



Oil Spills and Risk Perceptions: A Stakeholder Engagement Model to Address Evolving Needs

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This paper provides the background for a conceptual model which was presented at the conference. The presented collaborative model was developed from several recent projects by the author, which are included among the references cited at the end of this paper. The author proposes that engagement at the local level is an essential form of oil spill communications, in addition to traditional crisis communications, assuming an important goal going forward is to improve spill response by more quickly and effectively addressing people’s questions, perceptions, fears, and knowledge gaps about oil spill risks.

About Stakeholder Engagement and Oil Spills

Stakeholder engagement is a coordination process used to involve relevant stakeholders for a clear purpose to achieve accepted outcomes. Engagement can help build constructive relationships and dialogue about oil spills and response options, including dispersants (Walker et al, 2013; Walker et al, 2014). Stakeholders are defined as those groups that have a stake/interest/right in an issue or activity, e.g., an oil spill, including those that can be affected either negatively or positively, directly or indirectly, by decisions made about the issue or activity. Oil spill stakeholders are composed of broad groups, some because of decision making authority and assigned responsibility during response; others have a stake in the outcomes of those decisions because they may be affected by consequences of the spill as shown in the table below.

Table 1. Example Oil Spill Stakeholder Groups (generic)

National and local authorities	Spillers
Agency regulators, e.g., marine resource managers	Incident managers; technical and operations specialists
Elected and appointed officials	Oil, gas, marine industry
Emergency managers	Scientific researchers
Community residents	Community/property owners (and tourists)
Media	Non-governmental groups (NGOs)
The fishing industry	Tourism industry

Engagement is a form of two-way communications which adds value to preparedness and response because it enables participants to explore issues of concern from their respective perspectives and reach a shared understanding about response objectives and options. When used for collaborative problem solving, engagement can encourage cooperation and support for jointly developed solutions.

Engagement also provides opportunities for preparedness and response organizations to learn about the risk perceptions, questions, concerns, and mental models of stakeholders including communities. A mental model is an individual's understanding of how something works in the real world. Findings from local stakeholder oil spill workshops in Virginia and Washington state (Walker and Bostrom, 2014) show that some local stakeholder mental models omit key elements and may focus unduly on elements that contribute relatively little potential risk.

Effective response to oil spills can be challenging. When an oil spill threatens the coast, communities have voiced concerns about the response strategies and potential impacts that could affect them. Local authorities are responsible for addressing stakeholder concerns, including those of elected officials, at the community level. There is a need to understand, and have access to, incident-specific information in order to make sense of and explain the situation as it unfolds. In the absence of rapid access to that information from the spill managers and incident management teams, communities and other interested stakeholders will seek the information from other sources (Sorenson, 2006).

Oil Spills as Disasters

People view significant oil spills as disasters. Disasters are complex, social, crisis situations which result in interrelated economic, social and psychological impacts on communities, organizations, families, and individuals. Researchers distinguish between natural (acts of God) and technological (human-caused) disasters. Floods, terrorism, and oil spills are considered disaster agents. Technological disasters result from human causes, such as terrorism or human errors; and they are considered preventable, unlike natural disasters.

Sociologists have found that communities dependent upon renewable resources, e.g., fishing villages, are especially vulnerable to the socio-economic, cultural, and psychosocial impacts caused by an oil spill. Natural disasters create what can be called a therapeutic community where activities are focused, intense and include governmental mandates for fostering a return of the community to pre-disaster state. As people pull together to place sand bags on dikes against floods, help neighbors with homes destroyed in hurricanes, individuals, families and communities bond for the good of the whole.

In contrast, technological disasters disrupt communities on multiple levels (PWS RCAC, 2004). They lead to a corrosive community characterized by unusually high levels of tension, conflict, ongoing litigation and chronic psychological stress. The most obvious and tangible disruptions occur when the flow of goods, routine services, and jobs are adversely impacted. Other often ignored, poorly defined and understood, intangible adverse impacts stem from stress around a technological disaster. Mental health impacts and chronic long-term psychological and physical impacts from oil spills have been documented in the literature (Belter, 2013). Building community resilience can help alleviate psychosocial impacts following natural and technological disasters (Picou, 2009).

