U.S. DEPARTMENT OF ENERGY | Nuclear Energy

NEAMS
(Nuclear Energy Advanced Modeling and Simulation)

Principal Investigator's Meeting

October 18, 2010
L'Enfant Plaza Hotel
Washington, DC

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Purpose of the PI Meeting

- **Review and discuss FY-2010 technical progress**
  - 30 minutes presentations
  - 15 minutes discussion
- **Provide a top-level overview of NEAMS to the PIs**
  - Answer the questions,
    - "Where does my work fit into the program?"
    - "How does that tie into the larger U.S. & DOE initatives?"
- **Create a "sense of community" for NEAMS**

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NUCLEAR ENERGY ADVANCED MODELING & SIMULATION PROGRAM

PI Meeting Agenda – Day One

Time	Session	Lead
0730	Registration and Coffee	
0830	Introduction and Meeting Purpose	Keith Bradley Hussein Khalil
0845	Welcome & Introduction	John Kelly
0900	State of NEAMS	Alex Larzelere
1000	Break	
1015	Fuels IPSC FY-10 Overview	Steve Hayes
1030	Fuels IPSC: *Lower Length Scale Simulations of Transport in Oxide Fuel*	Chris Stanek
1115	Fuels IPSC: *The Initial Release of the AMP (Advanced MultiPhysics) Nuclear Fuel Performance Code*	Kevin T. Clarno
1200	Working Lunch: *Speaker, Pete Lyons (Principal Deputy Assistant Secretary for Nuclear Energy, NE-2)*	
1300	Fuels IPSC: *The AMP Backplane: Discreet Management of Numerical Libraries and Multiphysics Data*	William K. Cochran
1345	Reactor IPSC FY-10 Overview	Tim Tautges
1400	Break	
1415	Reactor IPSC: *Neutronics Modeling & Simulation*	Won Sik Yang
1500	Reactor IPSC: *Advances in SHARP Thermal Hydraulics Modeling, Verification, And Validation*	Paul Fischer
1545	Reactor IPSC: *Polynomial Regression with Derivative Information for Uncertainty Quantification in Nuclear Reactors*	Mihai Anitescu
1630	Day One Wrap Up	Alex Larzelere
1700	Adjourn	
1830	PI Meeting Dinner, L'Enfant Plaza Hotel, Quorum Room *Speaker, April Lewis, Consortium for Advanced Simulation of Light Water Reactors*	

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PI Meeting Agenda – Day Two

Time	Session	Lead
0800	Coffee	
0815	Recap from Day One	Alex Larzelere
0830	SafeSeps IPSC FY-10 Overview	Pratap Sadasivan
0845	SafeSeps IPSC: *Architecture*	Valmor deAlmeida
0900	SafeSeps IPSC: *Computational Fluid Dynamics of Contactors*	Kent Wardle, Marianne Francois
0945	SafeSeps IPSC: *Agent Design*	Valmor de Almeida, Enrique Batista
1015	Break	
1030	SafeSeps IPSC: *Electrochemical/Dissolution Model*	Candido Pereira
1050	SafeSeps IPSC: *Hybrid K-edge densitometry*	Mike Collins
1115	Waste IPSC FY-10 Overview	Randy Summers
1130	Waste IPSC: *Challenge Problem and Modeling & Simulation Gap Analysis*	Geoff Freeze, Lupe Arguello, and Yifeng Wang
1215	Working Lunch: *Project Controls Working Discussion*	Dan Funk, & Brad Couch
1315	Waste IPSC: *Sub-continuum Modeling for Waste Forms*	Peter Schultz, Carl Steefel, and Jim Cunnane
1400	Waste IPSC: *VV-UQ Plan and Frameworks & Infrastructures Gap* analysis	Carter Edwards
1445	ECT Overview & Web Portal	Lori Diachin, Laura Schulz
1515	Break	
1530	ECT: *Draft NEAMS SQA Plan*	Greg Pope
1610	ECT: *Current and Future High Performance Computing (HPC) Capabilities at Idaho National Laboratory*	Eric Whiting
1650	ECT: *NEAMS Survey and Report on HPC Frameworks*	John Magerlein
1730	Day Two Wrap Up	Keith Bradley, Hussein Khalil
1745	Adjourn	

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PI Meeting Agenda – Day Three

Time	Session	Lead
0800	Coffee	
0815	Recap from Day Two	Alex Larzelere
0830	CT Overview	David Bernholdt
0845	CT: *An Update on the NEAMS Integrated Computational Environment and Plans for FY11*	Jay Billings, David Bernholdt
0930	VU FY-10 Overview	Jim Stewart
0945	Break	
1000	VU: *Risk Informed Safety Margin Characterization*	Robert Nourgaliev
1045	VU: *Advanced Licensing Using VU Concepts*	Pat McClure
1130	VU: *Predictive Capability Maturity Model*	Angel Urbina
1215	Working Lunch: *Discuss Technical Progress and Potential Improvements*	Alex Larzelere
1315	FMM FY-10 Overview	Moe Khaleel
1400	FMM: *Hierarchical Multi-scale Modeling of Irradiation Induced Strengthening*	Hussein Zbib
1445	Break	
1500	FMM: *F-electron Problem: Approach to Improving Accuracy of Density Functional Theory for Actinide Materials*	Anne Mattsson
1545	FMM: *Molecular Dynamics and Meso-scale Modeling Framework for Irradiation Damage*	Fei Gao Xin Sun
1630	PI Meeting Wrap Up	Alex Larzelere
1700	Adjourn	