate the various concerns of the members of the Unified Command into joint planning recommendations and specific long-range strategic plans. Demonstrate the ability to develop short-range tactical plans for the Operations Section.

- Exercise-Specific Objective: Demonstrate the establishment of a Planning Section incorporating represented agencies. Use the Oil Spill Response Plan (OSRP), the ACP, and other guidance documents in the development of short-term and long-range protection plans. Demonstrate effective display of the response status situation.

  - *OPL Performance: Adequate. The Planning Section worked closely with the U.S. EPA, the USCG, the WDOE, Washington Department of Fish and Wildlife and the Lummi Nation in identifying resources at risk and developing plans for the next Operational Period. The OPL OSRP, the NWACP and GRPs were fully utilized in developing and implementing Planning Section functions throughout the Drill.*

    *The OPL Planning Section Chief did an excellent job establishing Planning Section positions and responsibilities and providing timely information to the Operations Section in support of short-term operations. Likewise, the Planning Section did an outstanding job utilizing Field Observers to relay real-time field observations back to the EOC for integration into the Planning process. The Situation Status Display was extremely effective, with full utilization of the newly adopted electronic Situation Mapping program. The USCG, for whom, in part, the mapping program was developed, remarked that their own personnel did not use the mapping software as effectively as it was used by OPL. The adoption and implementation of a NIIMS ICS-based T-Card resource tracking system facilitated accurate and timely resource tracking throughout the response.*

    *The OPL Planning Section Chief established a Meeting Schedule (ICS Form 230) based on the 24-hour Operational Cycle defined by the UC, i.e., 0600-0600. Meeting description details, typically presented on the ICS Form 231, Meeting Description, were not prepared during the Drill. The Planning Section Chief facilitated Tactics and Planning Meetings per the ICS Flow of Events and facilitated the production of an Incident Action Plan for the next Operational Period. A Draft IAP was submitted to the UC for approval upon completion of the Drill. That IAP was accepted by the SOSC, but was not accepted by the FOSC. Long-range planning was begun by the Planning Section in the form of a General Plan, but was limited by the short duration of the Drill.*

*Fifty-four MSEL Inputs were designed to specifically test Planning Section organization and effectiveness; additionally, some MSEL inputs directed at other ICS Sections directly impacted the Planning Section and required their attention. Planning Section responses to MSEL inputs were appropriate and timely.*

*Although Planning Section performance was generally good and the completion of an IAP was facilitated, Planning Section Chief performance during the Initial Incident Briefing (ISC 201 Briefing) and the Tactics Meeting was a noted weakness in Section performance. The Planning Section Chief was ill prepared for these Meetings, relied on Unit Leaders, who were also unprepared, to present the bulk of the information, and did not facilitate the concise presentation of Situation status information and the planning of response alternatives. The failure of the Planning Section Chief to organize these Meetings, display a command of the information presented at the Meetings, and proactively drive these Meetings toward completion of an IAP was evident and was remarked upon by Federal and state regulators at the Drill. Once the UC brought this to the attention of the Planning Section Chief and specific recommendations regarding the facilitation of effective ICS Meetings were made, a marked improvement in Planning Section Chief performance in this area was noted. This was particularly evident at the Planning Meeting, which was remarked upon for its quality. Without this improvement it is likely that a personnel change would have been required or, more drastically, that leadership of the response would have been assumed by one of the trustee agencies. The improvement that was noted clearly demonstrates the value of the Drill setting as a training tool. Further, task-specific training for this and other associated ICS positions may be warranted prior to the next OPL Oil Spill Drill.*

(3) LOGISTICS: Demonstrate the ability to provide the necessary support for both the short-term and long-term action plans.

- Exercise-Specific Objective: Demonstrate establishment of the Logistics Section, incorporating the represented agencies. Establish logistical staging areas and short and long term support capabilities.

- *OPL Performance: Adequate. The OPL Logistics Sections established comprehensive Logistics capabilities incorporating expertise provided by response contractors, represented agencies and the local Tribe. A total of four (4) staging areas were established, providing appropriate support to the varied geographic response areas. The critical issue of establishing communications between the EOC and the field was quickly addressed, with specific acknowledgement of the Communication Unit's ability to integrate with the communications infrastructure of the ARCO Cherry Point EOC. Plans for long-term communications, messing and berthing support were also established and demonstrated to be adequate for the size of the response. Additional demonstration of the Logistics Section's ability to provide support and services was facilitated through effective response to 28 MSEL Inputs throughout the Drill.*

(4) FINANCE: Demonstrate the ability to document the daily expenditures of the organization and provide cost estimates for continuing operations.

- Exercise-Specific Objective: Demonstrate effective management of financial aspects of the response.

  - *OPL Performance: Adequate. The Finance Section worked closely with the Logistics Section, incorporating ordering data into financial spreadsheets developed specifically to track response costs. Ten MSEL Inputs were directed toward the Finance Section, all of which were addressed promptly and appropriately.*

(5) PUBLIC AFFAIRS: Demonstrate the ability to form a Joint Information Center (JIC) and provide the necessary interface between the Unified Command and the media.

- Exercise-Specific Objective: Demonstrate the effective use of public affairs as an element of response management, designation of a Public Information Officer (PIO), and establishment of a JIC with unified representation and collaboration by all stakeholders in the UC.

- *OPL Performance: Adequate. Upon stand-up of the UC, a fully staffed Joint Information Center (JIC) was established including representation from the WDOE and OPL public information specialists. Multiple Press Releases were prepared and approved for release by the UC. The JIC responded to 9 MSELs specifically designed to either prompt the collection and dissemination of response information or to provide information directly to the public. The majority of the other 137 MSELs were addressed to the JIC for action or distribution to the appropriate ICS Section. Three Press Releases were generated and released during the Drill.*

  *The JIC did an outstanding job of facilitating external information flow and working with the rest of the response organization to acquire accurate response information for dissemination to the public. The JIC presented a positive, professional countenance throughout the Drill, both identifying public information issues of concern to the UC and proposing appropriate public information solutions to those problems.*

(6) SAFETY AFFAIRS: Demonstrate the ability to monitor all field operations and ensure compliance with safety standards.

- Exercise-Specific Objectives: Demonstrate the development and implementation of a site safety plan.

  - *OPL Performance: Adequate. The OPL Safety Officer responded to initial safety issues presented in the Drill scenario, quickly identifying potential safety concerns and implementing appropriate personnel protective procedures. An "Initial Work Site Safety Plan & Analysis" detailing Site Safety Conditions, Potential Hazards, and PPE requirements was developed and distributed early in the Drill. Ten MSEL Inputs were directed at the Safety Officer and staff throughout the Drill, all of which were addressed appropriately. Health and Safety monitoring was conducted in the field during the Drill and an effective site-specific Comprehensive Site Safety Plan was developed by the Safety Officer per the OPL OSRP and approved by the UC.*

(7) LEGAL AFFAIRS: Demonstrate the ability to provide the Unified Command with suitable legal advice and assistance.

- Exercise-Specific Objective: Demonstrate effective management of legal aspects of the response.

