



Advanced Cables and Conductors Peer Review

Featuring High Temperature Superconductivity Research and Development

June 29-July 1, 2010

The Westin Alexandria, Alexandria, VA

TUESDAY, June 29th – DAY ONE

- 7:30 am – 8:30 am **Registration/Continental Breakfast**
- 8:30 am – 8:40 am **Welcome – Program Overview and Purpose of Peer Review**
Debbie Haight, *Program Manager, Advanced Cables and Conductors Program, U.S. Department of Energy*
- 8:40 am – 9:00 am **Opening Remarks**
Patricia Hoffman, *Acting Assistant Secretary, U.S. Department of Energy's Office of Electricity Delivery and Energy Reliability*
- 9:00 am – 10:30 am **End Use Applications for HTS Materials**
- Utility Perspective, Syed Ahmed, *Southern California Edison*
 - Military Applications, Brian Fitzpatrick, *Naval Surface Warfare Center*
 - High Temperature Superconducting Magnets, David Larbalestier, *Florida State University*
- 10:30 am – 11:00 am **Break**
- 11:00 am – 11:30 am **Key Messages from the Superconducting Direct Current Electricity Transmission Workshop**
Steve Eckroad, *EPR*
- 11:30 am – 12:00 pm **Key Messages from the High Temperature Superconducting Wire Workshop**
Bruce Strauss, *DOE, Office of Science*
- 12:00 pm – 1:15 pm **Luncheon**

JOINT 2nd GENERATION WIRE and STRATEGIC RESEARCH SESSION

Session Moderator: Debbie Haught, U.S. DOE

1:15 pm – 2:30 pm

American Superconductor's 2G Wire Readiness R&D (55+20)

Martin Rupich (AMSC)

2:30 pm – 3:00 pm **Break**

3:00 pm – 4:15 pm

Progress in SuperPower's 2G HTS Wire Development and Manufacturing Program (55+20)

Venkat Selvamanickam (TcSUH/UH and SuperPower), John Dackow (SuperPower)

4:15 pm – 5:20 pm

Wire Development Group (50+15)

Martin Rupich (AMSC)

Adjourn for the Day

6:00 pm – 7:30 pm **Poster Session** – with cash bar and light appetizers



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WEDNESDAY, June 30th – DAY TWO

7:00 am – 8:00 am Continental Breakfast

2 nd GENERATION WIRE SESSION	STRATEGIC RESEARCH SESSION	SUPERCONDUCTIVITY APPLICATIONS SESSION
<i>Session Moderator: Mario Scullini, US DOE - NETL</i>	<i>Session Moderator: Merrill Smith, US DOE</i>	<i>Session Moderator: Don Gelling, US DOE - NETL</i>
8:00 am – 9:00 am LANL/AMSC CRADA (45+15) <i>Terry Holesinger, Doan Nguyen, Yates Coulter (LANL) and Martin Rupich (AMSC)</i> 9:00 am – 10:00 am Progress in Reactive Co-Evaporation on IBAD (45+15) <i>Vladimir Matias (LANL) and Brian Moeckley (STI)</i>	8:00 am – 9:00 am Current Limiting Mechanism Studies of Coated Conductors (45+15) <i>David Larbalestier, Dmytro Abraimov and Alex Gurevich (FSU)</i> 9:00 am – 10:00 am Strategic Substrate Development for Coated Conductors (45+15) <i>Amit Goyal and Parans Paranthaman (ORNL)</i>	8:30 am – 9:00 am Readiness Review (20+10) <i>Mike Gouge (ORNL), Steve Ashworth (LANL)</i> 9:00 am – 10:00 am Advanced Cable Research (45+15) <i>Steve Ashworth (LANL)</i>
10:00 am – 10:30 am Break	10:00 am – 10:30 am Break	10:00 am – 10:30 am Break
10:30 am – 11:30 am ORNL/AMSC CRADA: Development of RABiTS-based 2G Wire (45+15) <i>Amit Goyal and Parans Paranthaman (ORNL), Cees Thieme (AMSC)</i>	10:30 am – 11:10 am Improvement of 2G Wires by Solid-State Catalysis (30+10) <i>Slowa Solovyov (BNL)</i> 11:10 am – 11:55 am Understanding and Minimizing AC Losses (30+15) <i>Steve Ashworth (LANL)</i>	10:30 am – 11:30 am Strategic Dielectric R&D for HTS and other OE Applications (45+15) <i>Enis Tuncer and Isidor Sauers (ORNL)</i>
12:00 pm – 1:00 pm Luncheon		
<i>Session Moderator: Brian Marchionini, Energetics</i>	<i>Session Moderator: Debbie Haught, US DOE</i>	<i>Session Moderator: Mario Scullini, US DOE - NETL</i>
1:00 pm – 2:00 pm ORNL/SuperPower CRADA: Development of MOCVD-based, IBAD-2G wire (45+15) <i>Tolga Aytug, Parans Paranthaman and Amit Goyal (ORNL) and Venkat Selvamanickam (SuperPower)</i>	1:00 pm – 2:00 pm Coated Conductor Template Research (45+15) <i>Vladimir Matias, Liliana Stan (LANL)</i>	1:00 pm – 2:00 pm Development and In-Grid Demonstration of a Transmission Voltage SuperLimiter™ Fault Current Limiter (45+15) <i>Bruce Gamble (AMSC), Syed Ahmed (Southern California Edison), Wolfgang Schmidt (Siemens), Nicolas Lallouet (Nexans)</i>

