

**SEPARATE PHASE LIQUIDS (SPL) SUBCOMMITTEE OF THE CLEANUP  
STANDARDS ADVISORY BOARD**

**Meeting Notes November 5, 2004**

The SPL subcommittee held a meeting on Friday November 5, 2004 at 10:00 am in the Rachel Carson State Office Building (PADEP) in Harrisburg. The following subcommittee member and participants were present:

Samuel Fang	PADEP
Cullen Flanders	Groundwater and Environmental Services, Inc.
Michael Heffron	Tetra Tech FW, Inc.
Dave Hess	PADEP
Victor Kremesec	Atlantic Richfield C./BP
Joe McNally	Geo Services, Ltd.
Mark Mummert	Harsco Corporation
Ken O’Korn	Earth Tech, Inc.
Ramesh Shimoga	Shaw Environmental, Inc.
Derek Tomlinson	Environmental Resources Management, Inc.
Pamela Trowbridge	PADEP
Sonya Ward	ENSR International
Mike Young	Severn Trent Laboratories, Inc.

Mark Mummert opened the meeting by welcoming everyone and asking everyone who was present to participate in the discussions. Dave Hess reviewed the current approach used for SPL under the Act 2 program. He noted that to attain the statewide health standards no SPL may be present at the point of compliance. The site specific standards allow SPL but the affected media must be sampled. For SPL from regulated tanks, compliance with the storage tank regulations is required.

Ken O’Korn discussed a possible approach for SPL that would parallel the NPDES program. Both performance-based and water-quality-based limits would be considered; with an Act 2 applicant choosing which one should apply at their site.

Victor Kremesec and Derek Tomlinson reviewed the API documents and software. These documents were intended to be educational, technology based items. The software provides a tool to estimate SPL volumes and recovery times from porous media. The committee agreed that they are useful and should be included in the Act 2 program similar to the fate & transport tools currently on the Land Recycling web site. A suggestion was made that the subcommittee should focus on the data collection required to use the software and that training on this topic would be helpful. Victor Kremesec noted that the LNAPL Cleanup Alliance RTDF and EPA Region 4 LUST Group have developed training materials that incorporate the API documents and spreadsheets and those materials have been accepted for technical content. They are currently undergoing review by EPA Office of General Counsel prior to being released for public use.

Assignments were made for Derek to package API materials on a CD-Rom for Dave Hess to distribute to regional DEP materials.

Cullen Flanders reviewed the ASTM guidance documents. He explained that it is a management driven document that focuses on risk and the process to get to an end point. It offers a tiered approach, similar to the RBCA procedures. A flow chart is used to guide the overall process. The committee agreed that this could be useful in Act 2. Assignments were made for Cullen and Derek Tomlinson to develop a similar flow chart for a typical Act 2 site. Derek to also provide copy of latest version of ASTM document on the CD-Rom prepared for Dave Hess. Dave Hess planned to distribute the ASTM materials to regional DEP offices, including the Storage Tank programs. Cullen Flanders noted that the ASTM standard is a draft that is to be balloted in the fall of 2005 with an eventual date for public release likely to be spring 2006.

Victor Kremesec reviewed the Remediation Technologies Development Forum (RTDF) documents and noted that they are geared toward consensus building at large sites. The LNAPL Cleanup Alliance RTDF has 3 goals: provide training, guide consensus building on LNAPL end points and evaluate enhanced remediation methods. Similar training had been provided to the DEP by RTDF in January 2004. Victor Kremesec was going to send Dave Hess a copy of this training that has now been updated by RTDF. Dave Hess was going to distribute these materials to the regional offices.

Derek Tomlinson reviewed the draft NAPL guidance from Texas. The subcommittee agreed that it is a very well done summary of current procedures used to address SPL. The subcommittee particularly liked TX's requirement to remove hazards up front followed by further steps to remove SPL if the SPL is mobile. An assignment was made for Derek Tomlinson and Cullen Flanders to modify the TX checklist to make it apply to a typical Act 2 site.

The subcommittee proposed that the best forum for its findings would be to prepare a separate chapter on SPL in the Technical Guidance Manual. Dave Hess was going to formally seek approval to develop this guidance.

The Meeting was adjourned at 1:00.

### **List of Software and Documents Reviewed by the Subcommittee:**

1. ASTM. Working DRAFT 1: Standard Practice/Guide for Conceptual Model Development and Associated Remedy Decision-Making for Light Non-Aqueous Phase Liquids Released to the Subsurface.
2. American Petroleum Institute. Answers to Frequently Asked Questions About Managing Risk at LNAPL Sites, API Soil and Groundwater Research Bulletin Number 18, May 2003
3. American Petroleum Institute. API-LNAST (LNAPL Dissolution and Transport Screening Tool), Version 1.50, November 1, 2000.
4. American Petroleum Institute. Methods for Determining Inputs to Environmental Petroleum Hydrocarbon Mobility and Recovery Models, API Publication Number 4711, JULY 2001.
5. American Petroleum Institute. Evaluating Hydrocarbon Removal from Source Zones and its Effect on Dissolved Plume Longevity and Magnitude, API Publication Number 4715, September 2002.
6. American Petroleum Institute. Models for Design of Free-Product Recovery Systems for Petroleum Hydrocarbon Liquids, API Publication Number 4729, August 2003.
7. American Petroleum Institute. Light Non-Aqueous Phase Liquid (LNAPL) Parameters Database, Database and Guide for Data Retrieval, API Publication Number 4731, December 2003.
8. American Petroleum Institute. API Interactive LNAPL Guide, Version 2.0, August 2004.
9. Texas Commission on Environmental Quality. DRAFT TCEQ Regulatory Guidance, NAPL Management Requirements, RG-366/TRRP-32, October 2004.
10. The Remediation Technologies Development Forum (RTDF), NAPL Cleanup Alliance. DRAFT A Decision-Making Framework for Cleanup of Sites Impacted with Light Non-Aqueous Phase Liquids (LNAPL), EPA/542-R-04-011, March 2004.