



# PERF Newsletter

March 2007

Environmental,  
Health,  
& Safety  
Solutions for the  
Petroleum Industry

73rd PERF Meeting  
Chemical Treatment of Water  
March 8-9, 2007 Houston, TX.

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## Board of Directors

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The 2007 spring PERF meeting will be held March 8-9 in Fresno, Texas at the Champion Technologies Research and Development Center.

The theme of this meeting will be "Chemical Treatment of Water" with focus on both the upstream and downstream. Prior to the technical meetings, the PERF board will meet on March 7.

The technical sessions will start Thursday, March 8 at 8:00 am. A shuttle bus will be provided for transportation to and from the meeting, and breakfast/lunch will be provided at the Champion technical center. Thursday evening there will be a cocktail hour followed by dinner at Sienna Plantation in Sugarland, Texas.

The second day of presentations will begin at 8:00 am and will include breakout sessions until noon. An optional tour of the Champion Technology Research Center will follow lunch.

A block of rooms are being held at the Marriott Courtyard. Please contact the hotel directly and let them know you are a "Champion-PERF group" attendee/group code CHAC. The block of rooms will be released on February 21, 2007. Information on the hotel, including maps, directions, may be obtained by clicking on the following: [Marriott Courtyard](#).



Please use the registration form found on the PERF website to register by February

28.



**Research Management Discussion Group (RMDG)**

Since its inception in 1986, the key to PERF's success has been its ability to evolve in response to member needs and to changing environmental technology. In particular, the RMDG, formed in 1993, sought to build on early PERF successes. Their goals were to exchange views on strategic environmental problems and R&D needs at the research management level; with particular emphasis on facilitating the identification and member company support of larger strategic PERF projects, and the formation of new discussion groups if any identified needs are not met. The group met until 1998 with its most important impact being the origination of large sharing projects:



Projects	Pre 1993	Post-1993
Number	39	43
Avg. M\$	0.21	1.3

In fact, sharing projects account for 40M\$ of the total 63M\$ of completed PERF projects to date.

On the occasion of our recent 20th anniversary meeting, we brought together a group of research managers and asked them to address whether the RMDG should be reconstituted to provide strategic guidance for PERF's future. There was enthusiastic support for this, and the group is currently working to address how they will organize and operate. Larry Goodheart has graciously agreed to lead the group. Please e-mail any input/suggestions to Larry:

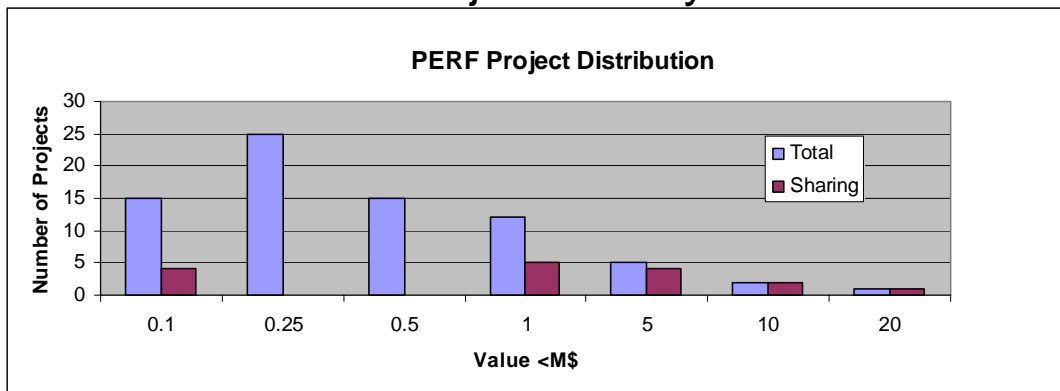
[LarryGoodheart@chevrontexaco.com](mailto:LarryGoodheart@chevrontexaco.com) visit our web site.

**Keys to PERF Success**

- Targeted, efficient projects
- Flexible, responsive organization evolving over time:
  - Traditional  Sharing Projects
  - Streamlined Project Contracting
  - Discussion Groups
  - Liaisons with Government Agencies/Labs, Academia and Other Trade Organizations
  - Associate Membership
  - International Membership and Meetings
  - Strictly Business/Project Development  Thematic Meetings (The "Forum")



**Project History**



## New Projects

### New project proposals

#### 2006-07 Arsenic Remediation Sharing Cooperative: Update

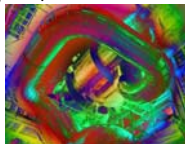
The PERF Arsenic Sharing Project is now underway; the objective of the project is to share knowledge regarding arsenic remediation and assessment options in soils and groundwater. BP is the sponsoring company and organized the first teleconference to get the project started in mid-December 2006. By having a number of companies share results from their sites, a better understanding of arsenic behaviour, particularly in hydrocarbon-impacted sites can be developed. This will help in selecting the right approach to evaluating natural arsenic distributions in soils and groundwater, discerning background concentrations from elevated levels due to mining-related or hydrocarbon-induced processes, and for choosing an appropriate remedial approach.

