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10 Stakeholder Perspectives

The term "stakeholder" is defined broadly by ITRC as members of environmental organizations, community advocacy groups, tribal entities or other citizens' groups that deal with environmental issues, or a concerned citizen who is not a member of any organization or group. Public stakeholders, such as advocacy groups, often speak for the communities that are affected by environmental issues. In this guidance, a differentiation is made between public stakeholders and interested parties (responsible parties, state regulators, and owners and operators of contaminated sites).

Stakeholders benefit when they can influence site characterization, remedy selection, and long-term site management. Environmental regulators and responsible parties also benefit from informed, constructive stakeholder involvement because it can help them make better decisions, reduce the likelihood of costly, time-consuming repeated work, and allow those in affected communities to properly govern the long-term use of land, water, and other resources. Often, stakeholders such as long-time residents have unique site knowledge as well as a major stake in the remedial outcome.

This section addresses the concerns of stakeholders who may be asked to accept site-specific cleanup goals that are derived using a relative oral bioavailability (RBA) value. The site-specific RBA value is based on a bioavailability assessment. The site-specific cleanup goals almost always allow the responsible party to leave more of a given contaminant in place, requiring less soil cleanup than if there were no site-specific RBA value. Consequently, early and effective community engagement is important to better inform the stakeholders about how the cleanup goals are derived. Additionally, it is important to explain how determining site-specific RBA values contributes to a reasonable, scientific way of assessment the risk posed by the soil contamination while ensuring protection of human health.

10.1 Stakeholder Concerns

When asked to accept site-specific cleanup goals based on bioavailability, stakeholders are often concerned about the following issues:

10.1.1 Assessing risk. *Read more*

The stakeholders' understanding of the fundamentals of risk assessment should be determined and, if possible, stakeholders should be given opportunities to increase their knowledge through public meetings and access to available information. In this document, Using Bioavailability in Risk Assessment describes the calculation process for incorporating RBA values in the risk assessment. ITRC has recently published guidance on human health risk assessment (ITRC 2015), *Decision Making at Contaminated Sites: Issues and Options in Human Health Risk Assessment*. This ITRC guidance includes information about using risk assessment in site cleanup. The guidance also includes links to USEPA and state agency guidance on risk assessment.

10.1.2 Reversibility. *Read more*

Will changing environmental conditions make contaminants more bioavailable in the future? Stakeholders worry that compounds for which the site-specific cleanup goals include low bioavailability may become more bioavailable in the future as environmental conditions change, either through human activities or natural changes. The effect of future land use should be considered in determining whether a bioavailability assessment should be conducted and what the scope of that assessment should be. The decision process chapter discusses these issues. The lead, arsenic, and PAHs chapters include some discussion of the chemical reactions and properties that would affect reversibility.

10.1.3 Inhalation and skin exposure. *Read more*

Inhalation and dermal exposure (except for PAHs) are not addressed in this guidance, but these exposure pathways can be concerns. One community group in New York has sued a developer because of concerns about inhaling lead-contaminated dust from a proposed construction site. Proponents of site-specific cleanup goals must explain to stakeholders why the site-specific cleanup goals are health protective and why these pathways are or are not relevant, regardless of the difficulty and complexity of assessing exposure through these routes.

10.1.4 Other exposure pathways, food pathways. *Read more*

Stakeholders are concerned about all environmental pathways and may not accept excluding pathways such as ingesting homegrown vegetables from risk assessments. For example, if contaminants could be absorbed through the roots of plants, then this pathway should be addressed in the risk assessment. Any risk-based, site-specific cleanup goals should explain the rationale for including or excluding exposure pathways, including dermal exposure and inhalation.

10.1.5 Representative sampling. *Read more*

Do soil samples represent the worst-case scenario? Stakeholders require assurance that the sampling efforts have characterized the worst exposure threats. Composite sampling methods, such as incremental sampling methodology (ISM), may raise heightened concerns about the adequacy of the samples.

10.1.6 Ecological receptors. *Read more*

Although this guidance does not specifically address ecological receptor risks, stakeholders may be concerned that site-specific cleanup goals based on a bioavailability assessment for human health will transfer risk assumptions to ecological receptors. For example, species of lead that are left in the soil because they are not a risk to humans may present a risk to ecological receptors. Proponents of site-specific cleanup goals based on a bioavailability assessment for human health should clarify that the bioavailability assessment only addresses human oral ingestion exposure, or PAH dermal exposure, as applicable. Requirements for any separate ecological risk assessment should be met, but are not discussed in this guidance. Animal studies, however, are often used as surrogates to estimate human health effects, so it is reasonable to assume that the same studies might be used for assessing eco-risk. The methodology chapter discusses the specific animal tests (in vivo methods) used for bioavailability assessment of the human exposure pathway for ingestion of contaminated soil. Although ecological studies take more variables into consideration, the two risk assessments (human health and ecological) are difficult to differentiate once the animal study is completed. Stakeholders may see this as a backdoor means to develop new eco-risk calculations. Tribes are particularly concerned about including ecological receptors in risk assessments because many tribal members eat wild game.

