2011 Water Program Peer Review
Agenda

Meeting objectives:

- Review and evaluate the strategy and goals of the Water Program
- Review and evaluate the progress and accomplishments of the Program's conventional hydropower and marine and hydrokinetic projects funded in FY2009 through FY2011
- Foster interactions among the national laboratories, industry, and academic institutions conducting research and development on behalf of the program

Tuesday, November 1, 2011 Marine and Hydrokinetic Projects *[Magnolia C]*

12:00 PM	**Meeting Registration**	
12:45 PM	**Marine and Hydrokinetic Peer Review Introduction**	**Michael Reed DOE-HQ**
1:15 PM	Snohomish PUD No 1 (TRL 7 8 System) – Puget Sound Pilot Tidal Energy Project *1:30 PM: Panel Q&A*	Brian Polagye, University of Washington
1:35 PM	Acoustic effect of hydrokinetic tidal turbines *1:45 PM: Panel Q&A*	Brian Polagye, University of Washington
1:50 PM	Advanced, High Power, Next Scale, Wave Energy Conversion Device *2:00 PM: Panel Q&A*	Dr. Philip R. Hart, Ocean Power Technologies
2:05 PM	Ocean Power Technologies (TRL 5 6 System) – PB500, 500 kW Utility-Scale PowerBuoy Project *2:15 PM: Panel Q&A*	Dr. Philip R. Hart, Ocean Power Technologies
2:20 PM	Ocean Power Technologies (TRL 7 8 System) – Reedsport PB150 Deployment and Ocean Test Project *2:35 PM: Panel Q&A*	Dr. Philip R. Hart, Ocean Power Technologies
2:40 PM	15 Minute Break	
2:55 PM	Princeton Power Systems (TRL 5 6 Component) – Marine High-Voltage Power Conditioning and Transmission System with Integrated Energy Storage *3:05 PM: Panel Q&A*	Mark Holveck , Paul Heavener, Princeton Power Systems

3:10 PM	WaveBob (TRL 5 6 System) – Advanced Wave Energy Conversion Project *3:20 PM: Panel Q&A*	Roger Bagbey, on behalf of WaveBob
3:25 PM	Northwest Energy Innovations (TRL 5 6 System) – WETNZ MultiMode Wave Energy Converter Advancement Project *3:35 PM: Panel Q&A*	Justin Klure, Northwest Energy Innovations
3:40 PM	Vortex Hydro Energy (TRL 5 6 System) – Advanced Integration of Power Take-Off in VIVACE *3:50 PM: Panel Q&A*	Gus Simiao, Vortex Hydro Energy
3:55 PM	The Water to Wire Project *4:05 PM: Panel Q&A*	Edward Lovelace, Free Flow Power
4:10 PM	WaveWindFloat *4:20 PM: Panel Q&A*	Alla Weinstein, Principal Power
4:25 PM	15 Minute Break	
4:40 PM	Aquantis 2.5MW Ocean Current Generation Device *4:50 PM: Panel Q&A*	Alex Fleming, Dehlsen
4:55 PM	Dehlsen (TRL 5 6 System) – Aquantis C-Plane Ocean Current Turbine Project *5:05 PM: Panel Q&A*	Alex Fleming, Dehlsen
5:10 PM	Siting of hydrokinetic project in offshore southeast Florida *5:20 PM: Panel Q&A*	Alex Fleming, Dehlsen
5:25 PM	Adjourn	

Wednesday, November 2, 2011 Marine and Hydrokinetic Projects *[Magnolia C]*

7:30 AM	Continental Breakfast and Registration	
8:30 AM	Direct Drive Wave Energy Buoy *8:40 AM: Panel Q&A*	Ken Rhinefrank , Columbia Power Technologies
8:45 AM	Assessment of Projected Life-Cycle Costs for Wave, Tidal, Ocean Current, and In-Stream Hydrokinetic Power *8:55 AM: Panel Q&A*	Mirko Previsic, ReVision
9:00 AM	Development of Reference Models and Design Tools (LCOE Models) *9:20 AM: Panel Q&A*	Rich Jepsen, SNL
9:30 AM	10 Minute Break	
9:40 AM	FY 09 Lab Call: Supporting Research & Testing for MHK *10:00 AM: Panel Q&A*	Albert LiVecchi, NREL (including other Labs)
10:10 AM	FY 09 Lab Call: Research & Assessment for MHK Development *10:30 AM: Panel Q&A*	Rich Jepsen, SNL (including other Labs)
10:40 AM	10 Minute Break	
10:50 AM	Southeast National Marine Renewable Energy Center (FAU) *11:00 AM: Panel Q&A*	Susan H. Skemp, Florida Atlantic University
11:05 AM	National Marine Renewable Energy Center (UH) *11:25 AM: Panel Q&A*	Richard Rocheleau, University of Hawaii
11:30 AM	Northwest National Marine Renewable Energy Center (OSU/UW) *11:50 AM: Panel Q&A*	Belinda Batten , Oregon State and University of
11:55 AM	Lunch	
1:00 PM	Sound & Sea Technology (TRL 4 Component) – Advanced Anchoring Technology *1:05 PM: Panel Q&A*	Dallas Meggitt, Sound & Sea Technology
1:07 PM	Atargis Energy (TRL 4 System) – Cycloidal Wave Energy Converter *1:12 PM: Panel Q&A*	Stefan Siegel, Atargis Energy

