

CLU-IN Internet Seminar: Green Cleanup Standards Initiative ***Highlights of Questions and Answers***

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Hosted by: U.S. Environmental Protection Agency (EPA)
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Presented by: *Patricia Overmeyer*, Office of Brownfields and Land Revitalization
Carlos Pachon, Office of Superfund Remediation and Technology Innovation
Kristeen Gaffney, Region 3 Brownfields and Land Revitalization

Key Questions Posed by EPA to Seminar Participants

- a. Are voluntary standards a viable approach?
- b. Are we targeting the right core elements?
- c. What should the boundaries be?
- d. Should the boundaries/standards apply to projects, practices, people?
- e. Will the market bear the costs?
- f. What incentives are needed?
- g. What certification approach might yield the best results?
- h. Is there an SDO we should reach out to?
- i. How should we measure results?

Questions & Answers (Q&A's) following Presentations

Q: Would the green cleanup (GC) standard become a submittal to the document being developed by the Interstate Technology and Regulatory Council (ITRC) Green/Sustainable Remediation (GSR) Team?

A: Preliminary discussions between EPA and the newly formed GSR Team indicate that the GC standard will complement the ITRC's mission to develop guidance and training courses for integrating innovative approaches into existing regulatory frameworks. The standard will provide a uniform method for recognizing elements of a green/sustainable cleanup; as such, standards development will be pursued in parallel with the GSR Team's guidance and training work. (*Pachon*)

Sriram Madabhushi (GSR Team Program Advisor) clarified that the ITRC develops technical and regulatory guidance but not regulations, standards, or policies. The standard may be included as an appendix of the upcoming ITRC document prepared by the GSR Team.

Q: Are financial grants available to state regulatory agencies for use in cost recovery and technical assistance associated with green cleanup projects? This could provide incentives to enroll in a GC program involving reduced regulatory cost.

A: EPA does not anticipate additional grants tied directly to the GC standard. EPA may reflect the standard in scopes of related programs, such as brownfield cooperative agreements awarded to states and tribes under authority of CERCLA Section 128(a). (*Overmeyer*)

Q: Difficulties have been encountered in using some of the new tools becoming available to evaluate green remediation projects, particularly with respect to energy consumption and life cycle analysis. Many of the tools support decision-making for remedy selection as opposed to remedy implementation; how do you expect the GC Standard Initiative to address that difference?

A: EPA recognizes that many of the tools being developed by private or public sectors are designed for consideration during the remedy selection phase, but does not anticipate changes to existing processes for remedy selection. In contrast, the Agency recognizes many opportunities for considering and integrating sustainable practices into remedy implementation. The "footprint" of any selected remedy can be reduced through this approach. (*Pachon*)

Q: Today's presentation mentioned consideration of green standards as balancing criteria. Do you anticipate such standards applying to the balancing categories of cost, effectiveness, community acceptance, etc., and if so, to which category?

- A: In terms of remedy selection and approval, the green standard will not be given the same weight as the balancing criteria specified in applicable statutes such as CERCLA or related regulations. (*Pachon, Overmeyer, Gaffney*)
- Q: Does EPA plan to incorporate GC requirements in its cleanup orders, and if so, how will that be done in light of the voluntary nature of the GC standard?
- A: EPA will not require cleanup parties to use the GC standard; however, states may wish to require its use. EPA does plan to formally recognize use of the standard, depending upon its final form. (*Gaffney*)
- Q: Does EPA anticipate that green remediation considerations would be incorporated into a value engineering approach to cleanup?
- A: Use of green remediation approaches and value engineering may vary across EPA's cleanup programs. Under the Superfund Program, value engineering and consideration of green remediation practices will be overlaid throughout the various cleanup phases and existing processes. (*Pachon*)
- Q: Could EPA's brownfield grant program offer additional points for applicants offering to take additional steps toward a green cleanup effort?
- A: EPA's current grant process already provides points for sustainable alternatives. The application process invites applicants to explain their proposed sustainability plans and sustainable solutions. Future revisions to the grant application process may reflect the GC standard, but immediate changes are not underway. More information about EPA brownfield funding is available online (<http://www.epa.gov/swerosps/bf/applicat.htm#fy09>). (*Overmeyer*)
- Q: Could existing EPA programs such as Performance Track be used to recognize participants using green remediation strategies? At minimum, Performance Track provides a model for a parallel program.
- A: Continuation of existing programs or development of new programs at EPA will depend on priorities set by new federal administration. Relationships or parallels between the GC standard and EPA programs will be determined after the standard is developed. Until then, EPA plans to investigate options for mechanisms recognizing use of the standard. (*Overmeyer*)
- In September 2008, EPA conducted a benchmarking study on existing programs with criteria or recognition programs pertinent to green remediation. The study examined EPA's EnergyStar[®], WaterSense[®], and WasteWise programs and the U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design[®] (LEED) rating system. Follow-on studies will investigate opportunities for programs such as these to foster use of the GC standard and provide related incentives. (*Pachon*)
- Q: When considering the scope of a GC standard, will risk-based cleanup processes such as monitored natural attenuation have a place? Will monitored natural attenuation (relying on naturally occurring bacteria) be considered a green remedy in comparison to an "active" remedy such as subsurface injection of chemicals?
- A: Designation of a cleanup as "green" highly depends on the manner in which the cleanup remedy is put into place, as mentioned earlier. For example, phytoremediation may be considered by some to be a green technology due to its reliance on "natural" trees and other vegetation. Implementing phytoremediation through excessive application of pesticides or fertilizers, use of non-native or invasive species, or a monoculture approach are examples of how phytoremediation can lead to negative impacts on sustainability. (*Pachon*)
- Q: Much of today's discussion focuses on Superfund cleanups. How could the GC standard be applied for cleanups under brownfields or RCRA programs?
- A: Most brownfield cleanups are managed as voluntary actions under programs administered by states. EPA would be able to formally recognize green cleanups meeting all criteria established by state agencies, including those related to the GC standard. (*Gaffney*)