Obviously the *Exxon Valdez* and DWH oil spills were exceptionally large spills. They have been characterized as technological disasters in the media and a wide variety of peer-reviewed journals. But smaller spills also may be considered disasters, especially by nearby communities. For example, a

review of social science publications and media reports shows that the Selendang Ayu (Alaska, 2004; 340,000 gallons of bunker fuel), Cosco Busan (San Francisco, 2007; 58,020 gallons of heavy fuel oil), and Hebei-Spirit (Korea, 2007; 3,337,582 gallons of light crude oil) were considered as disasters with human dimension impacts (Gill and Ritchie, 2006; Cheong, 2012; Colten et al., 2010) on the communities in the vicinity of the spill.

Community resilience refers to the capacity of people to cope with a serious event that impacts them but they did not cause, and is managed by outside entities like government, insurance, and experts. A key component of building community resilience is to raise community adaptive capacity, which requires the transfer of resources and knowledge from the response organization to the community (Cheong, 2012). This shifts the emphasis from strictly self-reliance and encourages collaboration with oil spill experts as a necessary component of adaptive resilience. It is important to develop sustain and external linkages to familiarize the community with the external entities, like oil spill responders, and for oil spill responders to actively learn about community concerns, questions and risk perceptions. Public perceptions have a loud voice through social media.

Response Communications: Media and Social Media

The media reports public expressions of concern about ecological impacts when oil spills occur. The public includes potentially millions of external stakeholders, i.e., those not involved in responding to spills, and they care about consequences of oil spills. These external stakeholders encompass citizens who live in the vicinity of a spill, elected officials, and the global public at large. The public learns about oil spills through the traditional media (such as newspapers and television) but also through the internet and other emerging social media (Twitter, Instagram, etc.). One clear theme seemed to permeate the social media commentary during the summer of 2010. It was the lack of confidence and trust in the capacity and intentions of both public and private institutions—including the federal government, BP and the mainstream media (Pew, 2010).

With the widespread use of social media, stakeholders and the global public will express their concerns and objections about oil spills; demand transparency and aggressive action during an incident to protect people and the environment, mitigate all impacts; and call to punish those responsible.

The National Incident Commander for the DWH oil spill (Allen, 2010) observed: *“Adapt, manage, or suffer... we all have to understand that there will never again be a major event ... that won’t involve public participation”*. It follows that public participation in future oil spills ideally should have a purpose that benefits both the response and the public.

The Potential Value of Local-level Engagement

The more oil spill the response community works to build relationships with local communities and the more open both they and local communities are to learning about each other’s knowledge and culture, the easier it will be to effectively transfer resources and knowledge. Belief in the validity and trustworthiness of expert knowledge and government-disseminated information hinges upon appropriate knowledge transfer, which occurs over time through dialogue, establishing constructive relationships, and building trust. It is important to develop sustain and external linkages to familiarize the community with the external entities, like oil spill responders, and for oil spill responders to actively learn about community concerns, questions and risk perceptions. Incident management teams (IMTs) typically are comprised of the organization of responders from government authorities, spiller, and

those who possess specialized knowledge and resources, e.g., spill contractors and subject matter experts (SMEs). In addition to oil recovery, control, and cleanup, IMTs will be challenged to demonstrate that the best that can be done is in fact being done to protect environmental and socioeconomic resources at risk.

Implications at the Local Level Going Forward

Stakeholder engagement can benefit both those affected by pollution incidents, as well as other emergencies, and the response community. Stakeholder engagement and risk communication methodologies are ways to help cultivate realistic expectations and develop consensus about response options, before, during, and after an incident. Coordination and collaboration between the IMT and affected communities can lead to shared objectives and improved information exchange. This is accomplished through traditional media and direct engagement to address emerging risk perceptions, questions, and concerns, especially about issues that spark social conflict, such as dispersant use in the US. Dialogue is necessary to learn about stakeholder and community risk perceptions associated with an incident, to assess the situation in relation to those perceptions, and then develop appropriate responses to their questions, concerns and perceptions.

However, the influence of politics and legal teams on IMTs represents both opportunities for and barriers to addressing community concerns and impacts through engagement during response. Laws and compensation regimes represent boundaries that define and currently limit the scope of (1) activities that can be carried out during preparedness and response, (2) funds to pay for activities during preparedness and response, and (3) compensation for costs and damages not covered through the various compensation regimes.