10.1.7 Public perception of hazard. *Read more*

If contaminants are in the news as a national threat to human health (such as lead in drinking water and household paint), the science behind a bioavailability assessment may be outweighed by public perception of the hazards. On the other hand, if communities can see tangible benefits from a bioavailability assessment (as is the case in a California community that saw parks and schoolyards deemed safe with an RBA value developed using a bioavailability assessment), they may welcome bioavailability assessments. In either case, when a bioavailability assessment is considered for a specific contaminant and site, the stakeholder perception of the contaminant should be considered early in the decision-making process.

10.2 Specific Tribal Stakeholder Concerns

Tribes share many concerns with other stakeholders; however, they differ from other stakeholders in several key aspects. The 567 federally recognized tribes are each culturally, governmentally, and socially unique.

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Some tribes view any level of contamination of their land and natural and cultural resources as unacceptable. Many tribes have culturally significant or sacred areas, which may include springs, mountains, hunting areas, plant-gathering areas, or burial sites. When culturally significant or sacred areas are at stake, traditional methodologies that nontribal environmental professionals rely on (such as the applicable exposure scenarios, pathways, or factors for a risk assessment) may be superseded. Some plants and animals can also have tremendous cultural or religious importance to a tribe, including birds and feathers, game animals, herbs, grasses, and trees. These areas, items, and living things may be used in ways that are not addressed in standard risk assessment scenarios. In addition, the exposure scenarios, pathways, and factors used in the risk calculations for tribal activities may differ from the USEPA or state default values. These values should be considered in the risk assessment scoping and may counter the decrease in risk gained by a site-specific RBA value.

Tribes are sovereign entities that have established government-to-government relationships with federal, state, and local governments—relationships that must be recognized in the decision-making process. When a site affects a tribe, the project timeline must include tribal approvals in addition to other typical agency approvals. Sampling, research, and services on tribal lands generally require Institutional Review Board (IRB) or Tribal Council approval. Each sovereign nation operates differently, ranging from tribes that have no research capacity to tribes that have a full review board with a formal application process. The initial steps in the approval process may include drafting a proposal, preparing a poster or podium presentation, and presenting to the tribal government.

Once tribal approval is granted and the project commences, the practitioner must obey tribal protocol with respect to cultural practices. The tribe may reserve the right to retain the findings in the case of exploratory research and restrict

publication. Regulatory findings for water and soil concentration, level of treatment, and monitoring are first reported to the tribe's Department of Environmental Quality or Natural Resources and then forwarded to USEPA.

10.3 Stakeholder Engagement

Developing site-specific cleanup goals based on bioavailability assessment can be controversial, because the increase in the cleanup goals often benefit the original polluters or land owners. Early and effective community engagement can address stakeholder concerns about the bioavailability assessment and educate stakeholders about the benefits that the site-specific cleanup goals can have for them as well.

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Effective stakeholder engagement not only reduces impediments to completing projects on schedule, but also helps responsible parties and regulators to make better decisions. The best way for regulators and responsible parties to engage the public is to seek out members of the community who are willing to devote time to project oversight, share information with these individuals as early in the process as practical, and give them the tools they need to participate constructively.

The following steps outline an approach for effective stakeholder engagement. The success of engagement programs depends on effective planning and outreach to build a working relationship between stakeholders and those conducting and overseeing cleanup. By reaching out and responding to stakeholders not only when required by law, but throughout the process, regulators and responsible parties can build trust with stakeholders. Finally, including stakeholders in site decisions makes them partners in a process that protects them, their families, their property, and their communities.

1. Plan for stakeholder engagement. *Read More*

Stakeholder engagement should not be an afterthought, but rather integrated into cleanup staffing, budgets, and timetables from the beginning of the project. Project managers and their technical and legal teams should communicate with the public early on, and community involvement specialists—for organizations that have them—should be included in internal technical meetings so they are able to provide timely, accurate information to the public.

Project budgets should also include funding for stakeholder engagement. Effective programs recognize that funding for community relations, advisory boards, and independent technical assistance is an investment that pays off in better decisions and smoother progress, as well as public recognition of the work of those responsible for cleanup. Experience has shown that when regulators and responsible parties listen to communities near contaminated sites, the communities are empowered and are more likely to offer constructive guidance.

At large sites, some agencies routinely develop community involvement plans by interviewing community leaders to find out who is concerned about the site and why. This approach is also useful at sites with little history of stakeholder engagement, and is a good way to identify segments of the community that, for cultural or geographic reasons, have not participated in public events. For example, a community involvement plan might identify areas where residents have limited English-language capability and include translation needs in the project plan.

