



- 1) At least ten (10) ITRC member states concur with technical-regulatory guidance document;
- 2) Technical-Regulatory guidance document is used in addressing biofuels management and/or releases in five (5) states and/or at more than twenty (20) sites;
- 3) Feedback from ITRC member states indicate that use of the technical-regulatory document has been useful in addressing and/or planning for biofuels management or releases in their management programs;
- 4) Feedback from regulated facilities indicate that use of the technical-regulatory document has been useful in addressing and/or planning for biofuels management or releases; and/or
- 5) Positive feedback from delivery of Internet training courses/webcasts.

### Summary of Deliverables (primary project outputs)

1) Initially, a white paper will be prepared that will outline the basic problem statement and consist of information on ethanol and bio-based fuel properties and characteristics, how these alternative fuels are produced, distributed and stored, expected uses and amounts, and anticipated environmental impacts. This paper will develop a solid base for subsequent projects.

2) Case Studies on the environmental impacts of ethanol-based and similar alternative fuels will be the second deliverable. Through the ITRC network of state regulators, federal partners, and consultants, information and experiences will be collected, inventoried, and assessed. This document will detail the various problems that arise with ethanol and bio-fuel production; demonstrate known best management practices for minimizing waste, preventing releases to the environment and responding to spills and/or releases of these products; and provide a summary of states' experiences with environmental impacts of alternative fuels and corrective actions implemented. The document will also examine the environmental impacts associated with alternative fuels compared to traditional petroleum product management. This mitigation information would lead to development of a separate Technical and Regulatory Guidance document (discussed below). At this point, the project will be evaluated and future deliverables may proceed on separate tracks. The Case Studies document will be developed for team use initially, but would eventually be made available to the public.

3) The Tech Reg document(s) will focus on the release prevention, detection, site characterization, and existing remediation technologies and how these approaches may differ from conventional fuel sites. In addition, the environmental impacts of alternative fuels will be analyzed and compared to those of traditional fuels because of potential chemical fate and transport differences. The document(s) will include information on the synergistic impacts of mixtures of each alternative fuel with conventional fuels on the environment. An overview of release prevention and detection at conventional fuels sites modified to accept alternative fuels will also be included. An evaluation of remediation technologies specific to ethanol-based and similar alternative fuels will be presented along with an update on best management practices. The Tech Reg document(s) will include a compilation of current reference materials.

4) Internet training course(s) based on the Tech Reg document(s).

### Project Schedule

#### Year 1

- Team Formation – confirm leader(s), members, federal agencies, industrial partners, and community stakeholders; evaluate individual skill sets
- Select Program Advisor
- Data gathering and review for white paper and case studies– define scope and goals; form team units; assign writing assignments & schedules
- Prepare outlines as data dictates

#### Year 2

- 1<sup>st</sup> Draft of white paper and case studies
- Prepare table of contents for Technical & Regulatory document

- Finalize White Paper and Case Study
- 1<sup>st</sup> Draft of Tech Reg Doc
- 2<sup>nd</sup> Draft of Tech Reg Doc

### Year 3

- Final Draft of Tech Reg
- Internet Based Training development
- Finalize Tech Reg – Battelle editing, DOD review, POC review, incorporate comments
- Develop implementation strategy
- Publish Tech Reg Doc
- Internet Based Training dry-run

### Year 4

- Pursue State concurrence, IBT, attend conferences, and advocate use of products
- Initiate project implementation

### Year 5

- Complete project implementation

### **Target Audience**

Local/state/federal government agencies, lawmakers, and regulators; industry – facility owners and operators, fuel distributors, and users; investors; consultants; farmers; and the public.

### **Resources Required**

#### **Personnel:**

**Team Leader :** Bill Burns (FL) and another TBD

#### **Supporting State Members (As of 6/1/08):**

Pennsylvania, Kansas, Iowa, Texas, Oregon, Florida, Nevada, Minnesota, Nebraska, Ohio, Wyoming, Missouri, and Arkansas have confirmed interest in providing team members

- **Skill Mix of Team Members (e.g., regulatory, engineering, scientific, etc.)**
  - UST and Environmental Cleanup regulators – engineers and scientists - familiar with water, wastewater, air quality, and groundwater release and remediation issues
  - soil conservationist
  - scientist/engineer with biofuels processing/storage/dispensing operations experience
  - academician - ecological, toxicological, chemistry expertise
- **Sectors of Team Members (e.g., federal, state, community, regulated, regulator, etc.)**
  - Federal agency representative – EPA, DoD and/or DOE
  - representative from the alternative fuels industry
  - representative from the farming community
  - regulator – UST/AST tank programs
  - environmental/engineering consultants
  - tank installers/equipment vendors
  - emergency responders

**Related Work**

Information generated from the teams listed below may be used to expand upon or supplement preliminary efforts by the alternative energy team, and will not be duplicative. Linkages to current or prior ITRC teams include: Brownfields; Diffusion Sampler; In-Situ Bioremediation; In-Situ Chemical Oxidation; MTBE and Other Fuel Oxygenates; Permeable Reactive Barriers; Phytotechnologies; Remediation Process Optimization; LNAPLs, RISK Resources; Sampling, Characterization, and Monitoring; Thermal Desorption; Vapor Intrusion; and Sediments.