  - *OPL Performance: Not Demonstrated. Few legal issues arose as a result of the Drill scenario and play. MSEL inputs which were designed to solicit attention from the OPL SMT legal support staff were addressed – very appropriately – as Public Affairs issues and handled very expertly by the JIC. While the OPL SMT did not demonstrate use of their legal staff to a degree that allowed evaluation of this PREP objective, they are commended for their efforts to address potentially litigious issues in a more direct manner.*

PREP 4 DISCHARGE CONTROL:

Demonstrate the ability of the spill response organization to control and stop the discharge at the source.

- Exercise-Specific Objective: Demonstrate ability to implement emergency shutdown procedures identified in the OSRP.

  - *OPL Performance: Adequate. Discharge control procedures were incorporated into the Drill scenario by systematically documenting the procedures that the OPL Control Center would implement in the event of indications of a real release. This discharge control sequence included the utilization of the OPL Supervisory System and the Pipeline Leak Detection System (PLDS) to provide an indication of where in the pipeline system the simulated leak had occurred. The use of initial response personnel to confirm the closure of remotely operated shutdown valves was also identified. The ability of the OPL Control Center to model the nature of the release based on the Supervisory System readings also assisted in confirming the release volume by the OPL SMT as part of the response. To ensure proper credit for meeting this OSRP Core Component evaluation criteria, OPL should determine whether they need to schedule a walkthrough of Discharge Control Procedures at the OPL Control Center with the WDOE.*

PREP 5 ASSESSMENT:

Demonstrate the ability of the spill response organization to provide an initial assessment of the discharge and provide continuing assessments of the effectiveness of the tactical operations.

- Exercise-Specific Objective: Perform initial and continual assessment of the spill status (e.g., spill volume, product type, status of discharge, consideration of environmental conditions, etc.) and effectiveness of the response effort (e.g., trajectory analysis, effectiveness of cleanup operations, etc.).

  - *OPL Performance: Adequate. OPL Performance in this evaluation area was very strong. The Planning Section provided timely and ongoing evaluation of the spill situation, maintaining a high level of situational awareness throughout the exercise. Good communication between the Planning Section and the Operations Section facilitated spill volume and mass balance calculations being completed throughout the operational period in support of ongoing clean-up operations and in support of planning efforts for the next operational period. Of particular note was the integration of agency personnel into the assessment activities. There was a considerable amount of discussion regarding spill volume estimation and the use of OPL's Supervisory System to model the release volume based on system monitoring parameters at the time of the simulated release. Likewise, there was confusion among some of the regulators regarding the role of topographic variation in the pipeline as a discharge control mechanism. OPL may want to consider hosting a pipeline discharge control seminar to share information regarding pipeline discharge control and volume estimation with state and Federal regulatory agencies.*

    *Graphical representations of the spill status and associated response effort were posted electronically on the Situation Display board and distributed in hard copy with great effectiveness. The Situation Unit Leader and his staff maintained a well-organized and effective Status Display and Distribution Center, facilitating positive information flow throughout the ICS. Situation Status briefings presented during ICS Meetings should have been more concise and comprehensive – further leadership in this area is required (see Planning Section comments above).*

PREP 6 CONTAINMENT:

Demonstrate the ability of the spill response organization to contain the discharge at the source or in various locations for recovery operations.

- Exercise-Specific Objective: Demonstrate the ability to deploy initial response equipment and meet booming guidelines (10,000 feet of boom for a non-persistent product) within twelve hours.

  - ***OPL Performance: Adequate.*** *Upon determination of initial personnel exposure potential and clearance to begin field operations, the OPL SMT immediately began deployment of protective booming at GRPs B-36, B-37, and B-38a&b. Initial booming operations were executed utilizing 700 feet of OPL-owned boom transported to the site from the OPL Allen Station with an additional 12,000 feet of boom en route with ETAs of 0600-0900 from trailer Nos. 26, 28, 40, 41, and 42. An additional 8,000 feet of shallow-water boom was made available from the USCG, with additional boom available through Clean Sound Cooperative, Inc., and local contractors. By 1130 09SEP98, 12,000 feet of boom was in the process of being deployed, 10,000 feet of boom were staged and an additional 25,000 feet of boom had been located and placed on stand-by. All WDOE booming benchmarks were met in a timely fashion.*

PREP 7 RECOVERY:

Demonstrate the ability of the spill response organization to effectively assemble and deploy on-water and shore-based cleanup resources identified in the OSRP.

- Exercise-Specific Objective: Demonstrate the deployment of recovery resources in varied operating environments (shallow water, deep water and on-shore), addressing State of Washington recovery benchmarks (ability to recover 10% of worst case discharge volume – approx. 550 Bbl – within a 24 hour period could be on-scene within 6 hours).

- *OPL Performance: Adequate. All WDOE recovery benchmarks were met or exceeded with recovery resources drawn from Clean Sound Cooperative, Inc., the Marine Spill Response Corporation, and Foss Environmental. A skimming capacity of 6,000 Bbl/day was on-scene and operational within 3-hours of the time of release with a total recovery capacity of over 35,000 Bbl/day by 1600 09SEP98. Recovery operations were conducted in deep-water and shallow-water environments, with a significant on-shore recovery component operating along the banks of the Nooksack River. Timely and accurate data regarding the volume of recovered total liquids and recovered product were communicated from the field to the EOC on a regular basis.*

PREP 8 PROTECTION:

Demonstrate the ability of the spill response organization to protect the environmentally and economically sensitive areas identified in the GRP and OSRP.

8.1 PROTECTIVE BOOMING Demonstrate the ability to assemble and deploy sufficient resources to implement the protection strategies contained in the GRP and OSRP.

- Exercise-Specific Objective: Demonstrate the ability to deploy equipment and resources in a timely manner to meet the needs of the response effort and address the WDOE benchmarks.

- *OPL Performance: Adequate. As identified above, all WDOE booming benchmarks were met or exceeded. The initial OPL protection strategy included the implementation of appropriate local GRPs. Upon receipt of Response Priorities from the UC, additional GRPs were deployed. Additional protection and recovery objectives were established on the basis of revised oil spill trajectories generated as part of the Drill.*

*Local knowledge available through Drill participation by the Lummi Nation identified a number of Tribal resources that warrant inclusion in the protection strategies identified in the OPL OSRP. Several of these sensitive areas are not currently included*

*in the San Juan Islands/North Puget Sound Geographic Response Plan. Through this Drill, OPL and the Lummi Nation identified the need to develop a dialogue regarding the protection of sensitive areas within the Nooksack River. Likewise, the Lummi Nation and the WDOE should begin a dialogue regarding additions to the GRPs for the Nooksack River and its delta.*

## 8.2 DISPERSANT USE

- Exercise-Specific Objective: Demonstrate the ability to quickly evaluate the applicability of dispersant use for this incident and implement a pre-approved plan from the ACP or develop a plan for use.

  - *OPL Performance: Adequate. The WDOE identified early in the Drill that dispersant use would be precluded in the areas affected by the simulated spill due to shallow water conditions. This decision and its underlying basis were poorly documented however, the only reference to the exclusion of this Alternative Response Technology being found in an ICS Form 214, Unit Log, which did not identify the preparer's name or ICS position. No other documentation of the evaluation of dispersant use was evidenced in the Drill documentation.*

  *It is recommended that in addition to personnel logs, a copy of the Dispersant Use Checklist from the NWACP be entered into any Drill or response documentation, clearly stating the dispersant use decision and basis, regardless of the resultant determination.*

## 8.3 IN SITU BURNING

- Exercise-Specific Objective: Demonstrate the ability to quickly evaluate the applicability of in situ burning for this incident and implement a pre-approved plan from the ACP or develop a plan for use.

