

# ASME/SRNL Materials and Components for Hydrogen Infrastructure Codes and Standards Workshop

## and the

# DOE Hydrogen Pipeline Working Group Workshop



*Sponsored by SRNL, ASME, and DOE*  
Center for Hydrogen Research, Aiken, SC  
Garden Conference Center  
September 23-26, 2007

## AGENDA

### Sunday, September 23, 2007

- 6:00 – 7:30 pm Registration
- 6:15 – 7:30 pm Opening Reception
  - *Sponsored by ASME*

### Monday, September 24, 2007

#### Joint Materials and Components for Hydrogen Infrastructure Codes and Standards Workshop

- 8:00 am Continental Breakfast
- 8:30 am Welcome
  - **Natraj Iyer**, Director, Material Science & Technology, Savannah River National Laboratory (SRNL)
- 8:45 am Opening Remarks
  - **Cheryl Cabbil**, Acting Laboratory Director, SRNL
- 9:00 am Overview of ASME Hydrogen Codes and Standards Development
  - **John Koehr**, ASME
- 9:30 am Material and Component Issues for Gaseous Hydrogen Service
  - **George Rawls**, SRNL
- 10:15 am Break
- 10:30 am DOT Hydrogen Program
  - **William Chernicoff**, U.S. Department of Transportation, Research and Innovative Technology Administration

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**AGENDA** *(continued)*

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|-----------------|--|
| 11:30 – 1:00 pm | Lunch<br>SC Hydrogen Coalition Presentation<br>■ <b>Fred Humes</b>   |
| 1:00 pm         | Development of a 15,000 psig Fitting for Hydrogen Service<br>■ <b>Shelly Tang</b> , Swagelok   |
| 1:45 pm         | ASME B31.12 Hydrogen Piping Code<br>■ <b>Lou Hayden</b> , Chairman B31.12  |
| 2:30 pm         | Break  |
| 2:50 pm         | Development of Code Rules for 15,000 psi H <sub>2</sub> Vessels<br>■ <b>Mahendra Rana</b> , Praxair, Chairman H <sub>2</sub> High Pressure Vessels |
| 3:35 pm         | Composite Vessels for Hydrogen Service<br>■ <b>Norm Newhouse</b> , Lincoln Composites  |
| 4:20 pm         | Adjourn<br>Dinner on Own   |

**Tuesday, September 25, 2007**

**ASME/SRNL Materials and Components for Hydrogen Infrastructure  
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|---------|---|
| 7:30 am | Continental Breakfast   |
| 8:00 am | Meeting Announcements   |
| 8:10 am | Opening Remarks<br>■ <b>Mark Paster</b> , U.S. Department of Energy (DOE)   |
| 8:30 am | DOE Hydrogen Delivery Program Overview<br>■ <b>Tim Armstrong</b> , Oak Ridge National Laboratory (ORNL)   |
| 9:00 am | Material Testing for Hydrogen Pipelines (and Storage Vessels)<br>■ Results... NIST Workshop on Materials Test Procedures for Hydrogen Pipelines: <b>Dave McColskey</b> , NIST<br>■ Testing Subgroup Workshop on Critical Property Needs: <b>Tim Armstrong</b> , ORNL<br>■ ASME Material Testing Priorities for H <sub>2</sub> Infrastructure: <b>Lou Hayden</b><br>■ Discussion: <b>All</b> |

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**AGENDA** *(continued)*

11:30 am                      Hydrogen Delivery Analysis Models  
■ **Mark Paster**, DOE

12:00 – 1:30 pm          Lunch

**Tuesday, September 25, 2007**

**DOE Hydrogen Pipeline Working Group Workshop**

1:30 pm                      Mechanical Properties of Structural Steels in Hydrogen  
■ **Brian Somerday**, Sandia National Laboratories

2:30 pm                      Hydrogen Embrittlement: Fundamentals, Modeling, and  
Experiments  
■ **Petros Sofronis**, University of Illinois, Materials Research  
Laboratory

3:30 pm                      Break

3:45 pm                      Permeation, Diffusion, Solubility Measurements: Results  
and Issues  
■ **Zhili Feng**, ORNL  
■ **Thad Adams**, SRNL

4:45 pm                      Pipeline and Pressure Vessel R&D Under the Hydrogen  
Regional Infrastructure Program in Pennsylvania  
■ **Kevin Klug**, Concurrent Technologies Corporation

5:30 pm                      Adjourn

**Wednesday, September 26, 2007**

**DOE Hydrogen Pipeline Working Group Workshop**

8:00 am                      Materials Solutions for Hydrogen Delivery in Pipelines  
■ **Subodh Das**, Secat

9:00 am                      Composite Technology for Hydrogen Pipelines  
■ **Bart Smith**, ORNL  
■ **Thad Adams**, SRNL

10:00 am                      Break

10:30 am                      Pipeline Working Group Discussion and Path Forward

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**AGENDA** *(continued)*

11:30 am

Adjourn