

Douglas Bacon
ITRC State Engagement Coordinator
State of Utah - Dept. of Environmental Quality/Div. of Environmental Response & Remediation
195 North 1950 West
Salt Lake City, UT 84114-4840

Dear Mr. Bacon,

As a member state of the Interstate Technology and Regulatory Council (ITRC; <http://www.itrcweb.org>) the Connecticut Department of Energy and Environmental Protection (“the Department”) supports the efforts of ITRC to promote efficient remediation through the use of training and documentation in the technical and regulatory aspects of innovative technologies.

The Department has reviewed the following Technical and Regulatory Guidance developed by ITRC: *Technical and Regulatory Guidance for In Situ Chemical Oxidation of Contaminated Soil and Groundwater, Second Edition*, January 2005 (the “Document”). (The Document may be found on the ITRC web site at <http://www.itrcweb.org/GuidanceDocuments/ISCO-2.pdf>.) The Department concurs that this Document provides useful guidance for making site-specific decisions on the associated environmental technology and/or methodology.

The Document is viewed by the Department as describing an appropriate approach and standard of care for designing, conducting, and documenting remedial activity. It can serve as a useful guidance when conducting remediation of polluted sites.

The Department also considers the Document to provide useful reference guidelines for technical staff to use when conducting site specific review(s) of projects where the subject remedial technology and/or methodology has been implemented.

The following factors should be considered when using this Document for projects in Connecticut:

- Use of oxidants and associated chemicals for in situ remediation is considered a discharge to the waters of the state and is governed by section 22a-430 of the Connecticut General Statutes. Authorization to inject oxidants is authorized under the Department’s [General Permit for In Situ Remediation](#): Chemical Oxidation, issued June 30, 2014 (the “General Permit”). Registration under this permit, or an equivalent Departmental discharge authorization, is required.
- Specific site remedial activity must be within a clearly delineated zone of influence and must be consistent with the requirements of the General Permit, including monitoring after introduction of the chemicals until the chemical conditions, including any introduced chemicals, return to stability and meet groundwater standards or pre-injection conditions. Specific oxidants and associated chemicals also have requirements listed in appendix I of the General Permit that must be considered. Where the requirements of the General Permit are at variance with the ITRC guidance the General Permit shall govern unless specific approval is issued.
- This concurrence shall not be construed to constitute an assurance by the commissioner that the technology will achieve remediation goals, result in compliance, or prevent or abate pollution. A

successful remediation may depend on the appropriateness of the specific selected technology and chemistry for site conditions. Effectiveness may also be affected by adequacy of site characterization specific to implementation design, including microstratigraphy, soil-sorbed pollution and secondary desorption potential, 3-D flow, the potential for secondary mobilization of metals from the aquifer matrix, and other site-specific factors that must be evaluated before choosing to use this technology.

- This concurrence does not constitute specific endorsement of any commercial products or other documents referenced in the ITRC document.
- Other Technical Qualifications:
 - The Department recommends an “outside-in” design of injection points to limit the potential for migration of pollution beyond the permitted treatment zone of influence.
 - Groundwater analysis methodologies used during monitoring shall provide analytical data of known and documented quality. The [Connecticut Reasonable Confidence Protocols](#) provide an approach to obtain analytical data meeting this standard, for the analytical methods published on the DEEP website.
 - The use of tracers is subject to site-specific requirements that may require additional permitting or approval.
 - Innovative site characterization approaches appropriate for remedial design may not provide data suitable for verification of compliance with Connecticut’s [Remediation Standard Regulations](#).

The Department looks forward to our continued participation in ITRC. If you have any questions about the Department’s concurrence, please contact Kenneth Feathers, Connecticut’s Point of Contact for ITRC activities, by phone at (860) 424-3770 or by e-mail at kenneth.feathers@ct.gov.

Sincerely,

/S/PATRICK F. BOWE

Patrick Bowe
Director
Remediation Division

cc (electronic):

Bureau of Water Protection and Land Reuse
Brian Thompson, Water Planning and Management Division
Denise Ruzicka, Land and Water Resources Division
Bureau of Materials Management and Compliance Assurance
Robert Isner, Waste Engineering and Enforcement Division
Ozzie Inglese, Water Permitting and Enforcement Division
Mark DeCaprio, Emergency Response and Spill Prevention