  - *OPL Performance: Adequate. The WDOE identified early in the Drill that ISB would be precluded in the areas affected by the*

*simulated spill due to the proximity to populated areas and shallow water conditions. This decision and its underlying basis were poorly documented, however, the only reference to the preclusion of this ISB being found in an ICS Form 214, Unit Log, which did not identify the preparer's name or ICS position. No other documentation of the evaluation of ISB was evidenced in the Drill documentation.*

*It is recommended that in addition to personnel logs, a copy of the ISB Checklist from the NWACP be entered into any Drill or response documentation, clearly stating the decision regarding ISB and the basis for that decision, regardless of the resultant determination.*

## 8.4 WATER INTAKE PROTECTION

- Exercise-Specific Objective: Demonstrate the ability to quickly identify potential impact to water intakes and implement the proper protection procedures from the GRP or develop a plan for use.

  - *OPL Performance: Adequate. The OPL SMT accurately determined that there were no municipal water intakes potentially affected by the simulated spill. The potential for the spill to impact un-permitted water removal from the Nooksack River was quickly identified, as was the potential for the simulated release to affect shallow groundwater recovery from private wells. Public safety officers were quickly dispatched to advise residents along the Nooksack River to cease any water withdrawals until further notice. With local knowledge available by virtue of participation by the Lummi Nation, the response effort quickly identified the Lummi Nation's water intake in Kwina Slough and included it in their protection efforts. MSEL Inputs to the response effort also "identified" an unknown water intake that was potentially threatened by the simulated spill. The responders took the appropriate information from the callers, instructing them that the area in which their water intake was located would be protected by virtue of implementation of one of the GRPs.*

## 8.5 WILDLIFE RECOVERY AND REHABILITATION

- Exercise-Specific Objective: Demonstrate ability to quickly coordinate with appropriate state representative to implement the NWACP's Wildlife Rescue Plan.

  - *OPL Performance: Adequate. Planning and Operations Section personnel worked closely with the WDOE, and the Washington Department of Fish and Wildlife to ensure that proper techniques were used and to identify potential wildlife impact areas and develop wildlife protection, recovery, and rehabilitation strategies. Locations for local Primary Care centers were identified within 2.5 hours of initiation of the Drill with a Primary Care center established at Squalicum Harbor by 1145 09SEP98. The St. Edwards State Park wildlife care center was also activated. Contract wildlife recovery support was arranged through IOSA and IBRRC. A volunteer hotline and email address was activated for the Drill. Wildlife recovery and rehabilitation strategies were presented to the UC in the Planning Meeting. Accurate reports of oiled and recovered wildlife were documented in the Drill record and presented during the Planning Meeting.*

## 8.6 POPULATION PROTECTION

- Exercise-Specific Objective: Demonstrate the ability to quickly identify health hazards associated with the discharged product and the population at risk from these hazards, and to implement the proper protection procedures from the ACP or develop a plan for use.

  - *OPL Performance: Adequate. The OPL SMT did an outstanding job of population protection, quickly enlisting the assistance of local law enforcement through the Whatcom County Sheriff's Office and Lummi Tribal Police to notify local residents of the potential for chemical exposure. Population protection issues were tested through the use of MSEL inputs addressing topics including air quality and shellfish contamination. Additional issues regarding unregulated water removal from the Nooksack River were identified by the OPL SMT and acted upon*

*professionally. All MSELs were addressed appropriately, with citizen concerns addressed in a timely fashion and local agencies involved at appropriate levels.*

### 8.7 BIOREMEDIATION

- Exercise-Specific Objective: Demonstrate the ability to quickly evaluate the applicability of bioremediation use for this incident and implement a plan from the ACP or develop a plan for use.

  - *OPL Performance: Inadequate. The issue of bioremediation does not appear to have been considered within the scope of the response simulated in this Drill. The NWACP clearly indicates that bioremediation is not allowed in open water settings and is applicable to shoreline cleanup operations only. As the Drill scenario involved a response focused on activities typical of the first Operational Cycle, shoreline cleanup strategies involving bioremediation would likely not have been addressed at this stage of the response; however, the OPL SMT was aware that this was an evaluation item and should have addressed it within the scope of the Drill.*

## PREP 9 DISPOSAL:

Demonstrate the ability of the spill response organization to properly dispose of the recovered product.

- Exercise-Specific Objective: Demonstrate the use of the OSRP disposal plan to include consideration of decanting, and documentation and tracking of recovered product/waste prior to approved treatment or disposal.

  - *OPL Performance: Adequate. Decanting permission was sought and granted early in the response effort pending mobilization of on-water or shore side storage. The Environmental Unit developed a Waste Disposal Plan based on the Model Disposal Plan for Oil Spills in Washington State with input from the regulatory agencies. That Waste Disposal Plan was approved by the UC. Post-exercise review of the Disposal Plan suggests that*

*the proposed plan provided clear objectives for waste segregation, sampling and disposal. Calculation of recovered liquids was completed using a straight recovery volume-through-time calculation for each recovery resource. Procedures for the calculation of the volume of oil recovered from oiled sorbents and oily debris were presented within the Waste Disposal Plan. Recovered volume calculation results were reported to the UC at the Tactics and Planning Meetings; recovered volume data were also presented in an iterative fashion on the Situation Status Summary, ICS Form 209s.*

PREP 10 COMMUNICATIONS:

Demonstrate the ability to establish effective communications systems capable of facilitating communications with the administrative elements of the ICS and with field units.

- Exercise-Specific Objective: Demonstrate the use of internal & external radio, telephone, and facsimile communications equipment and personnel abilities.

- ***OPL Performance: Adequate.*** *Communications were identified early in the Drill Design Planning process as a potential major impediment to the Drill. Efforts by the OPL SMT and the ARCO Cherry Point Refinery to implement integrated communications for the Drill proved very successful. The scope of the Drill required that varied communications modes be made accessible for local and remote communications. OPL communications were tested and evaluated through the use of MSEL inputs and through direct communications requirements incorporated in the Drill design. The Drill included extensive use of landline telephone and fax, and radio and cellular telephone communications within the EOC and from the EOC to external support activities. The OPL Unicator system was also utilized during the Drill. Overall, communications were very good, with limited communications problems typical of all multi-mode communications systems. The ICS Form 205 was utilized effectively to develop and implement an integrated communications plan for the response effort.*

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PREP 11 TRANSPORTATION:

Demonstrate the ability to provide effective multi-mode transportation in support of all aspects of the response effort.

- Exercise-Specific Objective: Demonstrate the ability to provide an effective transportation network for the overall response including modes of land, water, and air as applicable.

  - ***OPL Performance: Adequate.*** *The Olympic 1998 Oil Spill Drill incorporated multi-mode transportation including contracted air transportation, on-site and contracted waterborne transportation and on-site and contracted ground transportation. A Traffic Plan was developed and implemented with the simulated assistance of the Whatcom County Sheriff's Office, Division of Emergency Management. A Request for Flight Zone Restriction was submitted by the Environmental Unit to facilitate safe Air Operations and limit wildlife impacts. Safe and effective multi-mode transportation was initially established and then continually supported by the Logistics Section.*

PREP 12 PERSONNEL SUPPORT:

Demonstrate the ability to provide the necessary support of all personnel associated with the response.