To date the following organizations besides BP are participating; ConocoPhillips, Total, Chevron, ExxonMobil and API. The next conference call is scheduled for mid to late January with a face to face meeting being planned for the February to March time frame. This is still time join if interested by contacting Todd Ririe at [todd.ririe@bp.com](mailto:todd.ririe@bp.com).



#### 2006-05 Smart LDAR Best Practices Cooperative proposed by ExxonMobil

ExxonMobil proposed a sharing project, "Smart LDAR Cooperative", involving infrared imaging cameras for leak detection in preparation for EPA's alternate work practice to Method 21. The project would include sharing: Best Practices, Procedures, Frequency of Monitoring, Calibration, Documentation, and Emission Quantification.



For more information contact: Jeff Siegell ([jeffrey.h.siegel@exxonmobil.com](mailto:jeffrey.h.siegel@exxonmobil.com)) and Dave Fashimpaur ([dave.fashimpaur@bp.com](mailto:dave.fashimpaur@bp.com)) were nominated as project coordinators.

#### 2006-4 Evaluation of Novel Monitoring Techniques proposed by Chevron

Chevron is proposing a PERF study to evaluate new and novel air quality monitoring techniques. New monitoring technologies that are inexpensive and have very low detection limits have become available or are in the process of being developed. One potential monitoring technique is the personal badge technology. These technologies are being used by various government and non-governmental organizations to assess emissions and community

exposure from oil and gas production, storage, refining, and marketing facilities. In some cases these organizations are conducting inaccurate analysis and presenting incorrect results. The purpose of the study would be to evaluate one or more of the novel personal badge technologies in an industrial complex for a two to four week period. It would be desirable to conduct the field test in an area that has an existing monitoring network or an industrial complex that has ambient air quality monitors for comparison purposes. Also, if a company has a location with some of the newer monitoring technology, the resulting monitoring results and analysis can be shared for inclusion and participation in this project.

For more information or to join the project, please contact Chris Rabideau at [CRabideau@chevron.com](mailto:CRabideau@chevron.com) or 713-954-6981.



#### 2006-03 - WWTP - Fate & Effects of Pollutants - proposed by TOTAL

This project consists of a "mass balance" evaluation to understand how and where pollutants transfers from liquid to gaseous and solid phases occur throughout the unit operations of the Waste Water Treatment Plant system.

It will lead to:

- The environmental impact assessment of each process (gas and solid phases)
- Optimization to reduce the environmental impact of each process

Some points have to be defined:

- The processes to consider (settler, flotation unit, biological process...)
- The chemicals to study (we propose 3 compounds : a BTEX, a HAP and a metal)

For more information please contact Nicolas Lesage ([nicolas.lesage@total.com](mailto:nicolas.lesage@total.com)).

#### 2006-01 Whole Effluent Assessment (WEA) proposed by TOTAL

The main goal of this project is to evaluate the relevance of ecological risk assessment with respect to WEA method in comparison with *in-situ* impact assessment. Does WEA predict a real ecosystem risk for the receiving waters? If WEA is a good indicator of ecosystem risk, it could be used to access difficult river or estuary segments, in place of *in-situ* impact assessments; or to predict ecosystem risk for future wastewater effluent. The two alternatives to conduct this project to be discussed are:

- "real world" river analysis, or
- the use of mesocosms called "Rivieres pilotes" (less variability).

For more information contact Anne Basseres ([anne.basseres@total.com](mailto:anne.basseres@total.com)).

