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**Drill Monitoring Contractor  
Annual Report  
2002**

**Prepared for the**

**Prince William Sound**

**Regional Citizens' Advisory Council**

**by**

**Contractor: Tim Jones**

**Contract No. 752.2003.1**

**Approved by PWSRCAC Board of Directors  
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## **DRILL REPORTS INDEX AND REVIEW**

<b>DATE</b>	<b>No.</b>	<b>TYPE</b>
1/22	01	Transrec deployment (450-8)
1/30/02		Duck Flats shakedown (short report to Gilson)
2/5		Valdez Star (DNA logistics)
2/7		Valdez Star (DNA logistics)
2/19	02	Duck Flats/Hatchery ADEC unannounced
2/21	03	NSFO Port Valdez
2/27		NSFO Cordova (DNA, weather) NSFO Cordova (DNA, conflict)
3/13-14		NSFO Cordova (DNA, weather, council meeting)
2/28	04	Transrec deployment (Mineral Creek)
3/17		NSFO Jack Bay (called at last minute, monitor out of town)
3/27-4/13		FV Training Kodiak, Homer, Seward
3/28	05	Solomon Gulch Hatchery West Side
4/25	06	Global Nearshore Drill
5/8	07	Deep Bay NSFO Deep Bay NSFO (same as previous DNA)
5/15	08	Helitorch Chenega Bay maintenance deployment (Tony attended)
5/23	09	BP Tabletop
6/5	10	Mineral Creek Transrec
6/13	11	VMT Tabletop
6/26	12	450-3 Transrec
7/10	13	570/450-8 Lightering
7/10	14	Polar Endeavour Tow
7/24	15	Montague Island GRS
8/1	16	Terminal Berth 3
8/6	17	VMT Culvert Plugs
8/26	18	ADEC Unannounced Callout
8/29	19	450-3 Transrec
9/24	20	Fishing Vessel Training
10/16-17	21	VMT Scenario 5
11/13	22	Underflow dam
12/19	23	Terminal Berth Transrec

## OTHER REPORTS

2/4	Wave energy data analysis
2/12	Review of terminal closures in spills and drills
4/19	Review of escort tow lines
4/28	Analysis of open water barge response times

## OTHER ACTIVITIES:

**CONTINGENCY PLAN REVIEW:** Drill monitor was an active participating member of the project team. This involved attending weekly meetings, providing analysis and background for various escort and response issues and research into several aspects of the plan and resultant conditions of approval.

**DRILL AND EXERCISE OBJECTIVES DEVELOPMENT:** In 2002 the Alaska Department of Environmental Conservation in conjunction with industry and RCAC began the process of developing standardized objectives to facilitate evaluation of industry escort and response training, exercises and drills. By year's end, the group had developed goals for escort exercises and a formalized list of standard objectives for open water response and had begun developing objectives for nearshore operations. RCAC's drill monitor was an active member of this working group.

**READINESS:** Drill monitor maintains a state of readiness prepared to respond to an incident in Prince William Sound on a 24-hour basis and at times has assumed periodic formalized "on-call" duty in Valdez. This means accepting an on call status 24 hours a day in case of an oil spill. It also involves maintaining monitoring equipment for communications and documenting events, keeping batteries charged, and all stored and ready to go on a moment's notice.

**MEETINGS:** The drill monitor regularly attends Oil Spill Prevention and Response Committee meetings, occasionally Port Operations and Vessel Traffic Committee meetings and council meetings as required.

## MAJOR DEVELOPMENTS

For several years, since the development of a nearshore response plan and subsequent acquisition of equipment, a question has lingered concerning the ability to mount and manage a large nearshore response at planning standard levels. While the nearshore operations have been exercised and drilled at component levels in increments, no global exercise had been performed that exercised the ability to manage all aspects of a nearshore response at something close to the full capacity outlined in the Prince William Sound contingency plan.

At the direction of the Alaska Department of Environmental Conservation, SERVS mounted a large scale nearshore response in April 2002, that included three full nearshore free oil task forces with three strike teams in each task force, the number expected at the advent of a planning standard size spill. More than 90 fishing vessels from PWS ports participated along with the nearshore barge 500-2, the landing craft Krystal Sea and utility vessel Endurance. Well more than 300 persons were involved. See report # 752 Nearshore 2002 06.

The exercise, in the area of Port Fidalgo placed task forces as far as five miles from the 500-2 command and deployment barge.