- Exercise-Specific Objective: Demonstrate the ability to provide support including administrative services, food, housing, operational and administrative spaces, and emergency services.

  - ***OPL Performance: Adequate.*** *The Logistics Section was very proactive in identifying response support needs and facilitating the supply of services to meet those needs. MSEL inputs were developed to prompt the Logistics Section to procure berthing and messing services and communications for the response effort. In each case, arrangements for the provision of those services had either already been made or were begun promptly upon request. Four staging areas were quickly established at appropriate locations to serve the varied geographic distribution of the*

*response effort. Plans for long-term communications, messing and berthing support were established and documented in the Drill record. Widespread and successful use of the OPL Procurement Request form and Status Change Card contributed to the successful ordering and tracking of resources throughout the Drill.*

PREP 13 EQUIPMENT MAINTENANCE AND SUPPORT:

Demonstrate the ability to maintain and support all equipment associated with the response.

- Exercise-Specific Objective: Demonstrate the ability to organize an effective system for maintenance of response and support equipment for the response operation.

  - ***OPL Performance: Adequate.*** *Logistics Section personnel provided for maintenance of all OPL-owned response equipment through OPL maintenance personnel and local contractors. Maintenance of administrative equipment would be provided under contract on a priority basis. The Logistics Section did an outstanding job of ensuring that contractors made provisions for equipment maintenance, as reflected in Logistics Section Unit Logs (ICS Form 214s).*

PREP 14 PROCUREMENT:

Demonstrate the ability to mount and man an organized on-water spill response organization with personnel and equipment.

- Exercise-Specific Objective: Demonstrate the ability to procure sufficient personnel, response equipment, and support equipment (e.g., communications, transportation, and administrative equipment) to support and sustain an effective response.

  - ***OPL Performance: Adequate.*** *The OPL SMT Logistics Section was very proactive in identifying response support needs and facilitating the supply of services to meet those needs. MSEL inputs were developed to prompt the Logistics Section to procure berthing and messing services, communications, and other support services for the response effort. All MSEL inputs were addressed*

*appropriately and summary reports of logistical support to the response effort, including long-tern support, were presented at Tactics and Planning Meetings.*

PREP 15 DOCUMENTATION:

Demonstrate the ability of the spill response organization to document all operational and support aspects of the response and provide detailed records of decisions and actions taken.

- Exercise-Specific Objective: Demonstrate the capability to document spill response effort, and decisions by the Unified Command utilizing an historian, and ICS Forms and Status Boards.

  - *OPL Performance: Adequate. Overall, the OPL SMT excelled at response information management, making excellent use of Situation Status Boards and ICS Forms, maintaining an up-to-date Situation Status Display and Distribution Board and proactively distributing ICS Forms and other response materials and products as they were completed. An active Documentation Unit facilitated the collection of paperwork and products developed by the response organization. The use of Unit Logs (ICS Form 214) by virtually all members of the response provided an excellent record of response decisions and actions. A specific record of the decisions and actions of the UC was maintained by the UC historian provided by the WDOE. Active collection of completed ICS Forms and other response products by the Documentation Unit resulted in a well-organized and complete response documentation record.*

*While there was, overall, excellent compliance with the need to complete Unit Logs, there were a number of instances in which the person completing the form did not put their name, Unit or Section on the Unit Log. Likewise, in many instances where there was a second sheet to the Unit Log, there was no way to identify whose Unit Log the second sheet was for. All members of the response need to pay particular attention to good record-keeping practices with regard to Unit Logs. In the future, it may be beneficial to have the Documentation Unit Leader double-check to be sure that people have completely filled out the Unit Log before accepting it into the Drill or Spill record. Organization of the documentation*

*of Unit Logs by ICS Section would also facilitate easier control of response documents. Likewise, in a multi-day response, separation of the response documents by Operational Period with further organization by ICS product or Section is advised.*

# 4 CONCLUSIONS

Representatives of Environmental Compliance Options of Bellingham, Washington conducted a thorough evaluation of the performance of the Olympic Pipe Line Company Spill Management Team (SMT) during the Olympic 1998 Oil Spill Drill. That spill response exercise was conducted on September 8-10, 1998 in accordance with U.S. Department of Transportation, Office of Pipe Line Safety Preparedness for Response Exercise Program (PREP) Guidelines and State of Washington Department of Ecology (WDOE) Guidelines for Designing and Conducting Oil-Handling Facility Spill Drills & Exercises.

The OPL SMT demonstrated an acceptable degree of proficiency in all 15 Response Plan Core Component areas exercised during this Drill. Sub-component 3B (7), Legal Affairs, was not demonstrated, and sub-component 8.7, Bioremediation, was not adequately addressed; otherwise, the OPL SMT addressed all critical response issues in a timely and appropriate manner.

This was the first evaluation of recent modifications to the OPL oil spill response organization and training curricula and first evaluation of the incorporation of various procedures and tools to assist the SMT in the execution of their responsibilities. Additionally, this Drill provided the first opportunity to evaluate the OPL SMT's ability to mount a response from the ARCO Cherry Point Refinery Emergency Operations Center (EOC). Given the recent adoption of changes in SMT organization, training and tools, the level of competency displayed by the OPL SMT was commendable. SMT members were aware of their position-specific responsibilities and the Incident Command System (ICS) products for which they were responsible. They understood the integration of the various ICS Sections and responded immediately and continuously to the need to facilitate information flow throughout the ICS. A Unified Command was immediately established with representation from the Responsible Party, the U.S. EPA as the Federal On-Scene Coordinator, the WDOE as the State On-Scene Coordinator, and the Lummi Nation as the Tribal On-Scene Coordinator. The UC presented a face of unified leadership to the SMT and quickly established response priorities for both the initial response phase and for the next Operational Period. Transition of the FOSC role from the U.S. EPA to the U.S. Coast Guard was transparent to the rest of the response

organization. There was an extremely high degree of integration of all represented stakeholders both within the Unified Command and throughout the ICS organization.

The initial response followed the mandates of the Northwest Area Contingency Plan (NWACP) and was based firmly in priorities established in the Geographic Response Plans. Adequate response resources were quickly identified and mobilized to facilitate protection of human health and the environment and all WDOE booming and collection benchmarks were met and exceeded. While the initial response was being implemented, a realistic and executable plan for response operations during the next Operational Period was being developed and tested against logistical realities. Continuous assessment of the spill situation was conducted and the results of those assessments were factored into both current operations and the plan for the next Operational Period. Tactics and Planning Meetings were conducted in accordance with the ICS Flow of Events and facilitated the timely development of a workable Incident Action Plan for the next Operational Period.

The OPL SMT did a noteworthy job responding to the spill scenario simulated during the Drill. All key aspects of an effective response management system were demonstrated, regional response capabilities were exercised, and an excellent working relationship was established between represented regulatory agencies and local stakeholders. It is the opinion of the third-party evaluators that the Olympic Pipe Line Company has demonstrated an adequate level of operational readiness to safely handle a worst case oil spill within the North Puget Sound area. The OPL SMT demonstrated their ability to mount an effective and timely oil spill response in compliance with the requirements of the NWACP and the regulatory requirements of the State of Washington.

