

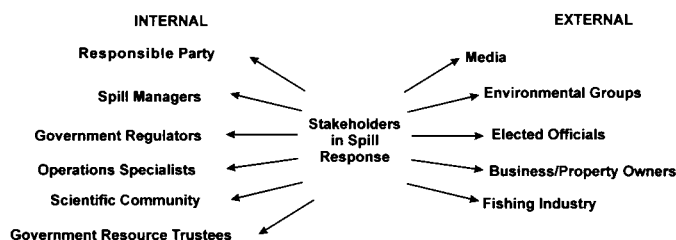
## SECTION 3

# THE STAKEHOLDERS AND THEIR CRITERIA FOR ASSESSING PERFORMANCE

Everyone who has an interest (or stake) in the outcome will judge spill response. There are two definitions of the term "stakeholder" in the 1997 *American Heritage Dictionary*: (1) anyone who has a share or an interest in an enterprise especially a financial share, and (2) anyone who has a personal interest or involvement. This section will identify who belongs to internal and external stakeholder groups; their roles, responsibilities, or interest in a spill incident; and the criteria they apply in assessing the effectiveness of response performance.

Stakeholders can be divided into two categories, internal and external (Figure 1). Internal stakeholders include those who have direct responsibility for or take part in the spill response. External stakeholders are those who have a stake in the outcome of the response. The decisions and actions of the response organization affect external stakeholders even though these stakeholders are not directly involved in the conduct of the response.

**FIGURE 1.**  
**KEY STAKEHOLDERS IN OIL SPILL RESPONSE**



The entity with financial responsibility is the company or organization that has the spill accident, the Responsible Party (RP). Some government agencies are charged with overseeing a response, while others are responsible for particular resources that may be affected by the spill. This latter category includes resource trustees. The scientific community sees and assesses the event from a scientific perspective. Response managers and operations specialists, who deploy and run the response equipment, are most directly responsible for the conduct of the response. Indigenous groups with coastal land or subsistence use of resources, property owners, and businesses that depend on coastal activities may be affected by a spill event. Environmental groups may take public positions on spill

issues, and they may have considerable input during the planning phase for oil operations generally and spill preparedness. The media are observers of responses to large spills and rely on the other stakeholder groups to provide input to their stories.

## 3.1 RESPONSIBLE PARTY

The primary concern of an RP is responding in a manner that will minimize liabilities and costs to enable the company to survive. An RP seeks to conduct an effective spill response and to be perceived as doing so through a public and media relations effort. An RP seeks to limit potential liabilities (civil, criminal, and financial) that result from a spill incident. Therefore, some scientific data collection to assess the impacts of the spill will usually be a part of an RP's response effort. Ideally, data collection will be in cooperation with the government agencies that will also be assessing impacts. Many RPs and government agencies have expressed the desire to conduct cooperative studies, and such cooperation is now encouraged in US regulations.

## 3.2 SPILL MANAGERS

Spill managers are responsible for all aspects of response. The type and degree of response is often influenced by socioeconomic factors, including various amenity and economic uses of shorelines and coastal waters and environmental esthetics, as well as political pressures. For example, a harbor containing expensive recreational and fishing boats generates considerable income for the local community. Bad publicity regarding oil contamination can translate into economic losses. Hence, more extreme methods (e.g., hydroblasting or hot water washing) to remove visible oil often can be justified on socioeconomic grounds. Managers are found in an RP's company and in government agencies (designated as lead agencies for government[s] during responses). Spill managers usually employ some variation of the Incident Command System (ICS), adapted from the command system developed for fire fighting, which is now generally used worldwide.

Poor management can result in delays and disputes. Good management (if backed by adequate resources) can result in prompt, effective action. Criteria for assessing spill response performance are similar among spill managers from various organizations with the notable exception that an RP must also

be concerned with the survival and financial integrity of a company.

The roles of government and industry managers vary from country to country. In some, a government agency assumes responsibility for managing the spill response operation, and an RP is not involved in decision making directly. In others, the government acts as an advisor to or monitor of an RP's management activities. The roles of government spill managers in various countries are described below.