Deborah Goldblum (GC Standard Initiative Co-Lead) of Region 3's Corrective Action Program explained that the Agency's RCRA Program uses three threshold criteria and seven balancing factors when approving cleanup remedies. As mentioned earlier, all cleanup requirements set by applicable regulatory agencies must be met before EPA could recognize a green cleanup in accordance with the standard. Regardless of whether users wish to pursue implementation of the full standard and any EPA recognition, concepts of the GC

standard are expected to provide a broader set of cleanup parameters to be considered and serve as a tool for optimizing cleanups.

Q: Worker health and safety (H&S) should be included as a core concept of the GC standard. Has EPA considered H&S issues related to sustainable cleanups, and if so, is the Agency pursuing inclusion of H&S criteria in the GC standard?

A: EPA has evaluated pertinence of worker H&S to the GC standard and determined that H&S issues must be addressed in site-specific H&S plans required under existing regulations, apart from criteria set by the GC standard or GC documentation. (*Pachon*)

Q: Programs other than LEED may provide suitable benchmarks for the GC standard. Is EPA examining criteria of additional programs with potential relevance to green cleanups?

A: EPA's Standards Executive (Mary McKiel) is helping to ensure that the GC Standards Initiative benefits from Agency experience gained from development of other standards, including those earlier benchmarked for GC purposes. (*Pachon*)

Experiences from those programs and other factors led to EPA's decision to work with a standards development organization rather than to develop a standard internally. The Agency believes that cooperation with an external organization will result in lower EPA costs and a true consensus-based standard. (*Gaffney*)

Q: Sustainability should be seamless between the remediation and redevelopment programs; why would "boundaries" apply, as referenced in today's presentation?

A: While some boundaries are needed to define GC components, EPA agrees that sustainable remediation and redevelopment need to be fully integrated for the purpose of the standard. The "LEED for Neighborhood Development" draft rating system provides one illustration of this integrated approach; EPA actively supports the USGBC in its role as developer of the rating system. (*Pachon*)

Q: Could the standard include training requirements for cleanup workers?

A: The standard is expected to concentrate on energy, waste, and environmental aspects of a cleanup, such as increased water, air, and soil conservation and/or protection. EPA does not expect the standard to set new criteria for H&S during cleanup. The Agency anticipates, however, that the standard may benefit remediation workers and recognizes that the standard may foster new technologies pertaining directly to activities of other regulatory agencies such as the Occupational Safety and Health Administration. (*Overmeyer*)

EPA is maintaining communications with H&S related interest groups. For example, worker protection and green job development in context of site remediation was addressed during a panel session joined by EPA at the September 2008 NASA Environmental and Energy Conference. Private and public sectors also can provide training on GC practices. (*Pachon*)

Q: Where does the American Society of Testing and Materials (ASTM) stand in terms of investigating or incorporating green practices into ASTM methods for remediation engineering practices?

A: ASTM has expressed interest in a GC standard and recently formed a task group to investigate the potential for ASTM to be involved in standards development. As result, EPA and ASTM will hold preliminary discussions concerning a joint effort. (*Overmeyer*)

Closing Statements

- Additional questions after the seminar may be submitted to one or more of today's presenters via e-mail. (overmeyer.patricia@epa.gov, pachon.carlos@epa.gov, gaffney.kristeen@epa.gov)
- EPA updates on the Green Cleanup Standards Initiative will be available over coming months on the Office of Superfund Remediation and Technology Innovation's green remediation website (at http://www.cluin.org/greenremediation/subtab_b5.cfm)