# 5 RECOMMENDATIONS

As noted above, the OPL SMT did an exemplary job of responding to the oil spill scenario presented to them in the Olympic 1998 Oil Spill Drill. Their performance was even more impressive given the recent changes in OPL's local and regional response organization structure and the broad range of new response tools that OPL has adopted to assist with their response management efforts.

While overall SMT performance was outstanding, there were several areas for potential improvement identified by the Exercise Evaluation Team. Areas for improvement include:

- All SMT personnel need to become more familiar with the OPL OSRP. Few SMT members are fully aware of the contents of the OSRP and used the OSRP to help them fulfill their ICS position responsibilities. Mounting a response in accordance with the facility OSRP is a regulatory requirement.

- The Olympic Pipe Line Company should review their initial notification procedures to ensure that local Tribal communities are among the first tier of notifications throughout their area of response. This Drill clearly demonstrated the value of incorporating local Tribal knowledge and resources as early in an oil spill emergency response effort as possible.

- Planning Section Chief performance during the Initial Incident Briefing (ISC 201 Briefing) and the Tactics Meeting was a noted weakness. Once aware of the problem, however, the Planning Section Chief took effective steps toward refocusing his efforts. Further, task-specific training for this and other associated ICS positions may be warranted prior to the next OPL Oil Spill Drill.

- Input from the Lummi Nation identified several resources-at-risk within the Nooksack River that were not identified in the GRPs. OPL should engage in dialogue with the Lummi Nation to ensure that local protection strategies in the OPL OSRP are comprehensive. Likewise, the WDOE should begin a dialogue regarding additions to the GRPs for the Nooksack River and its delta.

- Decisions regarding the use of both In Situ Burning and Dispersant use were poorly documented. It is recommended that a copy of the Dispersant Use Checklist and the In Situ Burn Checklist from the NWACP be entered into any Drill or response documentation, clearly identifying the resultant decision and basis for that decision, to include collaboration with the Federal and state regulatory agencies.

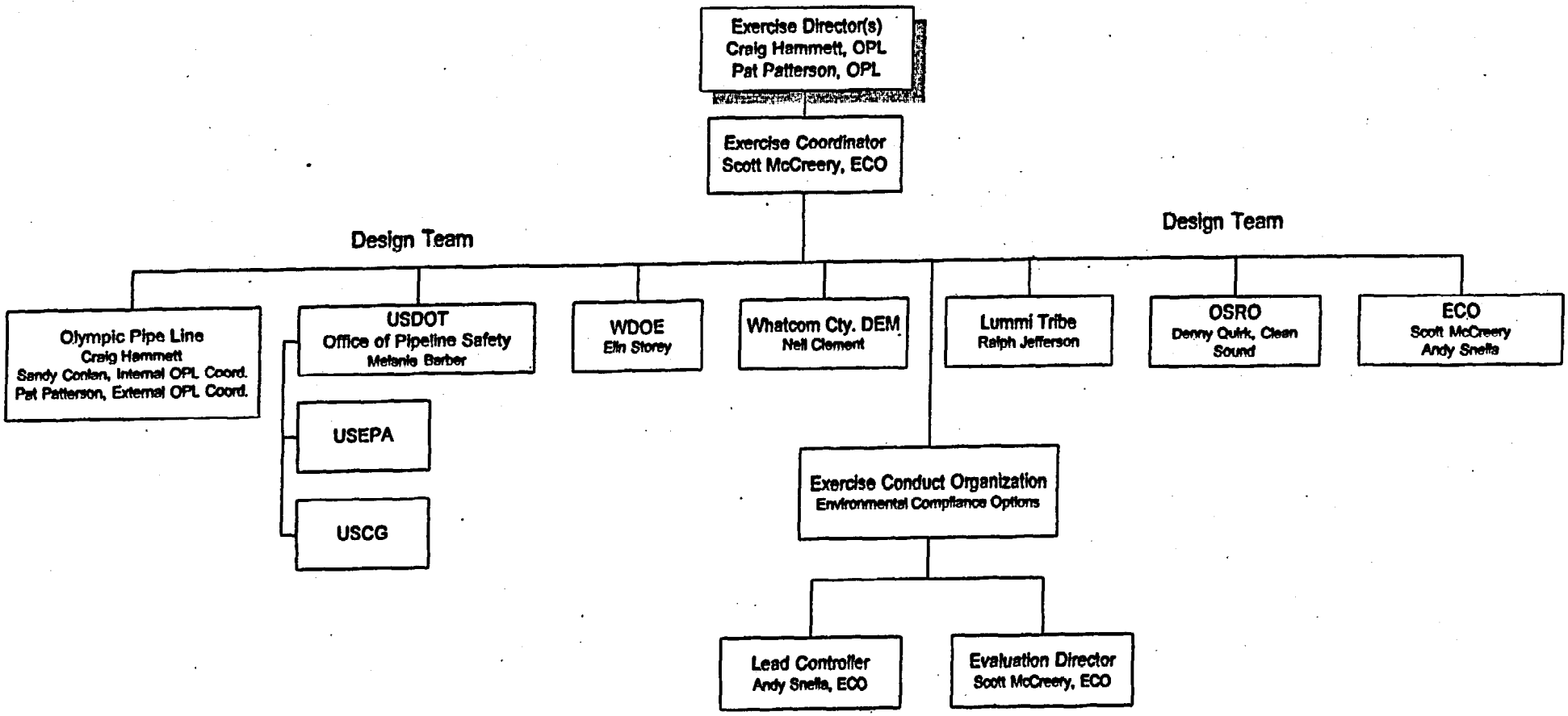
- Many Unit Logs did not contain information regarding the name, Unit or Section of the person completing Log. Likewise, in many instances where there was a second sheet to the Unit Log, there was no way to identify whose Unit Log the second sheet was for. All members of the response need to pay particular attention to good record-keeping practices with regard to Unit Logs. The Documentation Unit Leader should double-check to be sure that people have completely filled out the Unit Log before accepting it into the Drill or Spill record. Organization of the documentation of Unit Logs by ICS Section would also facilitate easier control of response documents. Likewise, in a multi-day response, separation of the response documents by Operational Period with further organization by ICS product or Section is advised.