**Bulgaria.** The Bulgarian Marine Emergency Response Squadron, a government agency reporting to the Ministry of Environment, has overall responsibility for coordinating spill responses. An RP probably will do most of the hands-on management. Companies with operations in a country are responsible for developing contingency plans that identify sensitive areas and detail response strategies, including plans to access equipment from outside the country (Hoagland-Grey, 1995).

**Canada.** A government-industry partnership is how Shirreff and Berthiaume (1995) describe Canadian oil spill response planning. Spill management can take three different forms: (1) a spiller manages a response with the Coast Guard and other agencies acting as advisors, (2) the Coast Guard manages a response with a spiller acting as advisor, or (3) the Coast Guard manages a spill with no involvement by a spiller. The authors conclude that the government-industry partnership is both sensible and cost-effective. Key to success is working very closely during the planning and training process.

**India** has designated its Coast Guard as the authority responsible for spill preparedness and response (Mahapatra, 1995).

**Norway.** The Norwegian Pollution Control Authority has statutory authority for spill response, although a spiller pays for a response. The Head of the Oil Pollution Control Department is the Head of Operations in charge of an Operations Headquarters at a spill scene. Support units include Operations, Information, and Liaison (with a spiller and Military and Civil Defense). Supporting Operations are Logistics, Communications, Expert group on environmental impacts, and Advisors for municipal contingency representing affected municipal areas (Guénette *et al.*, 1997). Additionally, for the Norwegian oil industry, the Norwegian Pollution Control Authority requires well-documented contingency plans at refineries, oil terminals, and offshore installations. The RP takes the lead (with an On-Scene Coordinator [OSC]) in responding to the spill, but in close cooperation with the authorities.

**Spain** has a National Contingency Plan (NCP) under which a government agency, the Merchant Marine Directorate, functions as On-Scene Commander during marine salvage and pollution events. Pardo (1995) describes how this plan functioned during the *Aegean Sea* spill in 1992 at La Coruña on the northwest coast of Spain. He describes extreme media attention and public interest in the spill. He also documents rapid decision making by the On-Scene Commander regarding the question of dispersant use. The response included on-water recovery, protection of sensitive areas, and shoreline cleanup.

**The UK.** The Coastguard Agency's Marine Pollution Control Unit (MPCU) manages spill response and implements the UK NCP (Harris, 1997). The agency has a small staff but stockpiles

equipment and has numerous contractors on call. The management structure includes an Overall Commander (the chief executive of the UK Coastguard Agency) that is responsible to the Secretary of State for Transport. The Local Commander (director of the MPCU) is based at the Marine Response Center along with the Press Center and the Joint Response Center. These facilities usually are close to the spill scene. The Local Commander (On-Scene Commander) is a senior officer of the MPCU based at the spill scene. Air Operations, Equipment, Salvage, Cargo Transfer, and Marine Resources units support the command structure. These units can tap expertise and contractors throughout the country and beyond. Equipment from other countries is accessed through the Bonn Agreement (Harris, 1997).

**The US.** Under the US Unified Command Structure (UCS), a company or RP and federal and state government agencies manage response together. The UC manager is an RP's OSC. Operations staff is responsible for the actual response from logistics to waste disposal. Environment, Health, and Safety staffs advise the UC regarding resources at risk and priorities for protection, effects and effectiveness of various spill response countermeasures, shoreline cleanup priorities and methods, and general health and safety issues. Public Relations staff usually forms a joint office within the UC to disseminate information about the spill and cleanup activities. Legal staff advises the company regarding liabilities (Jardim and McDermott, 1993).

For US marine spills, the USCG provides a Federal On-Scene Coordinator (FOSC), who is responsible for oversight and support of an RP's response effort. Other agencies (federal, state, and local) concerned with particular resources may want to be involved in the response process to protect their interests. The greater the number of entities involved in decision making, the more difficult making decisions becomes. If an RP cannot be identified or if RP resources are overwhelmed, the USCG is charged with augmenting these resources to the extent necessary to achieve an adequate response.