New opportunities to coordinate could improve response management going forward, by leveraging networks of trusted relationships developed in emergency preparedness among local government, elected officials, and communities. Relationships and dialogue established during preparedness support more effective stakeholder communications, as well as crisis communications with the public at large, during response through traditional media, websites, and social media distributed networks identified pre-spill. These actions may facilitate novel ways to more effectively address new questions, concerns, and risk perceptions which inevitably emerge during response.

References

- Allen, T. 2010. You Have to Lead from Everywhere. An Interview by Scott Berinato. *Harvard Business Review*. www.hbr.org/2010/11/you-have-to-lead-from-everywhere/ar/1.
- Belter, C. 2013. Deepwater Horizon: A Preliminary Bibliography of Published Research and Expert Commentary. December 2013 Update. NOAA Central Library Current References Series No. 2011-01. Retrieved from: <http://www.iccopr.uscg.gov/apex/f?p=118:356>.
- Bostrom, A., A.H. Walker, T. Scott, R. Pavia, T. M. Leschine, K. Starbird. 2014. Oil Spill Response Risk Judgments, Decisions, and Mental Models: Findings from Surveying U.S. Stakeholders and Coastal Residents, Human and Ecological Risk Assessment: An International Journal, DOI: 10.1080/10807039.2014.947865
- Cheong, S. 2012. Community Adaptation to the Hebei-Spirit Oil Spill. *Ecology and Society*, 17(3):26. Retrieved from: <http://dx.doi.org/10.5751/ES-05079-170326>.
- Colten, C.E., J. Hay and A. Giancarlo. 2012. Community resilience and oil spills in coastal Louisiana.

- Ecology and Society* 17(3): Research, Part of a Special Feature on Vulnerability and Adaptation to Oil Spills. Retrieved from: <http://dx.doi.org/10.5751/ES-05047-170305>.
- Gill, D.A. and L.A. Ritchie. 2006. "Community Responses to Oil Spills: Lessons to be Learned from Technological Disaster Research." pp. 77-96 in *The Selendang Ayu Oil Spill: Lessons Learned*, Reid Brewer (Ed.). University of Alaska Fairbanks: Alaska Sea Grant College Program.
- Pew Research Center (Pew). 2010. 100 Days of Gushing Oil – Media Analysis and Quiz. August 25, 2010. Pew Research Center's Project for Excellence in Journalism. Web accessed June 18, 2013. http://www.journalism.org/analysis_report/100_days_gushing_oil
- Picou, J.S. 2009. Disaster Recovery as Translational Applied Sociology: Transforming Chronic Community Distress. *Humboldt Journal of Social Relations*. Volume 32:1. Retrieved from: <http://stevenpicou.com/pdfs/disaster-recovery-as-translational-applied-sociology.pdf>.
- Prince William Sound Regional Citizens' Advisory Council (PWS RCAC). 2004. Coping with Technological Disasters: A User Friendly Guidebook. Part 1. 67 pages.
- Sorenson, J. H. & Sorenson, B. V. 2006. Community Processes: Warning and Evacuation. In H. Rodriguez, E. L. Quarantelli & R. R. Dynes (Eds.) *Handbook of Disaster Research*, 183-199. New York: Springer.
- Starbird, K., D. Dailey, A.H. Walker, T.M. Leschine, R. Pavia, and A. Bostrom. 2014. Social Media, Public Participation, and the 2010 BP Deepwater Horizon Oil Spill. *Human and Ecological Risk Assessment: An International Journal*, DOI: 10.1080/10807039.2014.947866
- Walker, A.H. and A. Bostrom. 2014. Stakeholder Engagement and Survey Tools for Oil Spill Response Options. In: *Proceedings of the 2014 International Oil Spill Conference (IOSC)*, May 5-7, 2014, Savannah, GA. American Petroleum Institute, and Washington, DC.
- Walker, A.H., R. Pavia, A. Bostrom, T. M. Leschine, K. Starbird. 2014. Communication Practices for Oil Spills: Stakeholder Engagement during Preparedness and Response. *Human and Ecological Risk Assessment: An International Journal*, DOI: [10.1080/10807039.2014.947869](https://doi.org/10.1080/10807039.2014.947869)
- Walker, A. H., J. Boyd, M. McPeck, D. Scholz, J. Joeckel, and Gary Ott. 2013. Community Engagement Guidance for Oil and HNS Incidents. SEA Consulting Group, Cape Charles, VA USA, 178 pp. Retrieved from: <http://www.arcopol.eu/fichaDocumento.aspx?id=16>.