# APPENDIX A

## Exercise Design and Development Team

# Olympic Pipe Line Company

## Olympic 1998 Spill Drill
## Exercise Design and Development Team



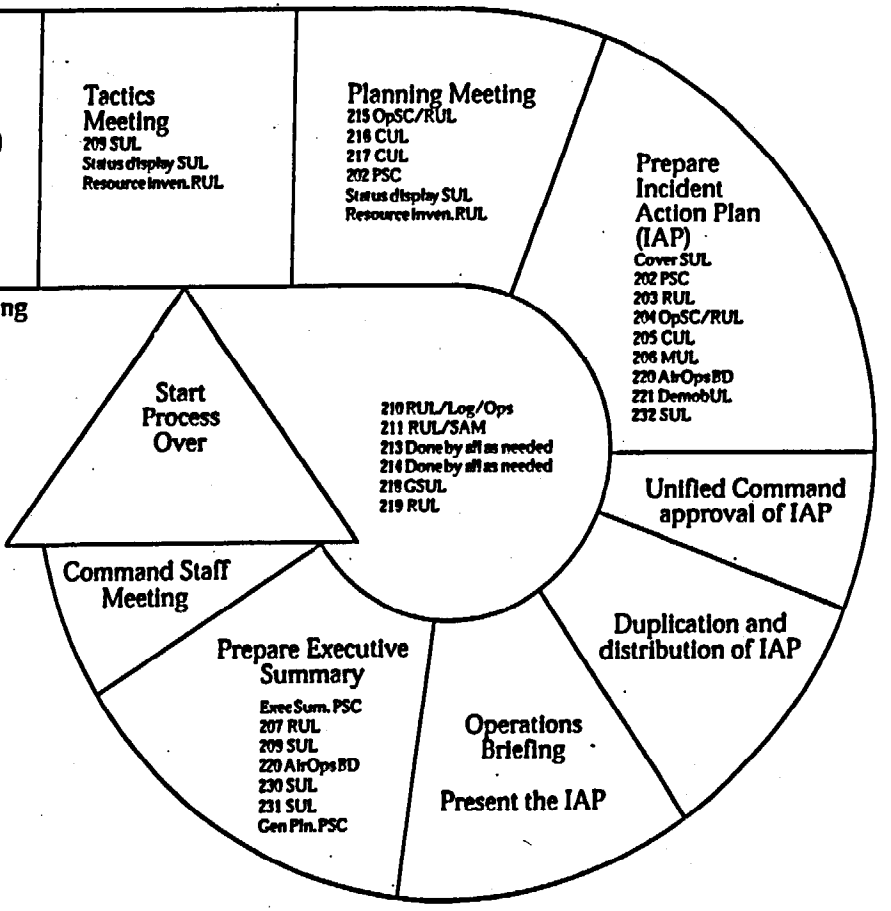
# APPENDIX B

## ICS Flow Of Events

# ICS Flow of Events

| Initial Notification | ACP/ GRP | Situation map w/ ACP Index | Setup ICS | Unified Command Meeting | Incident Briefing (ICS 201) | Tactics Meeting<br>209 SUL<br>Status display SUL<br>Resource inven. RUL | Planning Meeting<br>215 OpSC/RUL<br>216 CUL<br>217 CUL<br>202 PSC<br>Status display SUL<br>Resource inven. RUL |
|---|---|---|---|---|---|---|---|

Note: Products required for each ICS event are listed below the event or meeting title followed by the ICS position responsible for creating that product.




ICS Position Legend

AirOps BD ..... Air Operations Branch Director
CUL ..... Communications Unit Leader
DemobUL ..... Demobilization Unit Leader
GSUL ..... Ground Support Unit Leader
Log ..... Logistics Personnel
MUL ..... Medical Unit Leader
Ops ..... Operations Personnel
OpSC ..... Operations Section Chief
PSC ..... Planning Section Chief
RUL ..... Resource Unit Leader
SAM ..... Staging Area Manager
SUL ..... Situation Unit Leader

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# APPENDIX C

## Exercise Scenario

# Olympic 1998 Oil Spill Drill
# September 8-10, 1998

## EXERCISE SCENARIO

0255 09SEP98 Diesel fuel is being pumped from refineries in northern Puget Sound through the 16-inch OPL mainline under normal operating conditions at a rate of approximately 6,500 barrels per hour. At 0255, The OPL Supervisory system indicates that Ferndale Station is experiencing a rapid rise in flow rate and steady loss of pressures. As the controller operating this segment of the pipeline begins to focus on this specific event, he notices that the pressures into Allen Station, located 37 miles south of Ferndale, are beginning to drop.

At this time, the controller immediately informs the other operations controller on duty, who is controlling other pipeline segments, of his observations and indicates that he is shutting the entire system down and isolating the Ferndale to Allen segment, including the motor operated block valves at Milepost 7 and 16. At the same time, the Pipeline Leak Detection System, PLDS, issues a Leak Warning, indicating a potential leak. The PLDS identifies the location in the warning notification as Milepost 6.5. The operations controller operating the other pipeline segments begins shutting down his systems as well so he can assist with notification duties as required.

0300 09SEP98 The pipeline systems are shutdown and secured, though pressures at Allen Station are still fluctuating. The controllers notify refineries in the North Sound region that feed products to OPL and tank farm customers that receive product from OPL that they have shutdown and will keep them informed.

0310 09SEP98 The incoming pressure into Allen Station has stabilized at approximately 230 psi. Milepost 16 MOV is closed and the downstream pressure indicates 119 psi. Milepost 7 MOV does not indicate closed, downstream pressure indicating 80 psi. The Ferndale Station discharge pressure is showing 40 psi. The Ferndale discharge pressure and Milepost 7 MOV are continuing to report steadily dropping pressures, indicating the response efforts should initially focus in the Ferndale to Milepost 16 area.

0315 09SEP98 Following written procedures, each controller begins a telephone log on the emergency reporting form maintained within the Control Center. The supervisor of the Control Center is called at his residence. His immediate instructions are to notify the Manager, Construction Supervisor, and the North Area Supervisor by telephone. The Supervisor of Product Movement is notified and leaves immediately for the Control Center. The North Area Supervisor calls and indicates he is on his way north and that he has notified a local field operator who is en route to investigate and will communicate with the Control Center for exact location of the incident. Within the next ten minutes, the two controllers log calls to the Operations Manager, Supervisor of Environmental Affairs, Engineering Coordinator, Staff Engineer, and the Safety Officer.

0345 09SEP98 The Control Center receives an incoming call on the 24-hour emergency line (posted on all right-of-way markers). The caller identifies himself as an officer with the Washington State Patrol in the Bellingham area. The officer had received and responded to a call from Bellingham dispatch regarding the report by a local resident of a "gasoline smell" along the Nooksack River. The caller had been tending fishing nets from his boat, which was tied up to the river embankment approximately 1/4 mile south of Slater Road. The caller first thought the smell was coming from his boat gas tank, but then noticed the river covered with what he thought to be a gasoline slick. He subsequently called 911 as quickly as possible. A Whatcom County Sheriff's deputy and a Washington State Patrol officer were dispatched to the area. The State Patrol called Olympic from information on the OPL warning markers.

The Washington State Patrol officer reports that it appears that the pipeline had ruptured beneath the river and diesel could be see bubbling up to the surface within the river channel. It was confirmed that the flow was migrating downstream with a volume heavy enough to cover the entire surface of the river. The Washington State Patrol officer provided the following information:

- Wind Direction: South
- Wind Speed: 5 kts
- River speed: 1.5 statute miles per hour
- River Depth: variable, but generally very shallow

The officer was told that the product was diesel fuel, the pipeline had been shut down, and OPL personnel currently within the area would be immediately notified of the location. The controller was advised that

roadblocks would be necessary and that the State Patrol office would notify the Whatcom County Sheriff's Office Division of Emergency Management.

0415 09SEP98 Having been notified of the Washington State Patrol report on his cell phone by the Control Center, the field operator arrives at the Nooksack river pipeline crossing and confirms the report made by the State Patrol to the Control Center. As the first OPL person on-site, the field operator assumes the role of Incident Commander for the OPL Initial Response. The field operator, as directed by the Control Center Supervisor, begins closing the MOV at MP 7 by hand and then goes to the HOV immediately upstream of the Nooksack river and closes that valve.

