FINAL AGENDA

Workshop on Future Large CO2 Compression Systems

Sponsored by

DOE Office of Clean Energy Systems, EPRI, and NIST

Dates

March 30-31, 2009

March 30, 2009

- Future Market Outlook for CO2 Compression and Sequestration
- Existing Industry Experience with CO2 Compression
- Approaches to Improve Cost, Efficiency, Availability, and Safety

March 31, 2009

- Advanced Compressor Machinery R&D Needs
- Advanced Electric Drive Technology R&D Needs
- Identify and Prioritize R&D Needed for Future CO2 Compressors

Time	Topics
	First Day (March 30)
8 AM	**Registration and Breakfast**
8:30 AM	**1.0 Opening Welcome** • **Introduction of Participants, Opening Remarks** **Al Hefner, NIST; Pete Rozelle, DOE; Rob Steele, EPRI** **1.1 Review of Workshop Objectives** • **Ron Wolk** **1.2 Keynote Speakers** • **Ray Hattenbach, Blue Source LLC; Future Market Drivers for CO2 Compression Equipment** • **Ron Schoff, EPRI; Introduction of Large Power Plants with CO2 Capture and Compression**
10:00 AM	**Break**
10:20 AM	**2.0 Oil and Gas Industry Experience with CO2 Compressors and Pipelines** • **Joy Kadnar, US Department of Transportation; CO2 Transportation via Pipeline** • **Hans Axel Bratfos, DNV; Risk Aspects Related to Pipeline Transmission of CO2** • **Dan Kubek, Gas Processing Solutions; Large CO2 Sources and Capture Systems** • **Vello Kuuskraa, Advanced Resources International; Summary of Results from the EPRI Workshop on Costs of CO2 Storage and Transportation** **2.1 Panel Discussion** • **Jim Maddocks, Gas Liquids Engineering** • **Phil Amick, ConocoPhillips**
12:15 PM	**Lunch**

1:15 PM	**3.0 Compressor Vendor Perspective on Changes in Compression Cycle, Machinery, and CO2 Capture System to Increase Energy Efficiency** • **Harry Miller, Dresser Rand; Dresser-Rand Centrifugal and Reciprocating Compressor Technology and Experience with CO2 Compression Applications.** • **Kevin Kisor, MAN Turbo; Compressors for High Pressure CO2 Applications** • **Marco Minotti, GE Italy ; CO2 Compression Capabilities**
3 PM	**Break**
3:30 PM	**4.0 Electric Drive Compressor Potential for Improvement in Capitol Cost, Power Requirements, Availability, and Safety** • **Richard Zhang, GE Oil and Gas; High-megawatt Electric Drive Applications in Oil and Gas** • **Kenneth Kullinger, ABB; High-megawatt Electric Drive Motors** • **Steve Moran, Converteam; Multi-Megawatt Motor Drive Technology**
5 PM	**Adjourn**
6:30 PM	**EPRI-Hosted Workshop Dinner**
	Second Day (March 31)
8 AM	**Breakfast**
8:30 AM	**5.0 Review Workshop Charge to Identify and Prioritize R&D for Future CO2 Compression Systems** • **Ron Wolk**
8:40 AM	**6.0 Advanced Compressor Machinery Future R&D Needs** • **Jeff Moore, SwRI; Research and Development Needs for Advanced Compression of Large Volumes of Carbon Dioxide** • **Carl Hustad, CO2 Global; CO2 Compression for Advanced Oxy-Fuel Cycles** • **Peter Baldwin, RamGen; Ramgen Overview and Status Update**
10 AM	**Break**
10:30 AM	**7.0 Advanced Electric Drive Compressor Future R&D Needs** • **Konrad Weeber and Ravi Raju, GE Research; Advanced Electric Machine Technology** • **Ljubisa Stevanovic, GE Research; Advanced Electronic Components for High Speed, High-megawatt Drives** • **John Palmour, Cree; Future High-Voltage SiC Power Device Manufacturing Technology**
Noon	**Lunch**
1 PM	**8.0 Compilation of Potential R&D Areas** **Workshop Participants, (Ron Wolk, Facilitator)** • **Capture and Compression System Modifications** • **Potential Compressor Machinery Improvements** • **Potential Electric Drive Compressor Developments** • **Potential Improvements in High Power Electronics**
2:00 PM	**R&D Prioritization Exercise** **Workshop Participants, (Ron Wolk, Facilitator)**
3:00 PM	**Adjourn**