Among the objectives established for the exercise were management of a large-scale response at the division, task force and strike team levels; management of primary storage; traffic; offloading at the secondary storage barge; contamination issues on both fishing vessels and 500-2, and communications issues.

Overall, industry demonstrated such a response could be deployed, operated and managed, and participants largely met the objectives that were established by industry, government and RCAC. With only minor exceptions, the fishing vessels were able to manage Mini barge loading and decanting at the strike team and task force levels, with FV captains serving as leaders at those levels.

Traffic to and from the 500-2 was managed by a SERVS response supervisor on the barge, while a second assigned loading stations and managed the deck of the barge.

Careful attention was given to transit times, waiting time and off-loading in an attempt to provide something of an accurate measure of the off-loading abilities of the barge at a division level and for the most part this traffic/dispatch management kept barges moving through the process. Some shortage of storage was reported in the strike teams due to long transit and off-loading times, however this was at least partly considered a drill artifact as it was assumed in real oil, the mini barges would take longer to load with oil. It also was noted that traffic around the secondary storage barge was a larger concern in keeping storage available in the strike teams than was transit time.

Contamination control was exercised to a greater extent than had been observed previously. Fishing vessels were instructed and evaluated in methods to control contamination inside the vessels and on Mini barges. Efforts were made to control the volume of oil that could be spilled around the secondary storage including the lifting and lowering of oiled pumps, mini barge decks and booming the secondary storage barge to prevent spilled oil from escaping.

Over the nine and a half hours of operations, strike teams loaded mini barges 48 times and sent them to the secondary storage. Except for the last loading of the day, these were off loaded and returned to the strike teams empty and ready for operations. The average turnaround time varied largely because of transit times to the strike teams, with those farther from the barge obviously taking longer. Time at the barge including waiting, maneuvering, offloading and dispatch, averaged 44 minutes with an average offloading/pumping time of 22 minutes.

At the end of the day, crews attempted to demonstrate the barge could off load 10 mini barges simultaneously at five stations on each side of the barge. While this was accomplished, one outcome of the exercise was ADEC requesting SERVS move the loading davits for pumps farther apart to allow more maneuvering space for vessels to bring the mini barges alongside. This was accomplished and demonstrated in a subsequent exercise.

Overall the exercise largely met the established objectives as well as answering a number of concerns regarding a large-scale nearshore response. A number of lessons learned were developed, many of them to be addressed in subsequent fishing vessel training.

Among these were:

- Managing cross contamination aboard fishing vessels
- Instruction and practice in maneuvering a barge
- Spilled oil management aboard mini barges

**GEOGRAPHIC RESPONSE STRATEGIES:** This ongoing process has been to identify specific sensitive areas and develop strategies to protect them in case of an oil spill. Over time, some of the strategies are to be tested with actual deployments in the designated areas. In 2002, the third major deployment of geographic response strategies was performed, this one on the western coast of Montague Island. As had been experienced in previous GRS exercises, responders encountered unexpected difficulties and some of the recommended strategies either could not be deployed, did not function as expected, or had to be altered considerably. Some of this was the result of strategies

being developed without the benefit of actually visiting the sites. As a result of this, members of the group developing the strategies planned more site visits prior to developing the strategies in the future. Since the inception of the program, RCAC has been an integral part of the GRS process, through staff and contractor participation and this has furthered the stated goal of RCAC regarding the safe transportation of oil in Prince William Sound. Despite this participation, and while it may sound contradictory, RCAC needs to maintain something of an objective distance from the process as well, in order to evaluate the effectiveness of the strategies, rather than simply appear to give tacit approval of them through participation in their development.

**ESCORTS:** Through the years and into 2002, towing exercises for escort tugboats have largely been maneuvers testing equipment and developing procedures to effect a rescue of a stricken tanker, with the emphasis on data gathering to evaluate tug performance. During meetings in 2002 among ADEC, SERVS, shippers and RCAC guidelines and evaluation criteria were developed that were to lead to a new direction for towing exercises. The group generally agreed that the equipment, i.e. the two VSP tractor tugs and the three prevention/response tugs were well capable of performing the desired maneuvers. It was decided for future exercises, rather than focus on data gathering, the emphasis and evaluation would shift to training of personnel, captains and crews. In order to gain the full benefit of such exercises and evaluations, industry was charged with developing an effective lessons-learned process so that all crews could benefit from the experience gained from individual exercises.