0510 09SEP98 The field operator notifies the Control Center that both block valves for the Nooksack River crossing are closed.



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# APPENDIX D

## Master Scenario Events List (MSEL)

# Olympic 1998Oil Spill Drill
# Master Scenario Events List

| PREP/WDOE Evaluation Area | MSEL Number | MSEL Description |
|---|---|---|
| 1. Notifications | 50 | RFI: Why was governor's office not notified? |
| | 135 | RFI: Why was NRC not notified |
| | 104 | EVENT: Begin drill |
| 2. Staff Mobilization | 136 | REQUEST: Is the Corporate Away Team needed |
| | 54 | RFI: USCG requests ORG Chart and phone list |
| 3. Response Management System | | |
| 3.a. Unified Command | | |
| 3.a.(1). (Unified Command) Federal Representation | 66 | RFI: Operational period |
| 3.a.(2). (Unified Command) State Representation | | |
| 3.a.(3). (Unified Command) Local Representation | 10 | REQUEST: Local agency to operate in the Unified Command Post |
| 3.a.(4). (Unified Command) Responsible Party Representation | | |
| 3.b. Response Management System | | |
| 3.b.(1). Operations | 73 | RFI: Long Range Planning |
| | 72 | RFI: Long range plans |
| | 107 | RFI: Which GRPs have been implemented |
| | 108 | RFI: How do you plan to protect a critical waterway |
| | 9 | RFI: Airspace restrictions at local airport |

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RFI: Request for Information

| PREP/WDOE Evaluation Area | MSEL Number | MSEL Description |
|---|---|---|
| 3.b.(2). Planning | 105 | RFI: Unified Command Response Objectives |
| | 55 | RFI: On meeting schedule |
| | 42 | RFI: Long range plans for response assets |
| | 68 | RFI: Equipment effectiveness study by graduate student |
| | 56 | RFI: On Operational Period |
| 3.b.(3). Logistics | 65 | RFI: OSRO Co-op equipment tracking |
| 3.b.(4). Finance | 63 | CLAIM: Transportation delay caused loss of client and business |
| | 109 | RFI: Cost breakdown by category |
| | 18 | CLAIM: Income loss by fisherman |
| | 31 | CLAIM: Lost fishing by tribal member. |
| | 98 | RFI: Financial information for UC Media Interview |
| | 41 | CLAIM: Real estate agent lost business claim |
| | 21 | CLAIM: Citizen's claim for lost income |
| 3.b.(5). Public Affairs | 13 | RFI: Newspaper reporter with many general questions and alternative technologies |
| | 25 | RFI: News bureau - volume spilled and affected shoreline |
| | 16 | RFI: DOT, Office of Pipeline Safety |
| | 17 | RFI: Complaint about oil on beach |
| | 82 | RFI: Environmental Newspaper Editor for affected resources and a map |
| | 15 | REQUEST: Radio station request for interview |
| | 120 | EVENT: Press Conference |
| | 37 | RFI: Marina Manager getting complaints from boat owners |
| | 14 | RFI: Wire Service on responsible party and affected wildlife |

| PREP/WDOE Evaluation Area | MSEL Number | MSEL Description |
|---|---|---|
| 3.b.(6). Safety Affairs | 100 | RFI: Public safety concerns, general nature |
| | 27 | RFI: Sheriff's Office concerning health safety issues raised by citizens |
| | 8 | RFI: Distant relative concerned about sick father in spill area |
| | 2 | RFI: OSHA on qualifications of cleanup personnel |
| | 84 | RFI: MDSDS for product spilled |
| 3.b.(7). Legal Affairs | 112 | REPORT: Oil on beach near booming activities. |
| | 113 | REPORT: Oil on my beach due to upstream booming |
| | 5 | REQUEST: External Lawyers want to preserve information |
| 4. Discharge Control | 110 | EVENT: Shut-down procedures |
| 5. Assessment | 59 | RFI: Mass balance |
| | 67 | REPORT: Oil observed on water |
| | 75 | RFI: Foreign Coast Guard Office |
| | 111 | RFI: What are the resources at greatest risk |
| | 69 | RFI: WDOE (looking at benchmarks) requests list of cleanup equipment ordered. |
| | 51 | RFI: Television reporter |
| | 7 | RFI: Canadian Consulate concerned for Canadian Waters |
| | 85 | RFI: Regarding contaminated shellfish and possible fisheries closure |
| 6. Containment | 137 | EVENT: Meet 2 hour state benchmarks |
| | 114 | EVENT: Meet 1 hour state benchmarks |
| 7. Recovery | 115 | RFI: Volume of recovered oil |
| | 116 | RFI: Reminder to brief benchmarks in Tactics Meeting |
| 7.1. On-Water Recovery | 117 | RFI: Updated ICS 209 for briefing |

| PREP/WDOE Evaluation Area | MSEL Number | MSEL Description |
|---|---|---|
| 7.2. Shore-Based Recovery | 118 | RFI: Deployment of shoreside cleanup resources |
| 8. Protection | 49 | REPORT: Oil on beach |
| | 28 | RFI: Sensitive Areas identified by graduate oceanography student |
| | 64 | RFI: GRP implementation |
| | 119 | RFI: Why is my property NOT being protected with boom |
| 8.1. Protective Booming | 58 | RFI: Amount of boom deployed |
| | 52 | RFI: On booming strategies |
| 8.2. Dispersant Use | 121 | RFI: Verifying the rumor of dispersants being used |
| | 48 | OFFER: OilGone, a revolutionary new oil spill evaporate |
| 8.3. In Situ Burning | 122 | RFI: Decision on in-situ burning from regulatory agency |
| | 60 | RFI: In-situ burning |
| | 11 | OFFER: Citizen would like to start burning oil on the water |
| 8.4. Water Intake Protection | 123 | RFI: How to protect water intake |
| | 124 | RFI: How do you plan to protect water intake |
| 8.5. Wildlife Recovery and Rehabilitation | 6 | RFI: Public participation in bird hazing |
| | 1 | RFI: Audubon Society concerned for birds being oiled |
| | 45 | REPORT: Citizen spots endangered wildlife |
| | 87 | REPORT: Injured Dahl porpoise |
| | 70 | OFFER: Volunteer Wildlife protection and transportation |
| | 22 | REPORT: Wildlife swimming in the area of the spill |
| | 24 | REQUEST: Pick-up distressed birds on water |
| | 79 | OFFER: Swimming pool for bird rehabilitation center |

| PREP/WDOE Evaluation Area | MSEL Number | MSEL Description |
|---|---|---|
| 8.6. Population Protection | 43 | RFI: Local Air Quality Board on air monitoring |
| | 83 | REQUEST: Test for oil in water |
| | 39 | RFI: State Park Ranger about Population Protection |
| | 46 | RFI: Vessel safety operating in the local area |
| | 99 | RFI: Potential fire concerns by residents |
| | 19 | RFI: When will USCG closures end? Can I file a claim? |
| | 62 | RFI: On product safety while boating |
| | 92 | RFI: Can a private citizen do an overflight of spill area |
| 8.7. Bioremediation | 74 | RFI: Bioremediation |
| 9. Disposal | 81 | OFFER: Business would like the recovered oil |
| | 78 | RFI: Sierra Club on waste disposal |
| | 23 | RFI: Internal request from JIC to OPS about recovery plan |
| | 30 | OFFER: Disposal Services Available |
| | 95 | RFI: Traffic control in area by Mayor's Office |
| | 12 | OFFER: Contractor to provide waste disposal services |
| | 77 | OFFER: Business looking for contaminated sand and gravel |
| | 4 | REQUEST: OSRV to decant |
| | 102 | REPORT: On-water storage is full, request decanting |
| 10. Communications | 126 | RFI: Radio Requirements |
| | 125 | RFI: Need Communications Frequency Assignments |
| 10.1. Internal Communications | | |
| 10.2. External Communications | 90 | REPORT: Poor communications with field unit |
| 11. Transportation | 38 | RFI: Local Traffic information on road closures |