**Venezuela.** The national oil company, *Petróleos de Venezuela S.A.*, is charged by presidential decree with implementing Venezuela's NCP. Its regional subsidiaries implement operations within their areas of responsibility. Response activities include mechanical recovery, dispersant application, protection of identified environmentally sensitive areas, shoreline cleanup, and public affairs (Villoria *et al.*, 1995).

### 3.3 GOVERNMENT REGULATORS

In most countries, one or more government agencies are assigned legal authority and responsibility to minimize the impacts of oil spill incidents. These are carried out in a variety of ways. Some government agencies directly manage a spill response (e.g., the UK Coastguard Agency). Another responsibility common to most countries is to integrate recommendations of science advisors, operations personnel, and other interested parties toward a final determination of criteria that will be used to measure success. One critical element is determining the point at which a response should be terminated.

### 3.4 OPERATIONS SPECIALISTS

Operations specialists deploy and run equipment in oil cleanup cooperatives, the oil industry, and government agencies. They are most concerned with timely response to a spill event, timely and proper deployment of equipment, and effectiveness and efficiency of equipment, including the amount of oil removed or controlled. Lees (1993) gives an operations view of response criteria to assess the effectiveness of response:

- equipment readiness,
- speed and efficiency of equipment mobilization and deployment,
- team response time,
- equipment efficiency (barrels of oil recovered, reliability of communications systems), and
- logistical support deployment and effectiveness.

Benson *et al.* (1993) provide another operations perspective by documenting a beach cleanup in Saudi Arabia where performance was assessed solely by percentage of oil removed.

### 3.5 SCIENTIFIC COMMUNITY

The scientific community likely to work on oil spill issues is located in consulting firms, government agencies, universities, and oil companies and their insurers. The scientific community provides technical and engineering support to spill managers during response. For example, scientists identify sensitive habitats, effects on natural resources, and technical capabilities of response options. Such information is useful to spill managers in devising response strategies and implementing tactics.

The subject of how to assess spill response effectiveness has been debated over several years by the scientific, government, response, and environmental communities. Lindstedt-Siva (1977, 1979, 1991) espouses a position favoring ecological standards because ecological impacts are generally longer lasting and harder to repair than, e.g., esthetic impacts. Baker (1997) offers support for use of ecological standards. Mearns (1995) and Baker *et al.* (1996) use ecological endpoints for measuring the effects of spills and response effectiveness, and to define recovery.

Baker (1995, 1997) lists chemical standards that could be used to define "clean" based on petroleum hydrocarbon concentrations that:

- do not exceed normal background levels for a particular location;
- do not exceed statutory limits;
- are not lethal to specified organisms;
- do not cause deleterious sublethal effects to specified organisms;
- do not cause tainting of food organisms;
- do not impair the human use of an area; and
- are not visible to the human eye.

The review by Sell *et al.* (1995) summarizes many other scientific papers over a period of 30 years that use such scientific criteria.

### 3.6 GOVERNMENT RESOURCE TRUSTEES

Government resource agencies that are responsible for managing or monitoring particular resources such as fish stocks, marine mammals, national parks, and wildlife refuges will not only judge the response in this role, but may function as trustees for NRDA. The usual pattern in the US is to hire contractors to supplement agency scientists. There can be overlap between agencies involved in a spill response and agencies assessing the spill impacts for later legal action against a spiller.

Major performance criteria for trustee agencies include protection of identified environmentally sensitive areas (e.g., wetlands, seal or sea lion haul out areas, sea otter areas, bird nesting areas, fish hatcheries) or particular resources. Such agencies may wish to be part of response decision making when they perceive that the resources for which they are responsible are threatened. In the US, these agencies also may be resource trustees for NRDA purposes.

During any large spill, there is always an effort to rescue and rehabilitate oiled birds and mammals. Bird and mammal surveillance teams are mobilized, permitted collection teams activated, and rehabilitation centers opened, staffed, and equipped. Bird and mammal rescue and rehabilitation components are necessary performance criteria for these resource agencies during a response.