**OPEN WATER:** In 2001 and 2002 SERVS completed the placing of open water boom and reels aboard the Transrec barges. Previously ERV's and tugs carried the booms for Transrec task forces. The change was made because it appeared tugs would find it difficult to control barges and deploy booms simultaneously. Through 2002 all four Transrec barges were exercised and boom deployed. This included a refining process for equipment and procedures to develop the safest, most efficient methods for such deployments. Though the refining process continues, the deployments were successful without any loss of capability. The Prince William Sound tug fleet still carries boom that, if necessary, could be deployed during a spill.

**DECONTAMINATION:** While decontamination equipment and procedures have always been mentioned through the years, little attention was paid to actually exercising them. Procedures with response equipment meant establishing hot, warm and cold zones aboard barges and operating vessels, to keep safe areas free of oil, and to be prepared to decontaminate personnel should the need arise. Since 2001, decontamination has become an integral part of exercises. In open-water task force exercises throughout 2002,

decontamination zones and cleaning stations were deployed on the Transrec barges and the operation has become a matter of course in those exercises. Decontamination also was an emphasized objective during the global nearshore drill called during the summer, with the outcome being placing new emphasis on it during fishing vessel training.



## ONGOING CONCERNS

As part of the 1998 contingency plan review, the contractor was asked to compile a list of lessons learned over the years since the program began in 1992. That list is included again in the annual report with updates for those areas addressed during the year.

**WASTE STREAM MANAGEMENT:** Disposal of recovered oil is an issue that has been discussed during several drills and exercises over the years, however without resolution. The most likely solution appears to be pumping secondary storage barges into a tanker of opportunity, however how to dispose of that oil has not been addressed to any extent. Apparently the recovered liquids cannot be put through the terminal's ballast water treatment plant without some measure of filtering and treatment beforehand. Putting the waste in a tanker of opportunity would take that ship out of service for a considerable period of time. The most likely disposal of a tanker full of recovered liquids is at the one R-2 refinery in Freeport, Texas which can handle highly emulsified oil. This is an issue that could be addressed and planned for prior to a spill. Solid waste disposal also has remained a question mark. During the BP drill in May while solid waste was reported generated, storage and disposal was not resolved to drill expectations. Each terminal drill also seems to have to identify a place for waste disposal rather than having a place and process already identified.

**MOVING A DAMAGED TANKER:** Early drills had the ship taken to Outside Bay after an incident in the sound. This location has been questioned and no specific location to take a disabled tanker has been settled. This should be planned for ahead of time.

**UPDATE:** Discussions during drill preparations have included suggestions that the best place to bring a stricken ship is back to the terminal, however it was decided local authorities probably would not allow it.

**GRAHAM REC SKIMMER:** Even after its re-engineering in 1994/95 the skimmer's capability remains questionable, though use of it is mandated for 12 of the first 24 hours to meet the 72-hour/300,000 barrel planning standard. By definition it is to be used in a static situation in thick oil, yet it is part of a dynamic skimming operation, namely the Transrec barges. Without any testing ADEC assigned it an efficiency rating of 50%, also a questionable number considering its efficiency is based on the relative amounts of oil and water it pumps. Since the operator has to stand as far as 200 feet away, the ability to keep the weir at the oil/water interface is questionable. Also, the Graham Rec has a shorter discharge hose than the Transrecs so that when it has been deployed, it does not reach the containment boom, thus limiting its ability to work in the thickest oil concentrations. Bringing the boom closer to the barge to

make the Graham Rec more effective than limits the Transrec efficiencies and the skimmers most likely would tend to rob oil from each other. It had been recommended this skimmer be sent to a testing facility, Ohmsett, for an accurate test and measure of its efficiency. During 1999 in some exercises, the new VSP tractor tugs were used for barge control in Transrec formations. Observations indicated the tugs could hold the barge in almost static position, increasing the efficiency of the Graham Rec skimmer along with the boom and Transrec skimmers.

**VALDEZ DUCK FLATS:** Several exercises over the years have shown the planned boom configurations put the boom perpendicular to tidal currents which leads to entrainment under the boom and allows oil into the Duck Flats area. Studies of flats currents have been planned but not carried out and the boom plan has not been adjusted. Also, in winter operations, ice floats off the flats and can damage a boom or sink it. RCAC's drill monitor, an ADEC representative and SERVS personnel tested currents during a Duck Flats deployment March 17, 1999. At that particular time, currents were found to be of less velocity than could be expected to cause entrainment and from a direction making an effective angle to the boom. It was pointed out at the time, that currents needed to be studied over a variety of tide ranges in order to develop a full picture of tide direction and strength on the flats. In the fall of 1999 SERVS was applying for permits to place permanent anchors for Duck Flats booms. Boom for the Duck Flats deployment has been moved to the SERVS facility dock adjacent to the flats. This speeds the process as vessels can take the boom quickly from the dock and straight across the west opening into the flats.

