



2009 High Temperature Superconductivity Program Peer Review

August 4-6, 2009

The Westin Alexandria, Alexandria, VA

TUESDAY, August 4th – 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 Haught, U.S. Department of Energy Program Manager, Superconductivity for Electric Systems
- 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 – 9:20 am **HTS FCL Update – Task Force and Testing Requirements**
Mischa Steuer, Florida State University Center for Advanced Power Systems
- 9:20 am – 9:40 am **HTS Cable Update – Standards Development**
David Lindsay, Southwire
- 9:40 am – 10:00 am **DHS – Project Hydra Cable**
Sarah Mahmood, Department of Homeland Security
- 10:00 am – 10:30 am **Break**
- 10:30 am – 11:00 am **HTS Value Propositions for Utility Applications**
Hector Artze, Navigant Consulting
- 11:00 am – 11:45 pm **Center for Emergent Superconductivity**
J.C. Seamus Davis, Brookhaven National Lab
- 11:45 pm – 1:15 pm **Luncheon**

JOINT 2 nd GENERATION WIRE and STRATEGIC RESEARCH SESSION	
<i>Session Moderator : Debbie Haught, U.S. DOE</i>	
1:15 pm – 2:35 pm	American Superconductor's 2G Wire Technology (55+25) <i>Steven Fleshler and Marty Rupich(AMSC)</i>
2:35 pm – 2:50 pm	Break
2:50 pm – 4:10 pm	Progress in SuperPower's 2G HTS Wire Development Program (55+25) <i>Venkat Selvamanickam (SuperPower), Y. Xie (SuperPower), John Dackow (SuperPower)</i>
4:10 pm – 5:30 pm	Wire Development Group (55+25) <i>Marty Rupich (AMSC)</i>
Adjourn for the Day	
6:00 pm – 7:30 pm	Poster Session – with cash bar and light appetizers

WEDNESDAY, August 5th – DAY TWO

7:00 am – 8:00 am Continental Breakfast

2 nd GENERATION WIRE SESSION	STRATEGIC RESEARCH SESSION	SUPERCONDUCTIVITY APPLICATIONS SESSION
<i>Session Moderator: Don Geiling, U.S. DOE-NETL</i>	<i>Session Moderator: Mario Sciulli, U.S. DOE-NETL</i>	<i>Session Moderator: Gil Bindewald, U.S. DOE</i>
<p>8:00 am – 9:15 am ORNL/AMSC CRADA: Development of RABiTS-based 2G Wire (55+20) <i>Amit Goyal and Parans Paranthaman (ORNL), Marty Rupich (AMSC)</i></p> <p>9:15 am – 10:00 am LANL/STI CRADA: Progress in Reactive Co-Evaporation on IBAD (30+15) <i>Vladimir Matias (LANL) and Brian Moeckly (STI)</i></p>	<p>8:00 am – 9:00 am Current Limiting Mechanism Studies of Coated Conductors (45+15) <i>David Larbalestier, Dmytro Abrahimov and Eric Hellstrom (FSU)</i></p> <p>9:00 am – 10:00 am HTS Coated Conductor Characterization and Analysis (45+15) <i>David Christen and James Thompson (ORNL), Alex Gurevich (FSU)</i></p>	<p>8:30 am – 9:00 am Readiness Review of SPE Projects (20+10) <i>Mike Gouge (ORNL), Steve Ashworth (LANL)</i></p> <p>9:00 am – 10:00 am LANL Advanced Cable Research (45+15) <i>Steve Ashworth (LANL)</i></p>
10:00 am – 10:30 am Break	10:00 am – 10:30 am Break	10:00 am – 10:30 am Break
<p>10:30 am – 12:00 am LANL/AMSC CRADA (60+30) <i>Terry Holesinger (LANL) and Marty Rupich (AMSC)</i></p>	<p>10:30 am – 11:10 am Raising Performance of 2G Wires Through Improved Nucleation of YBCO on Technical Oxide Buffers (30+10) <i>Slawa Solovyov (BNL)</i></p> <p>11:10 am – 11:40 am AC Loss Measurements on HTS Materials (20+10) <i>Sastry Pamidi (FSU-CAPS)</i></p>	<p>10:30 am – 11:30 am Strategic Dielectric R&D for HTS and other OE Applications (45+15) <i>Isidor Sauers and Enis Tuncer (ORNL)</i></p> <p>11:30 am – 12:00 pm Characterization of Dielectric Materials Under Cryogenic Conditions (20+10) <i>Horatio Rodrigo (FSU-CAPS)</i></p>
12:00 pm – 1:00 pm Luncheon		
<i>Session Moderator: Brian Marchionini, Energetics</i>	<i>Session Moderator: Gil Bindewald, U.S. DOE</i>	<i>Session Moderator: Debbie Haught, U.S. DOE</i>
<p>1:00 pm – 2:15 pm MOCVD-based, IBAD-2G wire (55+20) <i>Tolga Aytug, Parans Paranthaman and Amit Goyal (ORNL) and Venkat Selvamanickam (SuperPower)</i></p> <p>2:15 pm – 3:00 pm Scale-up of All-Solution Deposited Coated Conductors (30+15) <i>Paul Clem and Dan Wesolowski (SNL)</i></p>	<p>1:00 pm – 2:00 pm Coated Conductor Template Research (40+20) <i>Vladimir Matias and Quanxi Jia (LANL)</i></p> <p>2:00 pm – 2:45 pm Understanding and Minimizing A.C. losses (30+15) <i>Steve Ashworth (LANL)</i></p>	<p>1:00 pm – 2:00 pm AMSC's Fault Current Limiter (45+15) <i>Bruce Gamble, AMSC; Wolfgang Schmidt, Siemens</i></p> <p>2:00 pm – 3:00 pm High-Temperature Superconducting Power Cable (45+15) <i>David Lindsay (Southwire Co./Ultera), Jonathan Demko and Isidor Sauers (ORNL)</i></p>
3:00 pm – 3:30 pm Break	2:45 pm – 3:15 pm Break	3:00 pm – 3:30 pm Break