1:14 PM	US Synthetic Corp (TRL 4 Component) – The Development of Open, Water Lubricated Polycrystalline Diamond Thrust Bearings for use in Marine Hydrokinetic (MHK) Energy Machines *1:19 PM: Panel Q&A*	Craig Cooley, U.S. Synthetic Corporation
1:21 PM	Turner Hunt Ocean Renewable (TRL 4 System) – THOR's Power Method for Hydrokinetic Devices *1:26 PM: Panel Q&A*	Turner Hunt, Turner Hunt Ocean Renewable
1:28 PM	Sunlight Photonics (TRL 4 System) – Tidal Energy System for On-shore Power Generation *1:33 PM: Panel Q&A*	Allan Bruce, Sunlight Photonics
1:35 PM	Resolute Marine Energy, Inc (TRL 1 2 3 Component) *1:40 PM: Panel Q&A*	Allan Chertok, Resolute Marine Energy, Inc
1:42 PM	Semprus Biosciences (TRL 1 2 3 Component) *1:47 PM: Panel Q&A*	Zheng Zhang, Semprus Biosciences
1:49 PM	Shift Power Solutions (TRL 1 2 3 System) *1:54 PM: Panel Q&A*	Jane Vvedensky, Shift Power Solutions
1:56 PM	M3 Wave Energy Systems (TRL 1 2 3 System) *2:01 PM: Panel Q&A*	Mike Morrow, M3 Wave Energy Systems
2:03 PM	12 Minute Break	
2:15 PM	Whitestone Power & Communications (TRL 1 2 3 System) – Whitestone Poncelet RISEC Project *2:20 PM: Panel Q&A*	John R. Hasz, Steven Selvaggio, Whitestone Power & Commun.
2:22 PM	Bayer Material Science (TRL 1 2 3 System) – River Devices to Recover Energy with Advanced Materials(River DREAM) *2:27 PM: Panel Q&A*	Dr. Brent Crenshaw, Bayer Material Science
2:29 PM	Free Flow Energy (TRL 1 2 3 Component) – Design and Development of a Cross-Platform Submersible Generator Optimized for the Conditions of Current Energy Conversion *2:34 PM: Panel Q&A*	Robert S. Cinq-Mars, Free Flow Energy
2:36 PM	Regents of the University of CA (TRL 1 2 3 Component) *2:41 PM: Panel Q&A*	C.P. "Case" van Dam, University of California
2:43 PM	Curators of the University of Missouri – Missouri S&T (TRL 1 2 3 Component) *2:48 PM: Panel Q&A*	Joshua L. Rovey, University of Missouri

2:50 PM	OTEC Cold Water Pipe-Platform Sub-System Dynamic Interaction Validation (OPPSDIV) *2:55 PM: Panel Q&A*	Matt Ascari, Lockheed Martin
2:57 PM	Modeling the Physical and Biochemical Influence of Ocean Thermal Energy Conversion Plant Discharges into their Adjacent Waters *3:02 PM: Panel Q&A*	Patrick Grandelli, Makai Ocean Engineering
3:04 PM	Impacts of OTEC intakes on Aquatic Organisms *3:14 PM: Panel Q&A*	Tim Hogan, Alden Laboratories Systems
3:19 PM	Scientific Solutions (TRL 5 6 Component) – Underwater Active Acoustic Monitoring Network for Marine and Hydrokinetic Energy *3:29 PM: Panel Q&A* Projects	Dr. Peter J. Stein, Scientific Solutions
3:34 PM	16 Minute Break	
3:50 PM	Active Acoustic Deterrance of Migratory Whales *4:00 PM: Panel Q&A* Projects	Steven R. Kopf, Pacific Energy Ventures, LLC
4:05 PM	Wave Tank WEC Array Analysis *4:15 PM: Panel Q&A* Projects	Ken Rhinefrank , Columbia Power Technologies
4:20 PM	Sediment transport impact on protected species *4:30 PM: Panel Q&A* Projects	Stephen Barrett, Harris Miller Miller & Hanson
4:35 PM	Adjourn	