### PERF Fall Meeting

The Fall 2006 PERF meeting, hosted by BP and Argonne National Laboratory, celebrated the 20th anniversary of PERF. Past chairpersons and founders of PERF were invited and honored at this meeting. The theme of this meeting focuses on upstream and downstream remediation issues. The technical meeting started on October 24 with a morning technical session at the BP Naperville Complex followed by an afternoon tour of the Argonne National Laboratory. The second day of technical presentations featured a management discussion on the value of PERF and a review of its past, present, and future. An additional half-day had more technical presentations. The meeting had 60 attendees representing industry, consulting, and the national laboratories. There were 19 technical presentations on remediation issues ranging from in-situ biodegradation, thermal remediation, and sustainable redevelopment of contaminated properties, to compound specific isotope analysis for plume characterization. A potential new research project was proposed during the last day of the meeting. Todd Ririe of BP proposed an "Arsenic Remediation Sharing Cooperative" project. Contact Todd to join this project or obtain additional information at 714-670-3062, or [todd.ririe@bp.com](mailto:todd.ririe@bp.com)



### Current PERF Projects

PERF currently has eight active projects underway. These projects include research on waste management, remediation, oil spill technologies, and VOC emissions. The total value of these projects in terms of costs to conduct the research is estimated to be >U.S. \$2million. To find out more about each of these projects, or to join a project, contact the project coordinator by visiting the PERF web site at [PERF.org](http://PERF.org).

### Current Projects

Project	Title	Sponsor	Number of Participants
2006-7	Arsenic Remediation Sharing Cooperative: Update	BP	5
2006-04	TPH 2DGC Methodology - Predicting Environmental Effects	ExxonMobil	2
2004-06	Reducing Desalter Environmental Impacts	BP	5
2004-05	Understanding the effects of time and energy on the effectiveness of dispersants	ExxonMobil	9
2003-07	Dispersant for viscous oil	ExxonMobil	3
2003-05	Chemical Herders to Increase in Situ Burning Window-of-Opportunity	ExxonMobil	6
2003-03	Managing Wastes in countries with little infrastructure	Chevron	7
2001-02	Flashed Gas / VOC Emission Estimation from Produced Water	Shell/Statoil	7





**Environmental, Health, & Safety  
Solutions for the Petroleum Industry**

**Petroleum Environmental Research Forum  
P.O. Box 425  
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United States of America**

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<b>Teamwork</b>	<b>Together we achieve the extraordinary!</b>

The Petroleum Environmental Research Forum (PERF)\* is a research and development joint venture, formed to provide a stimulus to and forum for the collection, exchange, and analysis of research information relating to the development of technology for health, environment & safety, waste reduction and system security in the petroleum industry. PERF is a non-profit organization of Members which are corporations engaged in the petroleum industry that recognize the importance of a clean, healthy environment and are committed to support cooperative research and development. PERF does not itself participate in research projects but provides a forum for Members to collect, exchange, and analyze research information relating to practical and theoretical science and technology concerning the petroleum industry, and a mechanism to establish joint research projects in that field.

\*The name Petroleum Environmental Research Forum and its acronym PERF are registered service marks.



We're on the web:  
<http://www.perf.org/>

**PERF External  
Group Liaisons**

PERF encourages external groups such as trade associations, national laboratories, and research institutes to join as Liaison members. PERF values the partnerships that we have with these external groups and they frequently join PERF projects and contribute valuable research.

Liaison members appoint Representatives that have the right to attend and participate in meetings of PERF and its committees, but they do not have the right to vote or to serve as an officer of PERF. Liaisons are not required to pay the fee paid by Members.

- American Petroleum Institute (API)
- Department of Energy (USDOE)
- Gas Technology Institute (GTI)
- Lawrence Berkeley National Laboratory (LBNL)
- Water Environmental Research Foundation (WERF)
- Argonne National Laboratory (ANL)
- Electronic Power Research Institute (EPRI)
- International Association of Oil and Gas Producers (OGP)
- Oak Ridge National Laboratory (ORNL)
- University of Manchester Institute of Science and Technology (UMIST)

**Member Companies  
& Representatives**

- |                     |                    |
|---------------------|--------------------|
| Amerada Hess Co.    | Gerry Bresnick     |
| Aramco Services Co. | Robert Finley      |
| BP                  | Dave Fashimpaur    |
| Chevron             | Roland B. Borey    |
| ConocoPhillips      | Sung-I Johnson     |
| EniTecnologie       | Renzo Boni         |
| ExxonMobil          | Jill Kerr          |
| INA-Naftaplin       | Domagoj Zelic      |
| Petro-Canada        | David McIntyre     |
| Repsol YPF          | Marta García Ariza |
| Shell               | Karen G. Haynes    |
| Statoil             | Stale Johnsen      |
| Suncor              | Anthony Congram    |
| Total               | Pierre Scherrer    |

**Associate Members  
& Representatives**

- |  |                  |
|--|------------------|
| BOC  | Ram Ramachandran |
| Canadian Petroleum Products Institute (CPPI) | Adolfo Silva     |
| Champion Technologies, Inc.                  | Ashley Dunham    |
| Pall   | Tom Wines        |