**UPDATE 2002:** During 2002, two exercises were performed with deployments at the Duck Flats. One was a "shakedown" to which RCAC was not invited. The second was an unannounced drill called by ADEC. Neither exercise showed an attempt to try new boom configurations that might prove more effective. However, it was noted in that unannounced drill that personnel remained on scene, tending the boom and adjusting positioning as currents demanded.

**PORT VALDEZ CURRENTS:** Experience in exercises and actual spills has shown currents in the port are not always predictable according to what would be the logical flow of ebb and flood tides. This has created difficulties with booms at the hatchery, Duck Flats, terminal and during various shoreline deployments throughout the port. Also, current information for Port Valdez in the ATOM model is marginal at best. Since the port is accepted as the most likely location for a spill, studies of currents need to be made and this should include local knowledge from fishermen with experience in the port.

**SOLOMON GULCH HATCHERY PROTECTION:** It was noted during the Eastern Lion spill in May 1994 that oil can move from Berth 1 to the hatchery in about an hour on certain tides and currents. Several improvements have been made since then in the hatchery protection program, but the deployment still takes more than four hours. It was recommended that a plan be developed for interim deflection away from the hatchery while the booms are being deployed. See Duck Flats comment above.

**UPDATE 2002:** SERVS attempted a deployment on the west side of the hatchery in March, using CSI boom rather than the slower deploying Shore Guardian See Report 752 Nearshore 2002 05. Though tide and winds interfered with the deployment, the boom was out, in place and could have been deflecting oil away from the net pens in just about an hour, compared with four and a half or more to complete the formations with Shore Guardian. In addition, during two exercises involving the terminal, personnel addressed hatchery protection early and sent mitigating equipment between the terminal and the hatchery.

**BURNING:** It has been shown in tests that 3% by weight of burned oil sinks to the bottom in a consistency of peanut brittle. This aspect is not mentioned in considerations before the decisions allowing burning.

**UPDATE 2002:** In conversations, SERVS personnel agreed there was a taffy-like substance after a burn, but insisted this could be recovered during the first half hour or so. It was agreed to research this aspect of burning, but to date no report has been issued.

**COMMUNICATIONS:** There are several communications issues beginning with the fact that in a major response there won't be enough VHF frequencies to go around.

Some specifics:

**Use of frequencies:** In a nearshore exercise April 20, 1998 in which two strike teams were deployed, four VHF channels were used for various parts of the operation. In a real response with as many as 45 strike teams in operation this would quickly clog VHF communications.

**Boom deployment:** It has been observed in several boom deployments involving fishing vessels, particularly from the Barge 500-2, that there is not consistent communication with the deploying vessel. At times the fishing vessel has been observed maintaining strain on tow lines while barge deck crew was working on the boom reel, creating the potential for a serious accident. A watch needs to be maintained to monitor the vessel and the deployment crew constantly. Also, voice commands and hand signals should be standardized.

Transrec formations: Often the tug captain controlling the barge holds the command. However this operator cannot see the boom apex or the position of the skimmers within the boom. A watch should be maintained and commands given from a position at the stern of the barge in order to ensure the proper positioning of boom and skimmers.

**UPDATE 2002:** During discussions among industry, ADEC and RCAC to develop objectives for evaluating open-water exercises, communications were addressed with specific goals identified and to be included as objectives and evaluation criteria in future exercises. (See appendix.)

**OFFSHORE RESPONSE:** Only one exercise has been held to demonstrate offshore capabilities outside Prince William Sound. That was August 8, 1996. It happened on a very calm day near Seal Rocks and as a result did not give any realistic picture of offshore capabilities. Among questions raised from that exercise were:

1. The choice of Vikoma Ocean Boom and whether it was adequate for offshore work considering North Sea operators have abandoned it in favor of the RO 3500 which is larger, stronger and takes less tending.
2. Derated capacities of barges to meet offshore manning requirements.
3. Effectiveness of electronic communications equipment to reach the operating units.

SERVS took delivery of two NOFI 1000 boom systems in 1998 for use with the Transrec barges. These appeared to be more suitable booms for offshore work and held out other possibilities as well, including helping with barge control. These booms were being refined before adding them to the SERVS inventory. To date these have not been observed in use.