Thursday, November 3, 2011 Marine and Hydrokinetic Projects *[Magnolia]*

7:30 AM	Continental Breakfast and Registration	
8:30 AM	OTEC resource assessment *8:40 AM: Panel Q&A*	Matt Ascari, Lockheed Martin
8:45 AM	Ocean current resource assessment *8:55 AM: Panel Q&A*	Kevin Haas, GTRC
9:00 AM	In-stream hydrokinetic resource assessment *9:10 AM: Panel Q&A*	Paul Jacobson, EPRI
9: 15 AM	Enviro effects of hydrokinetic turbines on fish *9:25 AM: Panel Q&A*	Paul Jacobson, EPRI
9:30 AM	10 Minute Break	
9:40 AM	OCGEN Module Mooring *9:50 AM: Panel Q&A*	Jarlath McEntee, Ocean Renewable Power Company
9:55 AM	Ocean Renewable Power Co (ORPC) (TRL 7 8 System) – TidGen (TM) Power System Commercialization Project *10:10 AM: Panel Q&A*	Jarlath McEntee, Ocean Renewable Power Company
10:15 AM	CESA/Marine Energy Technology Advancement Partnership *10:25 AM: Panel Q&A*	Hoyt Battey, DOE-HQ
10:30 AM	Tidal Energy Resource Assessment *10:40 AM: Panel Q&A*	Kevin Haas, GTRC
10:45 AM	Wave Energy Resource Assessment *10:55 AM: Panel Q&A*	Paul Jacobson, EPRI
11:00 AM	Categorizing and Evaluating the Effects of Stressors (KMS and ERES) *11:15 AM: Panel Q&A*	Andrea Copping, Jennifer States, PNNL
11:20 AM	10 Minute Break	

11:30 AM	IEA Annex IV– Assessment of Environmental Effects and Monitoring Efforts *11:40 AM: Panel Q&A*	Andrea Copping and Hoyt Battey, PNNL and DOE-HQ
11:45 AM	Categorizing and Evaluating the Effects of Stressors (all Conceptual Model work) *11:55 AM: Panel Q&A*	Mark Grippo, SNL (ANL Sub)
12:00 PM	Lunch	
1:00 PM	Effects on the Physical Environment (Hydrodynamics, Sediment Transport, and Water Quality) *1:15 PM: Panel Q&A*	Jesse Roberts, SNL
1:20 PM	Effects on the Physical Environment (Hydrodynamics, and Water Quality/Food Web) *1:35 PM: Panel Q&A*	Zhaoqing Yang, PNNL
1:40 PM	Effects on Aquatic Organisms (Acoustics and Toxicity) *1:55 PM: Panel Q&A*	Mark Bevelheimer, SNL (ORNL Sub)
2:00 PM	Effects on Aquatic Organisms (EMF, Acoustics and Physical Interaction) *2:20 PM: Panel Q&A*	Andrea Copping, PNNL (and Subs)
2:25 PM	Permitting and Planning *2:35 PM: Panel Q&A*	Simon Geerlofs, PNNL
2:40 PM	15 Minute Break	
2:55 PM	ORPC Alaska (TRL 4 Component) – Abrasion Testing of Critical Components of Hydrokinetic Devices *3:00 PM: Panel Q&A*	Monty Worthington, Ocean Renewable Power Company
3:05 PM	Beluga Whale interactions with Tidal Energy *3:15 PM: Panel Q&A*	Monty Worthington, Ocean Renewable Power Company
3:20 PM	Adjourn	