WEDNESDAY, August 5th – DAY TWO (Continued)

2nd GENERATION WIRE SESSION	STRATEGIC RESEARCH SESSION	SUPERCONDUCTIVITY APPLICATIONS SESSION
<i>Session Moderator: Don Geiling, U.S. DOE-NETL</i>	<i>Session Moderator: Mario Sciulli, U.S. DOE-NETL</i>	<i>Session Moderator: Gil Bindewald, U.S. DOE</i>
3:30 pm – 5:00 pm LANL/SuperPower CRADA (60+30) <i>Leonardo Civale, Terry Holesinger (LANL) and (SuperPower)</i>	3:15 pm – 3:55 pm Non-Vacuum Deposition of Buffer Layers and SuperPower CRADA (30+10) <i>Raghu Bhattacharya (NREL) and Yi-Yuan Xie (SuperPower)</i> 3:55 pm – 4:55 pm Strategic Substrate Development for Coated Conductors (45+15) <i>Amit Goyal and Parans Paranthaman (ORNL)</i>	3:30 pm – 4:10 pm HTS Transformer R&D: Waukesha Electric Systems/ORNL (30+10) <i>Bill Schwenterly (ORNL) and Ed Pleva (Waukesha)</i> 4:10 pm – 4:40 pm SBIR Project on Acoustic-Stirling Cryocooler (20+10) <i>John Corey (CFIC-Qdrive)</i>
5:00 pm 2nd Generation Wire Session Adjourns for the Day	4:55 pm Strategic Research Session Adjourns for Day	4:40 pm Applications Session Adjourns for Day
6:30 pm Optional No-Host Dinner		