In 2001 SERVS did one mobilization drill sending a barge from Port Valdez to Hinchinbrook Entrance, testing response time.

**RELEASE OF PWS RESPONSE EQUIPMENT TO OTHER AREAS:** In two drills by Tesoro in Cook Inlet, ADEC allowed more than half of SERVS' equipment to be released to Cook Inlet and still allowed tanker traffic to proceed in Prince William Sound. In each of these, mitigating measures were instituted, however the question of traffic during periods of reduced response capabilities needs to be addressed.

**UPDATE 2002:** As part of RCAC's 2002 contingency plan review process, the number of tugs necessary to mount a response and simultaneously maintain safe operating levels at the terminal has been reviewed and was under discussion at year's end.

**TECHNIQUES:** Much of the strategy and technique appears to be rigid according to the contingency plan. World wide, techniques and strategies differ and training, particularly for supervisory personnel should include instruction in techniques employed by other OSROs. For example, during an exercise in Chenega during 1997, a standard technique used by Clean Coastal Waters was attempted and appeared to work with fishing vessels and the landing craft Krystal Sea. Considering the constantly fluid nature of an oil spill response, supervisors should have as many strategies and techniques as possible available to them. In 2002 SERVS management considered this suggestion and said they would look into developing a handbook of alternative techniques.

**MATCHING FISHING VESSELS AND EQUIPMENT:** Almost since nearshore operations began, fishing vessel operators have suggested SERVS match equipment with individual vessel hydraulic systems rather than place a power pack on the deck of each vessel. To date there is no evidence this has been accomplished. A large part of the difficulty with this, is most SERVS equipment demands a specific type of hydraulic oil and there is no guarantee fishermen would be using the same type short of SERVS purchasing the oil for them.

**FISHING VESSEL FUNCTIONS:** In several of the major owner company drills, requests for fishing vessels have been continuous for every aspect of a response. As the contracted fleet is highly trained for spill response, other vessels need to be identified and used for such tasks as re supply, personnel transport, wildlife capture and others and the trained fleet left to booming and skimming operations. In addition, over several owner-company exercises, the SERVS fishing vessel coordinator has encountered difficulty with non-specific requests for fishing vessels, pertaining to the capabilities required for the vessels requested.

**UPDATE 2002:** This item was addressed in drills and exercises during the year with knowledgeable personnel working fishing vessel procurement issues and attempting to match vessels with tasks prior to entering formal requests for vessels.

**EXCLUSION BOOMING:** The contingency plan shows exclusion booming of a bay with the boom straight across the mouth or with two layers of boom. As tidal currents generally move in and out parallel to the lay of the bay, this puts the boom directly perpendicular to the flow and, as experience in exercises has shown, causes entrainment, allowing oil into a bay that is being protected. Diversions at the points, constantly tended, provide better protection.

**UPDATE 2002:** As the development of geographic response strategies continued into 2002, bay-crossing exclusion booming appeared to be the method of choice for

protecting bays. A GRS exercise in July used exclusion deployments across both ends of a channel behind an island near Montague Island which showed obvious difficulty maintaining exclusion and appeared to allow considerable entrainment.

**BOOM TOWING DIRECTION:** Several reports beginning in 1993 mentioned vessels towing boom into the wind. This causes splashover and entrainment. Several times it had been suggested boom be towed downwind, but this has not been demonstrated to any degree in subsequent exercises. Tugs have more difficulty controlling barges downwind than they do towing upwind.

**UPDATE 2002:** This was observed in a 2002 exercise and as expected, the new VSP and PR tugs were able to maintain a steady, almost static barge position no matter what the current. However, fishing vessels towing the boom downwind experienced difficulty maintaining the formation and tended to overtake the barge because of higher towing speeds necessary to maintain the shape of the boom.

**ENTRAPMENT MODULE DEFLECTION BOOMS:** Booms directing floating oil into a beach area for skimming over the past several exercises have been difficult to maintain as they tend to belly, collect oil and then entrain allowing oil to pass. These booms generally are anchored at the shoreline and offshore. Dynamic deflection with two vessels holding the boom has been shown to maintain shape better.