Thursday, November 3, 2011 Conventional Hydropower Projects *[Walnut]*

7:30 AM	Continental Breakfast and Registration	
8:30 AM	**Conventional Hydro Peer Review Introduction**	**Michael Reed, DOE-HQ**
8:55 AM	Water -Use Optimization (Entire Project) *9:55 AM: Panel Q&A*	John Gasper, ANL (other Labs also)
10:05 AM	(HAP) Hydropower Advancement Project: Audits and Feasibility Studies for Capacity and Efficiency Upgrades *10:35 AM: Panel Q&A*	Rajesh Dham and Brennan Smith, ORNL
10:45 AM	15 Minute Break	
11:00 AM	Non-Powered Dams Resource Assessment *11:15 AM: Panel Q&A*	Brennan Smith, ORNL
11:20 AM	Climate Change Assessment *11:35 AM: Panel Q&A*	Mike Sale, ORNL
11:40 AM	Basin Scale Opportunity Assessment *11:55 AM: Panel Q&A*	Simon Geerlofs, PNNL
12:00 PM	Lunch	
1:00 PM	FY 11 CH FOA Topic 1.1 Small Hydropower (System and Component Model Development) (5 Projects) *1:30 PM: Panel Q&A*	TBD, U.S. DOE Golden Field Office
	• SLH Timing Belt Powertrain	HQ or Project PI, Natel Energy
	• Laboratory Demonstration of a New American Low-Head Hydropower Turbine	HQ or Project PI, Hydro Green Energy
	• W4e Hydropower Turbine Generator system validation	HQ or Project PI, Walker Wellington
	• Small Hydropower Research and Development Technology Project	HQ or Project PI, Near Space Systems
	• Scalable Low-head Axial-type Venturi-flow Energy Scavenger	HQ or Project PI, New Mexico State University

1:50 PM	FY 11 CH FOA Topic 1.2 Small Hydropower (Innovative System Testing) (5 Projects) *2:30 PM: Panel Q&A*	TBD, U.S. DOE Golden Field Office
	• Demonstration of Variable Speed Permanent Magnet Generator at Small, Low-Head Hydro Site	HQ or Project PI, Weisenberger Mills
	• 51-Mile Hydroelectric Power Project Demonstration of new methodologies to reduce the LCOE for small, hydropower development	HQ or Project PI, Earth By Design
	• Harnessing the Hydro-Electric Potential of Engineered Drops in the Columbia Basin Project	HQ or Project PI, Percheron Power
	• Real World Demonstration of a New American Low-Head Hydropower Unit	HQ or Project PI, Hydro Green Energy
	• Construction Support for New Slab Creek Power House Project	HQ or Project PI, Sacramento MUD
2:50 PM	15 Minute Break	
3:05 PM	FY11 CH FOA Topic 4 SLH-100 demonstration project at Monroe Drop *3:15 PM: Panel Q&A (1 Project)*	TBD, U.S. DOE Golden Field Office
	• SLH-100 demonstration project at Monroe Drop	HQ or Project PI, Natel Energy
3:20 PM	FY 11 CH FOA Topic 2.1 Pumped Storage Hydropower (Project Development Support) (1 Project) *3:35 PM: Panel Q&A*	TBD, U.S. DOE Golden Field Office
	• Geotechnical Investigation and Value Stream Analysis for the Iowa Hill Pumped-Storage Development	HQ or Project PI, Sacramento MUD
3:40 PM	Quantifying Full Value of Hydro in Transmission Grid *4:10 PM: Panel Q&A*	Tom Key, EPRI

4:20 PM	FY 11 CH FOA Topic 2.2 Pumped Storage Hydropower (Detailed Analysis to Demonstrate Value) (1 Project) *4:35 PM: Panel Q&A*	TBD, U.S. DOE Golden Field Office
	• Modeling and Analysis of Value of Advanced Pumped Storage Hydropower in the U.S.	HQ or Project PI, ANL
4:40 PM	10 Minute Break	
4:50 PM	FY 11 CH FOA Topic 3.1 Environmental Mitigation Technology (System and Component Model Development) (2 Projects) *5:00 PM: Panel Q&A*	HQ PI, U.S. DOE Golden Field Office
	a. Turbine Aeration Physical Modeling and Software Design b. Sensor Fish Re-design to Support Advance Hydropower Development	HQ or Project PI, University of Minnesota HQ or Project PI, PNNL
5:05 PM	FY 11 CH FOA Topic 3.2 Environmental Mitigation Technology (Innovative System Testing) (1 Project) *5:15 PM: Panel Q&A*	TBD, U.S. DOE Golden Field Office
	• Deployment and Testing of the Alden Hydropower Fish-Friendly Turbine	HQ or Project PI, EPRI
5:20 PM	Enviro Hurdles: Instream Flow *5:35 PM: Panel Q&A*	Mark Bevelheimer, ORNL
5:40 PM	Adjourn	