### 3.7 MEDIA

The traditional media — print, television, and radio — are the judges of response that seem to matter most to nearly everyone involved in the response process. The media play key roles in disseminating information about a spill to an anxious public. Large spills are media events, yet the media are generally not spill experts. Case studies of 12 major spills were reviewed from the literature as well as newspaper and magazine articles on these spills (Appendix).

The most common pattern of media reporting is to seek "sources" representing various "sides" for information, experiences, and opinion. Television and radio news are constrained by time and seem to focus on drama and conflicts. Print media can take more time for technical details and analysis.

### 3.8 ENVIRONMENTAL GROUPS

Environmental groups are non-governmental organizations usually motivated by concern over human impacts on the environment. They often are involved in many aspects of spill preparedness and will certainly be judges of response. Environmental groups play major roles in fostering environmental laws and regulations through lobbying efforts and during com-

ment processes. They have come to be accepted as interested parties and often are represented in government-formed panels to develop policy recommendations on environmental issues. Environmental groups are nearly unanimously against oil development offshore. Those who favor litigation are as likely to sue the government as industry. All environmental groups, whether lobbyist, litigator, or activist, seek to attract media attention and support.

After the *Exxon Valdez* spill, Greenpeace (<http://www.greenpeace.org>) began a campaign to “highlight the worst practices of the oil industry to pressure them to clean up their acts” and educate people about “alternative solutions to energy problems such as solar- or wind-based power sources and public transport initiatives that could end our addiction to fossil fuels.” The group also was a visible presence during the 1993 *Braer* spill in the UK where members opposed chemical dispersant use and suggested the potential for long-term health effects from exposure to spilled oil (Hetherington, 1993).

Friends of the Earth (<http://www.foe.org>) was active during the *Sea Empress* spill (1996) and sued the UK Department of Transport for failure to take command of salvage operations, criticized the Coastguard Agency’s enforcement of environmental laws (Brown, 1997), and actively opposed chemical dispersant use (“Slick cleanup report renews spraying debate,” 1997).

The Sierra Club (<http://www.sierraclub.org>) is not categorically against offshore oil development but opposes offshore petroleum exploration unless:

- There is adequate funding for studies on the effects of large spills and on the cumulative effect of oil pollution in the marine environment.
- There are readily available adequate containment and recovery systems.
- Baseline biological, geological, and environmental data needed to evaluate the future impacts of petroleum development in a prospective area have been obtained.

### 3.9 ELECTED OFFICIALS

Elected officials respond to constituents and want to solve problems, especially highly visible problems, in their districts. They often respond to public opinion polls and media pressure and seek ways to advance their careers by participating in activities perceived as beneficial. This means that, to varying degrees, elected officials will be involved in any large spill event. These officials may aid the process if their influence is applied toward, e.g., streamlining the process or expediting equipment access from government sources. Because they are not involved in the planning phase, but only after the event, and because of their dependence on constituent satisfaction, however, the criteria they use to assess performance include:

- satisfying constituent demands,
- positive media reports, and
- positive public opinion.

### 3.10 BUSINESS AND PROPERTY OWNERS

Owners of properties other than governments include private landowners, indigenous groups, and businesses. These property owners are concerned that the value of their property may decrease because of a spill. If oil comes ashore on their property, they want immediate cleanup. In addition, there are businesses dependent on shoreline- and water-related activities. Everything from large resorts, to family-owned bed and breakfasts, to bait shops and boat rentals and marina operators can be affected. Property owners usually are angered over the damage to their property or livelihood. The special attention by responders to their needs and requests will determine how they judge a response.

### 3.11 THE FISHING INDUSTRY

Fishermen’s organizations, like environmental groups, tend to oppose oil development and become very visible during a crisis. The fishing industry is concerned with the health of fish stocks, the ability to fish, potential contamination of boats and equipment, and tainting or perceived tainting of their fish catch, all of which amount to concern over economic impacts of the spill.