**DRILL MONITOR CALENDAR 2002 BUDGET AND EXPENSES**

<b>BUDGET</b>	<b>\$50,280.00</b>	<b>\$5,000.00</b>	<b>\$55,280.00</b>
<b>JANUARY</b>	\$4,000.00	\$0.00	\$4,000.00
<b>FEBRUARY</b>	\$4,000.00	\$57.95	\$4,057.95
<b>MARCH</b>	\$4,000.00	\$258.76	\$4,258.76
<b>APRIL</b>	\$4,000.00	\$520.85	\$4,520.85
<b>MAY</b>	\$4,000.00	\$0.00	\$4,000.00
<b>JUNE</b>	\$4,000.00	\$0.00	\$4,000.00
<b>JULY</b>	\$4,380.00	\$0.00	\$4,380.00
<b>AUGUST</b>	\$4,380.00	\$0.00	\$4,380.00
<b>SEPTEMBER</b>	\$4,380.00	\$0.00	\$4,380.00
<b>OCTOBER</b>	\$4,380.00	\$0.00	\$4,380.00
<b>NOVEMBER</b>	\$4,380.00	\$0.00	\$4,380.00
<b>DECEMBER</b>	\$4,380.00	\$0.00	\$4,380.00
<b>TOTALS</b>	\$50,280.00	\$837.56	\$51,117.56
<b>REMAINDER</b>	\$0.00	\$4,162.44	\$4,162.44

## **GOALS FOR THE COMING YEAR**

ADEC, SERVS, shippers and RCAC including the drill monitor participated in a series of meetings during 2002 to define standardized objectives and evaluation criteria for open water exercises, namely Transrec barge operations. That task was completed and the objectives and evaluations will be used in future exercises and drills. At the end of the year, the group began the initial process to do the same for nearshore operations and that work can be expected to continue through 2003 with the end result being a clear understanding for all parties exactly what the expectations are for industry oil spill response operations. A copy of the open water document is included in the Appendix.

The process was led by ADEC which is bound to evaluate according to regulation and with industry only bound to meet that regulation. This means the equipment and personnel must meet state regulation and planning standard expectations and there could be times where those standards differ from RCAC expectations. By definition, shippers were held to planning standards, where it was suggested performance criteria, meaning actual, realistic oil recovery be somehow included. For the purposes of assuring the citizens of Prince William Sound that an effective response can be mounted, some form of evaluating performance remains to be developed that speaks to the realistic operating capabilities of equipment and personnel.

While emphasis on ship assist exercises was shifted from equipment evaluation to crew training in 2002, some testing questions remain. Attempts have been made, but weather has not cooperated, to perform ship assist maneuvers in more adverse weather conditions than have been encountered in exercises to date. It can be expected in coming months that exercises may be attempted in less than calm sea and wind conditions.

RCAC's drill monitor pointed out an issue relative to the tanker lanes during 2001 which remains to be addressed. When the change in the lanes was first proposed to take out the southern dog leg turn, the initial plan was a straight run from the northern turn until the ship had passed through Hinchinbrook Entrance. The final determination for the lanes now includes a turn within the confines of the entrance. As equipment is most likely to fail when it is used, this turn creates the potential for more of a problem than the original traffic plan with the turn north of Hinchinbrook. Where previously the ship, if it experienced a rudder failure during the turn, had sufficient sea room to make an adjustment, now the turn is effected close to land inside Hinchinbrook Entrance.

Perhaps most importantly, as time and distance from the Exxon Valdez oil spill increase, along with assurances of the improved escort system, RCAC partially through the drill monitoring program, needs to maintain constant vigilance to prevent the onset of



complacency, and continually provide assurance to the residents of Prince William Sound and the EVOS region that an effective escort system exists and that a suitable, timely response to an oil spill can be expected.

Respectfully submitted,

Tim Jones

January 15, 2003

## APPENDIX

The following is a draft of the agreed upon objectives and evaluation criteria for open water exercises (Transrec task force). It remains in draft form awaiting comment from SERVS. A similar document is being prepared for nearshore operations.

### Open Water Exercises

1. Mobilization
  - Staff mobilization
  - Resource mobilization
  - Transit to station
  - Ready equipment while in transit to station
  
2. Equipment Deployment
  - Boom Deployment
    - Kepner
    - Vikoma
    - Ro-Boom
  - Skimmer Deployment
    - Transrec
    - Grahamrec
  
3. Equipment Demobilization
  - Returned response-ready
  - Maintenance completed
  
4. Task Force Management
  - Command and Control
    - Barge positioning
    - Boom positioning
    - Skimmer positioning
    - Station keeping
  
5. Skimmer Operation
  - Weir height/Pump rate adjustments
    - Evaluating effectiveness
      - Sampling
      - Other observations
  