State and federal officials, as well as private responsible parties, should familiarize themselves with the multiple local governments, authorities, and relevant organizations that may have jurisdiction or control over a site. Many sites are bounded by multiple cities and may be served by counties and special districts. For example, at Moffett Field, California, the Navy included the Santa Clara Valley Water District, as well as the cities of Mountain View and Sunnyvale, but decisions regarding wetlands remediation would have proceeded without interruption if the nonprofit Open Space District, which owns some of the wetlands, had also been included. This group was critical to setting the cleanup goal for PCBs, which varied depending on the future use of the wetlands. One good practice is to plan to attend city council meetings dealing with the reuse of contaminated sites to answer questions about the suitability of sites for reuse. Few local governments have the technical expertise to answer such questions on their own.

Plans for outreach and community involvement should also identify environmental justice communities potentially affected by the site. Underserved communities often feel excluded from or mistrustful of government programs, and may lack the technical background to feel comfortable taking part in discussions of technical issues. These communities should be brought into discussions of the fundamental issues facing cleanup programs, and planning should include efforts such as outreach, explanatory materials, and fact sheets in the communities' primary languages.

2. Engage the stakeholder community through outreach. *Read More*

Agencies sometimes prematurely conclude that there is minimal stakeholder interest at a site because of low attendance at official public meetings or open houses. Often, however, community outreach is needed to raise awareness about site issues. If people do not attend regulator-sponsored events, then regulators can arrange to present at neighborhood association or parents' association meetings. In fact, outreach may prove helpful even if regulator meetings are well attended. Another

approach is to partner with trusted community organizations to set up meetings. For example, after few people attended Army-sponsored open houses at Fort Gillem, Georgia, Greenlaw attracted 100 people to a workshop on vapor intrusion by partnering with the NAACP. Refer to the community engagement section of the Center for Public Environmental Oversight document describing the Fort Gillem site.

3. Build trust through communication. *Read More*

Community acceptance of proposed remedies and cleanup standards often depends on whether the stakeholders trust the other parties involved. The first step in trust building is for regulators and responsible parties to inform the public that the site contamination affects their community, early and often. Usually one press release is not enough—people may miss a story and new arrivals often have no easy way to catch up on old news. Furthermore, regulators or responsible parties build trust when they announce how they are addressing a problem, rather than having a news media expose the problem.

Project personnel should familiarize themselves with the news media (including bloggers) that cover their sites, because most people get their information about contaminated sites and cleanup from the media, not directly from the programs. In some cases, experienced reporters have, over time, developed a wealth of site knowledge, but usually reporters and broadcast news producers spend less than a day on each story. They may miss the technical nuances, but are more likely to report accurately and constructively if regulators, responsible parties, and the stakeholders' technical consultants take the time to explain site activities.

4. Build trust by clearly explaining technical concepts. *Read More*

Site-specific bioavailability assessments and the resulting RBA values are first addressed in risk assessments, before any cleanup decision is made. Risk assessments are complicated, and if a site-specific RBA value is used, the entire risk assessment process must be transparent. This transparency requires explaining some of the complicated formulas and assumptions to lay audiences. Key concepts such as excess lifetime cancer risk, the foundations of risk assessment, and environmental pathways should be clearly explained to the stakeholders affected by site decisions.

For public meetings, regulators and responsible parties should understand the general level of technical background in the host communities. Some communities include engineers and scientists who understand scientific notation, are used to reading whisker plots, and know how to address quantitative uncertainty, but most do not. Even those communities with strong general technical knowledge may not know much about hydrogeology, toxicology, and the other fields that contribute to site-specific cleanup goals based on bioavailability.

Presenters should limit the use of acronyms and be prepared to explain references to regulatory programs and responsibilities. Stakeholders often do not distinguish among government agencies, and few understand how agencies are organized. Consequently, the public may not understand lines of decision-making authority, particularly where the parties themselves do not agree.

Technical documents should be easily accessible and offered in both printed form and, if possible, searchable standard electronic formats. Many sites have dedicated web sites, which stakeholders can visit to download current documents, as well as earlier site documents referenced in current ones. These web sites should contain links to documents for nearby sites and agency guidance documents as well. Some states, such as California, maintain statewide databases where outside experts can easily find pertinent documents on behalf of local stakeholders. Because regulatory agency staffs can fall behind in posting documents, sometimes stakeholders may need to request website updates.

5. Include stakeholders in decision making. *Read More*

Stakeholders are partners in the decision-making process. As such, most stakeholders seek the opportunity to review draft documents while there is still time to change them. They object to the "decide-announce-defend" approach, in which regulators and the regulated negotiate for months to produce a draft document, and then feel obligated to defend the document against changes. It is harder for stakeholders to participate effectively when the other parties have already reached agreement. A better course of action is to engage stakeholders while work plans and reports are still being developed. Some project managers find it helpful to broach remedial concepts informally, giving stakeholders a chance to weigh in on an idea before it is included in a draft document.