



ConSoil 2008
Milan, Italy

Joint U.S. – E.U. Panel:

Employing Best Management and
Technical Practices in
Site Cleanup Programs

June 6, 2008

Panel Members

- ◆ *Carlos Pachon, Moderator, U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation (OSRTI)*
- ◆ *Stephen Dymont, U.S. EPA/OSRTI*
- ◆ *Robert Howe, Tetra Tech EM Inc.*
- ◆ *Tom Purucker, U.S. EPA Office of Research and Development, National Exposure Research Laboratory*
- ◆ *Giovanni Longoni, AMEC Earth & Environmental/Milan*
- ◆ *Dominique Darmendrail, French BRGM Group (Geological Survey of France)*
- ◆ *Sandra Novotny, EMS, Inc.*
- ◆ *David Reinke, Shell*



Panel Introduction

Carlos Pachon, Moderator, provided an introduction to the panel topics and members. The panel served as an opportunity for environmental professionals from both sides of the Atlantic to continue collaborating in approaches for improving site remediation. Each member represented a regulatory agency (“regulator”) or a business firm involved in site cleanup projects (“practitioner”).

Based on their own projects, each panel member spoke briefly about:

- ◆ *Experiences in using innovative environmental strategies such as the Triad approach or sustainable “green” remediation during contaminated site cleanup,*
- ◆ *Perspectives concerning barriers, challenges, and “lessons learned” while implementing innovative strategies to improve site restoration and reuse,*
- ◆ *Observations concerning the impact of barriers, challenges, and lessons learned on both project activities and stakeholder relationships,*
- ◆ *Strategies for overcoming barriers and challenges and helping others to benefit from lessons learned.*



Panel Summary

Mr. Pachon summarized the panel's experiences in using innovative strategies such as Triad or green remediation strategies and noted common issues. Barriers included:

- ◆ Mixed levels of oversight or acceptance from regulators,
- ◆ Inconsistent metrics for measuring technology performance,
- ◆ Practitioner or regulator reluctance to suggest new strategies,
- ◆ Budget constraints,
- ◆ Project delays due to external stakeholder distrust,
- ◆ Limited expertise in both regulator and practitioner communities, and
- ◆ Need for improved field and management tools.

Questions were posed to individual panel members or the full group, and audience or additional panel comments were expressed in greater detail.



Panel Discussion

Question: *What other type of barriers or success have practitioners experienced when dealing with regulators?*

Answer: Mr. Longoni indicated that cultural gaps do not seem to exist between E.U. regulators and industry but noted difficulties with regulatory structures and operations. One example is the process for assessing the quality of field data collected during site investigations. The regulatory agency typically collects split samples that are sent to a regulator-designated laboratory. When analytical results are available (several weeks later), results are compared to those already obtained by the industrial organization tasked with site cleanup. This process precludes use of a dynamic, flexible, and cost-effective remediation approach.

Mr. Howe noted that staging of certain field activities and a degree of dynamic work planning can continue during this type of scenario, in order to make progress in meeting some regulatory criteria.



Panel Discussion

Question: *What tools have regulators found to be successful in building stakeholder trust and facilitating the cultural shifts needed for innovative cleanup strategies?*

Answer: Ms. Darmendrail reported that French industrial organizations are working closely and effectively with regulators to resolve environmental problems. Regulators expect to significantly increase efforts, however, to help municipal governments and communities better understand environmental problems, including site cleanups. Agencies are developing new tools for use by both practitioners and municipalities to more efficiently evaluate sustainable options and make informed decisions. In addition, regulators have found that stakeholder concerns frequently are caused by lack of project foresight, which can result in problems such as financial shortages. Authorities have begun resolving this cultural gap through increased professional training, organizational networking, media announcements, and web site building.



Panel Discussion

Question: *How can greater awareness and flexibility be integrated into the regulatory process to accommodate the expanse of innovative technologies becoming available?*

Answers: Mr. Pachon explained that insufficient information sharing may account for some concerns regarding regulatory flexibility. Development of site-specific case studies is one tool used by the U.S. EPA to disseminate “hands on” information. Management of stakeholder expectations is another potential tool that both regulators and practitioners can use to enhance flexibility.

Mr. Dymant noted that today’s equipment for site investigations illustrate the significant technological advancements that can be made in only 15 years. Practitioners now have access to a large assortment of tools, effectively reducing the need for a prescriptive approach for site remediation. Increased U.S. regulatory flexibility can be seen through recent legal determinations supporting non-prescriptive methods. Deployment of personnel with greater expertise in field work also may enhance regulatory acceptance.

Mr. Reinke stressed the need for practitioners to “come forward” with innovative strategies when negotiating with regulators, and to encourage discussions at a site-specific level. One forum for sharing regulator and industry information is the Sustainable Remediation Forum currently operating in the U.S. and recently formed in the E.U.



Panel Discussion

Question: *What do you believe are the opportunities over the next few years for integrating site cleanup and real estate development?*

Answers: Ms. Novotny noted significant expectations for increased integration of renewable energy systems at sites undergoing remediation. At many of these sites, the renewable energy infrastructure can continue during site redevelopment and ultimate reuse. Large sites with limited reuse options, such as former mining or military properties, provide significant potential for utility-scale solar or wind systems as well as biofuel or biofeedstock production.

Mr. Purucker referenced EPA's latest findings of the U.S. Superfund Program annual status report, which indicate continued increase in the use of in situ rather than ex situ remediation technologies. Recommendations from EPA technical studies also indicate that greater efforts will be made to understand the long-term environmental nuances and impacts of cleanup technologies.

Mr. Pachon indicated that both government and industry are expected to more strongly promote and implement green remediation and Triad strategies in cleanup projects. This shift will reduce the amount of prime real estate or greenfields being considered for development.



Panel Discussion

Question: *What do you believe are the opportunities over the next few years for integrating site cleanup and real estate development?*

(continued)

Mr. Howe cited examples of former industrial sites becoming prime redevelopment properties. The City of New York anticipates redevelopment of approximately 8,000 acres, many of which are situated on industrial fill containing hazardous contaminants or petroleum waste. Use of strategies such as Triad and green remediation on each property will accelerate cleanup and redevelopment while expanding the market for prime real estate. In addition, lessons learned in New York can be used to develop a comprehensive model for other cities looking to remediate brownfields while refining their real estate potential.

Other cleanup/redevelopment trends expected to increase include (1) reuse of dredged sediment for construction, and (2) siting of critical public facilities such as community service buildings or schools on remediated inner city properties.



Panel Discussion

Question: *How does EPA's regulatory authority and mission in the U.S. merge with the mission of ConSoil?*

Answer: Mr. Pachon emphasized the importance of U.S-E.U. information sharing concerning (1) the best practices for site remediation, and (2) the methods for putting optimal practices such as green remediation and Triad into place. E.U. information gained by EPA at ConSoil will be shared with other U.S. federal and state regulators. In turn, EPA aims to provide useful information to E.U. regulators and practitioners.

EPA has joined ConSoil discussions over the past four years, and anticipates sustained, joint projects through the many individual and organizational partnerships formed at ConSoil.