Fishermen are motivated to become involved in a spill response when they are affected by a spill directly. Commercial fishermen’s groups are impacted when harbors from which they operate or fisheries themselves are threatened with closure, fishing gear could be contaminated, or fish could be tainted or perceived to be tainted because of a spill. Local fishermen can play a part in response decision making and in a response itself by hiring out their vessels and crews (Lindstedt-Siva, 1991).

### 3.12 SUMMARY OF STAKEHOLDER RESPONSE PERFORMANCE CRITERIA

The response performance criteria from each type of stakeholder are compiled in Table 1. Criteria may be conflicting or complimentary between stakeholders. Some criteria are unique to one type of stakeholder. It is the number and variety of performance criteria, in combination with the potential for conflict, that is a major cause of poor performance. To improve performance, the response community should work to gain consensus on criteria to develop performance goals and expectations.

**TABLE 1.**  
**SUMMARY OF RESPONSE PERFORMANCE CRITERIA**

STAKEHOLDERS/RESPONSE PERFORMANCE CRITERIA	REFERENCE	STAKEHOLDERS/RESPONSE PERFORMANCE CRITERIA	REFERENCE
<b>RESPONSIBLE PARTY</b>		<b>SPILL MANAGERS (continued)</b>	
Company survival		Expansion capability to accommodate a large spill	Walker <i>et al.</i> , 1985
Minimize liabilities	White, 1997	Coordination between all responding entities	Walker <i>et al.</i> , 1995
Perceived as good corporate citizen	White, 1997	Effectively communicate and manage information	White, 1997
Contingency plan effectively implemented	Jarolim and McBerrett, 1993	Ability to shift management styles during emergency and project management phases	Ott and Staffort, 1997
Effective, timely, complete response			
Minimize impact	Ott <i>et al.</i> , in press		
<b>GOVERNMENT REGULATORS</b>			
No visible oil on water	Tobias, 1995	Involve interested parties in planning process	Fridy and Rivot, 1995
No visible oil on shorelines	Tubaru, 1995	Interested party agreements/concerns addressed	Bakke, 1997; Ott <i>et al.</i> , in press
No hydrocarbon odor or oily feel	Tobias, 1995	Minimize the spread of oil	Ott <i>et al.</i> , in press; Walker <i>et al.</i> , 1995
Hydrocarbon concentrations are measured below an agreed on standard	Tubaru, 1995		
Minimize impact of spill and cleanup	Ott <i>et al.</i> , in press	Minimize impact (environmental and economic)	Ott <i>et al.</i> , in press
Clear and effective notification and call out procedures	Ott <i>et al.</i> , in press	Proctor identified sensitive areas	Ott <i>et al.</i> , in press; Walker <i>et al.</i> , 1995
Effective identification and access of response resources	Ott <i>et al.</i> , in press		
Effective and accurate permitting	Ott <i>et al.</i> , in press	Meet public's realistic expectations for pollution response	Walker <i>et al.</i> , 1985
Clear and effective authority chain of command	Ott <i>et al.</i> , in press	Attention to human factors	Cantwell, 1997
Positive meetings (spill team and public)	Ott <i>et al.</i> , in press	No worker injuries	Ott <i>et al.</i> , in press
Interested party concerns addressed	Ott <i>et al.</i> , in press; Wikerson and Lauder, 1997	No public injuries	Ott <i>et al.</i> , in press
	Milbury, 1997; White, 1997	Positive media coverage	Ott <i>et al.</i> , in press
<b>OPERATIONS SPECIALISTS</b>		Positive public perception	Ott <i>et al.</i> , in press
Cooperative and positive media relations		Positive meetings (spill team and public)	Ott <i>et al.</i> , in press
		Cooperative media relations	White, 1997
<b>SPILL MANAGERS</b>			
Availability and quality of support staff		Ready equipment	Lees, 1993
Ability to work together, team building, relationships	Cantwell, 1997; Ott and Staffort, 1997	Ampia equipment	Lees, 1993
Adaptability training and practice	Christopherson and Slyman, 1993; Harbert, 1995; Ott and Staffort, 1997	Timely response	Lees, 1993
Same parties respond as practiced and trained	Clark <i>et al.</i> , 1997; Eithodja <i>et al.</i> , 1997; Martin <i>et al.</i> , 1997; Ott and Staffort, 1987	Proper deployment	Lees, 1993
Capability for sustained operations	Abordall <i>et al.</i> , 1995; Christopherson and Slyman, 1990; Ott and Staffort, 1987	Efficient performance (oil control/removal in 48h, % recovery)	Benson <i>et al.</i> , 1993; Lees, 1993
	Walker <i>et al.</i> , 1995	Adaptability trained, available personnel	Lees, 1993; Michels, 1992
		Salvage operations must minimize spillage	Walker <i>et al.</i> , 1995
		Ecological effects on impacted populations	Dean <i>et al.</i> , 1980; Lindstedt, Svob, 1979, 1991; Minnis, 1995; Sell <i>et al.</i> , 1995