THURSDAY, August 6th – DAY THREE

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

2 nd GENERATION WIRE SESSION	STRATEGIC RESEARCH SESSION	SUPERCONDUCTIVITY APPLICATIONS SESSION
<i>Session Moderator: Debbie Haught, U.S. DOE</i>	<i>Session Moderator: Gil Bindewald, U.S. DOE</i>	<i>Session Moderator: Don Gelling, U.S. DOE-NETL</i>
<p>8:00 am – 9:00 am ANL/AMSC CRADA: Characterization of 2G Conductors (45+15) <i>Dean Miller and Victor Maroni (ANL), Marty Rupich (AMSC)</i></p> <p>9:00 am – 10:00 am ANL/SuperPower CRADA: Characterization of 2G Conductors (45+15) <i>Dean Miller and Victor Maroni (ANL) and Venkat Selvamanickam (SuperPower)</i></p>	<p>8:00 am – 9:20 am Engineered Defects for Coated Conductors (60+20) <i>Amit Goyal (ORNL)</i></p> <p>9:20 am – 10:00 am Long Length Characterization (30+10) <i>Yates Coulter or Jeff Willis (LANL)</i></p>	<p>8:30 am – 9:00 am Update on SuperPower's 2G SFCL Module Development (20+10) <i>Drew Hazelton and Juan Carlos Llambes (SuperPower)</i></p> <p>9:00 am – 10:00 am Zenergy's Fault Current Limiter (45+15) <i>Franco Moriconi (Zenergy)</i></p>
10:00 am – 10:15 am 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 Gelling, U.S. DOE-NETL</i>	<i>Session Moderator: Mario Sciuilli, U.S. DOE-NETL</i>
<p>10:15 am – 11:15 am Electromechanical Studies for Superconductor Development (45+15) <i>Danko van der Laan (NIST-Boulder)</i></p> <p>11:15 am – 12:15 pm Conductor Design for HTS Applications (45+15) <i>Robert Duckworth and Yifei Zhang (ORNL)</i></p>	<p>10:30 am – 12:00 am Strategic Materials Development for Coated Conductor Performance (60+30) <i>Leonardo Civale, Boris Maiorov, Matt Feldmann, Terry Holesinger (LANL)</i></p>	<p>10:30 am – 12:00 pm LIPA Cable Projects (60+30) <i>Jim Maguire (AMSC), Frank Schmidt (Nexans), Tom Welsh (LIPA), Shawn Bratt (Air Liquide)</i></p>
2G Wire Session Adjourns	Strategic Research Session Adjourns	Applications Session Adjourns
<p>12:15 pm – 1:30 pm Luncheon with speakers</p> <p>1:00 pm – 1:40 pm Highlight Summary – ORNL/LANL</p> <ul style="list-style-type: none"> • FY 2009 Applications Highlights <i>Mike Gouge (ORNL)</i> • FY2009 ORNL HTS Program <i>Dominic Lee (ORNL)</i> • FY2009 LANL HTS Program Highlights <i>Ken Marken (LANL)</i> 		

THURSDAY, August 6th – DAY THREE (Continued)

2 nd GENERATION WIRE SESSION	STRATEGIC RESEARCH SESSION	SUPERCONDUCTIVITY APPLICATIONS SESSION
Adjourn HTS Peer Review		
2:00 pm – 3:30 pm 2:00-3:00	Laboratory Testing Facility Roundtable Presentations by laboratory representatives <ul style="list-style-type: none"> • Mischa Steurer, Florida State University - CAPS • Jeff Hildreth, Bonneville Power Administration • Jeff Willis, Los Alamos National Laboratory • Mike Gouge, Oak Ridge National Laboratory 	
3:00-3:30 3:30	Open discussion Adjourn Testing Facility Roundtable	
3:30 pm – 3:45 pm Break		
3:45 pm – 5:30 pm EPRI Superconductivity Program Meeting		

POSTER SESSION TOPICS

	TITLE	ORGANIZATION	TYPE OF PROJECT
1	Acoustic-Stirling Cryocooler (<i>display</i>)	CFIC-Qdrive	SBIR Phase II (DOE)
2	AC Loss Reduction in Coated Conductors	UES	FY08 SBIR (DOE)
3	Rugged Low Heat Leak Cryogenic Seals and Electrical Quick Disconnects	Creare	SBIR (DOD)
4	Application of Fault Current Detection and Limiting Technology on Electrical Distribution Systems for Naval Ships	Creare	SBIR (DOD)
5	High Reliability Low Maintenance Cryocooler for HTS Motor/Generator	Creare	SBIR (DOD)
6	Degaussing Systems for Navy Ships	Tai-Yang Research Company	SBIR (DOD)
7	Ultra-Fast MOCVD Growth of Highly Textured YBCO Films for Coated Conductors	Metal Oxide Technologies Inc.	SBIR (DOE)
8	High-Performance Dielectric Materials for HTS Systems	Composite Technology Development, Inc.	SBIR Phase II (DOE)
9	Development and Demonstration of A New, Low Cost Ic(B, Angle) Measurement System	LANL	National Laboratory
10	Progress in applications using MgB2 Superconductors for power and medical applications (SFCL, motor/generator, MRI, undulators, cables, transformers)	Hyper Tech Research Inc	SBIR Phase II (DOE)
11	LANL/STI CRADA	Superconductor Technologies Inc.	LANL CRADA

SBIR = Small Business Innovation Research