6. Barge Operation
  - Loading
  - Record Keeping
  - Decanting
  - Offloading
  - Decontamination
    - Personnel
    - Equipment

7. Safety
  - Small/Large Vessel Safety
  - On Deck Safety
  - PPE
  - Following Safety Protocols/Safe Work Behaviors
    - Stored Energy Concerns (lines/boom under strain)
  - Site Control
  - Hazard Identification
8. Communications
  - Effective, positive communications
  - Following radio protocols and using proper frequencies
  - Properly functioning equipment and proper location
  - Visual communications (hand signals, emergency signals)
9. Innovative Ideas / “Outside the Box”
  - Back up plan for equipment failures
  - Adjustments to changing conditions

## Open Water Exercise Objectives Working DRAFT

### ***Task Force Management – Exercise-Specific Objectives:***

**Note: Pre-exercise packet will identify vessels and equipment to be utilized.**

1. Task Force Management
  - Demonstrate task force command and control.

*This objective will be evaluated based on the following:*

  - ✓ *Identify the task force leader*
  - ✓ *Establish task force organizational structure*
    - ✓ *Span of control*
      - ✓ *Appropriate match of supervision to activities*
      - ✓ *Assign Personnel/Delegate responsibilities*
    - ✓ *Management of information between TF leader and task force*

- ✓ *TF leader maintains overall control of all task force activities*
- ✓ *TF leader recognizes key operational aspects (such as barge positioning, station keeping, etc.)*

## 2. Task Force Positioning

- Demonstrate ability to position task force as assigned.

*This objective will be evaluated based on the following:*

- ✓ *Assignment is clearly understood by the task force leader*
- ✓ *Task force operating limitations are considered*
  - ✓ *Sea room to maneuver*
  - ✓ *Water depth*
  - ✓ *Ocean-certified barges vs. inland-certified barges*
  - ✓ *Vapor levels*
  - ✓ *Wind, Sea state, Visibility, Temperature, Ice Conditions*

## 3. Barge and Boom Positioning

- Demonstrate ability to maintain barge position in path of oil.

*This objective will be evaluated based on the following:*

- ✓ *Identify task force strategy relative to assignment*
- ✓ *Identify personnel responsible for barge and boom positioning*
- Maintain boom positioning to support barge operations.

*This objective will be evaluated based on the following:*

## 4. Skimmer positioning

- Demonstrate ability to maintain proper positioning of skimmers.

*This objective will be evaluated based on the following:*

**Open Water Exercise Objectives**  
**Working DRAFT**

***Equipment Deployment – Exercise-Specific Objectives:***

**Note: Pre-exercise packet will identify equipment to be utilized.**

1. Boom Deployment (at scene)

- Demonstrate proper deployment of boom

*This objective will be evaluated based on the following:*

- ✓ *Stage all necessary ancillary equipment*
- ✓ *Establish deployment sequence (order of boom deployment)*
- ✓ *Establish effective communication between barge and boom-towing vessel*
  - ✓ *Establish control procedures (recognized point of contact, choice of communication methods)*
- ✓ *Safely deploy boom and ensure boom is functional*

2. Skimmer Deployment

- Demonstrate proper deployment of skimmers

*This objective will be evaluated based on the following:*

- ✓ *Stage and prepare all necessary ancillary equipment*
- ✓ *Establish deployment sequence (order of skimmer deployment)*
- ✓ *Safely deploy skimmers*

**[skimmer operations dealt with under separate objective]**

**Open Water Exercise Objectives**  
**Working DRAFT**

***Barge Operation – Exercise-Specific Objectives:***

## 2. Recovery Barge Loading

- Demonstrate all procedures necessary for loading the barge with recovered oil based on accepted procedures.

*This objective will be evaluated based on the following:*

- ✓ *Adjust valves on a real-time basis to demonstrate completely filling the barge with recovered oil based on the volumes being recovered by the skimmers using actual time of operation (See note below).*
- ✓ *Demonstrate procedures/calculations for gauging the tank levels on a real-time basis.*
- ✓ *Compile and continuously maintain accurate records that relate to all aspects of loading the barge.*
- ✓ *Assign adequate numbers of personnel to carry out all functions associated to loading the barge with recovered oil.*

**Note:** Drill controllers may artificially advance the time in order to simulate filling the barge to capacity.

## 3. Free-Water Decanting

- Demonstrate all procedures necessary for free-water decanting from the barge based on established procedures.