| PREP/WDOE Evaluation Area | MSEL Number | MSEL Description |
|---|---|---|
| 11.1. Land Transportation | 88 | REPORT: Dump truck needs direction |
| | 34 | REQUEST: Local Transportation arrangements |
| | 3 | REQUEST: Transport beach cleanup crew |
| | 76 | REQUEST: Transportation support for wildlife evidence |
| 11.2. Waterborne Transportation | 127 | REPORT: Small boat pulling boom is in trouble, needs help and replacement |
| | 86 | REQUEST: Logistics Support for bird rescuers |
| | 80 | REQUEST: On-water transportation |
| 11.3. Airborne Transportation | 128 | REQUEST: VIP wants over flight NOW |
| | 53 | REPORT: Helicopter refueling accident (loss of bird for the day) |
| | 129 | REQUEST: Vessel Support for incoming shipboard repair technician |
| 12. Personnel Support | | |
| | 35 | REQUEST: Office & Coms Support for NSFCC team at Command Post |
| | 57 | RFI: Number of personnel on-scene |
| | 36 | REQUEST: Messing and Berthing Services |
| | 71 | OFFER: Experienced HAZWOPER Volunteer |
| 12.2. (Personnel Support) Berthing | 130 | REQUEST: Hotel for 20 vessel workers while ship repairs are made. |
| | 131 | REQUEST: Hotel rooms for Corporate Legal Team |
| 12.3. (Personnel Support) Messing | 93 | REPORT: Delivery of rotten food to staging area |
| | 40 | OFFER: Messing Services Vendor |
| 12.4. (Personnel Support) Operational and Administrative | 33 | REQUEST: Space in Command Post |

| PREP/WDOE Evaluation Area | MSEL Number | MSEL Description |
|---|---|---|
| 12.5. (Personnel Support) Emergency Procedures | 44 | REPORT: Food poisoning of field crews |
| | 47 | REPORT: Injury, deck hand on boat, needs evacuation |
| 13. Equipment Maintenance & Support | 132 | REQUEST: Repair parts for backhoe |
| | 134 | REQUEST: Fishing boat haulout for repairs to damaged prop |
| | 133 | REQUEST: Shipyard availability for repairs to fishing vessel working in clean-up |
| 13.1. Response Equipment | | |
| 13.2. (Maintenance ans Support) Support Equipment | 103 | EVENT: Loss of main copy machine in command post |
| | 91 | RFI: Computer compatibility question from a contractor |
| | 94 | REPORT: Unable to deliver requested equipment |
| 14. Procurement | 96 | RFI: Invoice documentation |
| | 97 | REPORT: Credit Card maxed out, need new charge account |
| | 29 | OFFER: Hotel available for responders |
| 14.1. (Procurement) Personnel | 32 | REQUEST: Trained fishing vessels looking for call-out |
| 14.2. (Procurement) Response Equipment | 61 | OFFER: OSRV Available and ready to get underway |
| | 89 | OFFER: Tug boat with disc skimmer is available |
| 14.3. (Procurement) Support Equipment | | |
| 15. Documentation | 101 | RFI: Internal Corporate lawyer wanting documentation preserved |
| | 106 | RFI: NSFCC wants a UC historian in place |

# APPENDIX E

## Exercise Debrief Comments

# OPERATIONS

## Areas for Improvement

Tactics Meeting

- Need better familiarity with impacted area(s).

- Pressure to do something to meet requirements when, in fact, response actions are limited by the situation (darkness, safety hazards, shallow water, shoreline access)

- Better awareness of local populations & their activities (Notifications/warnings of health and safety hazards)

Planning Meeting

- Now concerned with emergency response/mitigation as well as planning for next Operational Period – Did a good job handling both facets

## Additional Resources/Tools Needed

Equipment

- Have regulators observing field deployments/operations

- VHF Radio/Repeater availability and timely deployment

- Digital Camera to get accurate, real time images back to Command Post

- Have a better handle on what types and quantities of equipment various vendors and contractors can provide

Human Resources

- Mutual Aid from other companies

Training

- Better understanding of what the other Sections do.

- More workshop activities, less talk/lecture

- ICS Forms—Have examples of properly completed forms

## LOGISTICS

**Things that Worked Well**

- Worked well with vendors

- Good teamwork within Section, load-sharing

- Collection of information got better as exercise progressed.

**Areas for Improvement**

- Inter – Section communications, more pro-active
- Develop proper channels for ordering/acquiring equipment and services
- Need to get better handle on accommodations and feeding requirements for field personnel

**Additional Resources/Tools Needed**

- Cross-training between Sections
- Electronic Information System for costs, personnel tracking, assignments, bar-coding

## COMMAND/PLANNING

**Things that Worked Well**

- Command Staff made their needs known
- Good mapping program, MARPLOT
- Good data from Operations provided for good reports
- Good interactions between contractors and ICS
- Comprehensive Documentation Unit

- Tribal participation early on
- T-Cards and resource tracking
- Developed good meeting management practices

## Areas for Improvement

- Need aerial mapping/use of Digital Camera
- Need HAZWOPER training for tribal nations for protection and assistance in response efforts
- Bring appropriate forms and information to meetings
- Timely posting of ICS forms; 209, 230, 207, 232, maps
- Get Divisions defined earlier

## Additional Resources/Tools Needed

- Electronic resource tracking
- More copiers, printers, PC's
- Internet access for weather, other information
- More personnel available to acquire information from other Sections.

- More Situation Unit personnel
- More Field Safety Personnel
- Additional Safety personnel (perhaps provided by outside contractor)

## WASHINGTON DEPARTMENT OF ECOLOGY

- Vast improvement from last year's drill
- Positive change of perspective
- Continue to reinforce what was learned in Drill

## U.S. DOT OFFICE OF PIPE LINE SAFETY

**Things That Worked Well**

- Good pipeline scenario
- Good notification, with exceptions ( Lummi tribe, homeowners, water intakes)
- Some difficulty knowing who was who (early on)

**Areas for Improvement**

- Response area(s) defined too early

- Spill scenario could have been worse (occurring at 2200)

- Shallow water response equipment concerns.

## U.S. EPA

**Areas for Improvement**

- Lack of attention to public safety (Lummi tribe/Nooksack residents)

- Need good estimate of volume released

- Better isolation/securing of damaged, product-laden pipeline.

## OLYMPIC PIPELINE MANAGEMENT

- Smoother response operations, well coordinated

- Lummi Tribe participation appreciated

- Good drill design

- Truth maintained realistic scenario