2 nd GENERATION WIRE SESSION	STRATEGIC RESEARCH SESSION	SUPERCONDUCTIVITY APPLICATIONS SESSION
2:00 pm – 2:45 pm Scale-up of All-Solution Deposited Coated Conductors (30+15) <i>Paul Clem (SNL)</i>	2:00 pm – 3:00 pm Electromechanical Studies for Superconductor Development (45+15) <i>Danko van der Laan (NIST-Boulder)</i>	2:00 pm – 2:40 pm High-Temperature Superconducting Power Cable (30+10) <i>David Knoll (Southwire Co./Ultera), Isidor Sauers and Jonathan Demko (ORNL)</i>
3:00 pm – 3:30 pm Break	3:00 pm – 3:30 pm Break	3:00 pm – 3:30 pm Break
<i>Session Moderator: Brian Marchionini, Energetics</i>	<i>Session Moderator: Don Geiling, US DOE - NETL</i>	<i>Session Moderator: Mario Scullini, US DOE - NETL</i>
3:30 pm – 4:30 pm LANL/SuperPower CRADA (45+15) <i>Leonardo Civale, Terry Holesinger (LANL) and Venkat Selvamanickam (TcSUH/UH and SuperPower)</i>	3:30 pm – 4:30 pm Engineered Pinning Defects for Coated Conductors (45+15) <i>Amit Goyal and Sung-Hung Wee (ORNL)</i>	3:30 pm – 4:05 pm HTS Transformer Technology (25+10) <i>Bill Schwenterly (ORNL) and Ed Pleva (Waukesha)</i>
4:30 pm 2nd Generation Wire Session Adjourns for the Day	4:30 pm Strategic Research Session Adjourns for Day	4:05 pm Applications Session Adjourns for Day
6:30 pm Optional No-Host Dinner		

THURSDAY, July 1st – DAY THREE

7:00 am – 8:00 am **Continental Breakfast**

2 nd GENERATION WIRE SESSION	STRATEGIC RESEARCH SESSION	SUPERCONDUCTIVITY APPLICATIONS SESSION
<i>Session Moderator: Brian Marchionini, Energetics</i>	<i>Session Moderator: Debbie Haught, US DOE</i>	<i>Session Moderator: Don Geilling, US DOE - NETL</i>
<p>8:00 am – 9:00 am Characterization of Coated Conductors for Improved Performance (45+15) <i>Dean Miller and Victor Maroni (ANL)</i></p> <p>9:00 am – 10:00 am Electrodeposited Stabilization Layers for High-Temperature Superconducting Coated Conductors (SuperPower CRADA) (30+15) <i>Raghu Bhattacharya, Yunfei Qiao (NREL) and Venkat Selvamanickam (TcSUH/UH and SuperPower)</i></p>	<p>8:30 am – 9:30 am HTS Coated Conductor Characterization and Analysis (45+15) <i>David Christen and James Thompson (ORNL)</i></p> <p>9:30 am – 10:00 am Long Length Characterization (20+10) <i>Yates Coulter and Jeff Willis (LANL)</i></p>	<p>8:30 am – 9:00 am Update on SuperPower's 2G SFCL Device and Modules (20+10) <i>Juan Carlos Llambes (SuperPower)</i></p> <p>9:00 am – 10:00 am Zenergy Power's Fault Current Limiter (45+15) <i>Franco Moriconi (Zenergy)</i></p>
10:00 am – 10:30am Break	10:00 am – 10:30 am Break	10:00 am – 10:30 am Break
<i>Session Moderator: Brian Marchionini, Energetics</i>	<i>Session Moderator: Don Geilling, US DOE - NETL</i>	<i>Session Moderator: Mario Scullli, US DOE - NETL</i>
<p>10:30 am – 11:05 am Conductor Design for HTS Applications (35+10) <i>Robert Duckworth and Yifei Zhang (ORNL)</i></p>	<p>10:30 am – 12:00 pm Strategic Materials Development for Coated Conductor Performance (60+30) <i>Terry Holesinger, Boris Maiorov, and Leonardo Civale (LANL)</i></p>	<p>10:30 am – 12:00 pm LIPA 2 Cable Project (60+30) <i>Jim Maguire (AMSC), Frank Schmidt (Nexans), Shawn Bratt (Air Liquide), Tom Welsh (LIPA)</i></p>
11:05 am 2G Wire Session Adjourns	12:00 pm Strategic Research Session Adjourns	12:00 pm Applications Session Adjourns
<p>12:00 pm – 1:15 pm Luncheon with speakers</p> <p>12:30 pm – 1:15 pm Highlight Summary – ORNL/LANL FY 2010 Applications Highlights <i>Mike Gouge (ORNL)</i></p> <ul style="list-style-type: none"> • FY2010 ORNL HTS Program <i>Dominic Lee (ORNL)</i> • FY2010 LANL HTS Program Highlights <i>Ken Marken (LANL)</i> 		
Adjourn HTS Peer Review		
1:30 pm – 3:30 pm Roundtable Discussion - A Vision for HTS Wire Development		
3:30 pm – 3:45 pm Break		
3:45 pm – 5:00 pm EPRI Superconductivity Program Meeting		

POSTER SESSION TOPICS

TITLE	ORGANIZATION
Superhydrophobic Coatings for Outdoor High Voltage Insulation and High Voltage Power Lines	ORNL
Increase Power Transmission Efficiency by Improved Connector System Reliability and Conductor-Connector System Conductivity	ORNL
Improvements To A Low Cost Ic (H, Angle) Measurement System	LANL
Performance Gains Achieved in Large Coolers	CFIC
YBCO Conductor Technology for High Field Solenoid Magnets with Accelerator Applications	Muons, Inc. and North Carolina State University
Superconducting Magnet R&D at Muons, Inc.	Muons, Inc.
A Helical Cooling Channel System for Muon Colliders	Muons, Inc.
Modeling Bi2212 Heat Treatment of Large Accelerator Magnets	Muons, Inc.