*This objective will be evaluated based on the following:*

- ✓ *Ensure task force leader understands that a decanting permit is required prior to decanting and ensure permit requirements are followed by barge operators.  
Note: a sample permit may be requested.*
- ✓ *Demonstrate procedures/calculations for determining volume of free water available for decanting.*
- ✓ *Compile and maintain accurate records that relate to all aspects of decanting the barge.*
- ✓ *Demonstrate decanting procedures (valve adjustments, sampling, tank gauging, pump operations) to successfully remove the desired volume of free water.*
- ✓ *Assign adequate numbers of personnel to fully decant the barge in the required timeframe.*

**Note:** Drill controllers may artificially advance the time in order to simulate totally decanting the free water from the barge and may provide information on what is being seen in the effluent samples.

4. Transrec Barge Offloading

- Demonstrate procedures for offloading recovered fluids to a tanker of opportunity.
- Demonstrate procedures for offloading recovered fluids at the VMT.

*This objective will be evaluated based on the following:*

- ✓ *Identify all of the necessary equipment required for offloading the barge.*
- ✓ *Identify all of the procedures required to successfully accomplish offloading the barge.*

**Note:** Only one of these objectives would be selected in any one drill/exercise. This may be done as a walk-through or tabletop.

5. Site Control/Decontamination

- Establish control zones

*This objective will be evaluated based on the following:*

- ✓ *Demonstrate timely setup of control zones*
- Demonstrate proper procedures for personnel decontamination on a full-time basis throughout the drill/exercise.

*This objective will be evaluated based on the following:*

- ✓ *Demonstrate timely setup of decontamination stations.*
- ✓ *Demonstrate adherence to established decontamination procedures.*
- Demonstrate proper procedures for equipment decontamination.

*This objective will be evaluated based on the following:*

- ✓ *Demonstrate decontamination procedures.*

**Open Water Exercise Objectives**  
**Working DRAFT**

### ***Skimmer Operation – Exercise-Specific Objectives:***

#### 1. Skimmer positioning

- Demonstrate ability to maintain optimum positioning of skimmer to recover oil.

*This objective will be evaluated based on the following:*

- ✓ *Individual skimmer operators will be asked to describe the reasoning behind where they have chosen to locate the skimmer.*

#### 2. Skimmer operation (weir height / pump rate) adjustments

- Demonstrate ability for assessing/obtaining information about oil thickness within the boom

*This objective will be evaluated based on the following:*

- ✓ *Individual skimmer operators will be asked to describe the rationale behind their skimmer adjustments (i.e. the reasons behind their weir height/pump rate adjustments).*
- ✓ *Demonstrate ability to collect and assess samples from the recovered liquid.*
- Demonstrate all procedures necessary for effectively operating the skimmer to maximize oil recovery and minimize water intake

*This objective will be evaluated based on the following:*

- ✓ *Adjust weir height/pump rate in response to simulated oil thickness*
- ✓ *Adjust weir height/pump rate in response to sample analysis*

Note: Oil thickness measurements and/or samples will be provided to operators during exercises/drills.

### **Open Water Exercise Objectives**

**Working DRAFT**

### **Communications – Exercise-Specific Objectives:**

- Demonstrate proper communications among participants for deployment of response equipment.



*This objective will be evaluated based on the following:*

- ✓ *Designation and use of appropriate radio frequencies and radio protocols*
  - ✓ *Establish and maintain communications between barge personnel and vessels receiving equipment during deployment*
  - ✓ *Single point of contact between barge deck and deployment vessels*
  - ✓ *Use of proper visual signals during crane and boom reel operations*
  - ✓ *Use of proper visual signals between barge deck and fishing vessel crew*
  - ✓ *Establish and maintain consistent watch during operations in order to anticipate difficulties and communicate adjustments accordingly*
- Demonstrate proper communications among participants for establishing task force formation and maintaining formation for the most effective skimming operations.  
*This objective will be evaluated based on the following:*
    - ✓ *Establishment of clear communications between supervisor and skimmer operators*
    - ✓ *Use of proper terminology for positioning skimmers and adjusting weir position*
    - ✓ *Designation of appropriate personnel to direct vessels*
    - ✓ *Designation and use of appropriate radio frequencies and radio protocols*
    - ✓ *Use of terminology clear to all participants, including fishing vessels, work boats and tug operator*
    - ✓ *Establishment of a constant watch on task force to anticipate difficulties and direct vessels to maintain and adjust formation accordingly*
    - ✓ *Coordination with oil tracking personnel (i.e. slick tracking by vessels or aircraft)*