(continued)

**TABLE 1.**  
**SUMMARY OF RESPONSE PERFORMANCE CRITERIA (continued)**

STAKEHOLDERS RESPONSE PERFORMANCE CRITERIA	REFERENCE	STAKEHOLDERS RESPONSE PERFORMANCE CRITERIA	REFERENCE
<b>SCIENTIFIC COMMUNITY</b>		<b>ENVIRONMENTAL GROUPS</b>	
Emergency response – minimizing impacts		Adequate compensation for those affected	Friends of the Earth (wellbaita)
Efficiency response – protecting sensitive resource	Undstedt-Siva, 1992	Greater representation of interested parties	Friends of the Earth (wellbaita)
Shoreline cleanup – minimize impacts, promote recovery	Undstedt-Siva, 1992	Adequate funding for spill cleanup	Sierra Club (wellbaita)
Use of All Environmental Benefit Analysis	Baker, 1997; Lumel <i>et al.</i> , 1997; Sell <i>et al.</i> , 1995	Readily available containment and recovery systems	Sierra Club (wellbaita)
Toxicological – toxicity of spilled oil to specified organisms	Baker, 1997	<b>ELECTED OFFICIALS</b>	
Chemical – oil residues remaining	Baker, 1997	Responsive to constituents needs	
Response reduced impacts compared with no intervention	Undstedt-Siva, 1992	Positive effect on career	
Assessment using ACIP (After Control/Impact Panel)	Dean <i>et al.</i> , 1993	Positive public opinion polls	Mehl, 1991
		Positive media reports	Mead, 1991
<b>GOVERNMENT RESOURCE TRUSTEES</b>		<b>BUSINESSES-PROPERTY OWNERS</b>	
Protection of environmentally sensitive areas	Ott <i>et al.</i> , in press	No interruption of tourist or other businesses	Cono and Billiar, 1990
Protection of marine mammals	Williams and Davis, 1990	Prompt, effective removal of visible oil	
Protection of birds	Williams and Davis, 1990	No bad publicity about the spill/cleanup of the spill	Churny and Newborn, 1990
Protection of fisheries		<b>FISHING INDUSTRY</b>	
Protection of religious parks	Ott <i>et al.</i> , in press	No adverse impacts on health of fish stocks	Lord, 1997
Minimize resource damage	Ott <i>et al.</i> , in press	No closure of fisheries	Lord, 1997
Minimize impacts of cleanup		No closure of harbors	
<b>MEDIA</b>		No contamination of fishing gear	
Timely and accurate reporting/news from sources	Mead, 1991	No fouling (or perceived fouling) of fish	Cono and Billiar, 1990
24-hour access to information/news	Harris, 1997; Mehl, 1991	Prompt settlement of claims	Ott <i>et al.</i> , in press
Daily press conferences	Mead, 1991		
Level of controversy			
Level of visible/dispatch activity			
Public opinion polls			
Interested party interviews concerns addressed	Williamson and Landier, 1997		