

APPENDIX A: PEER REVIEW AGENDA

Hydropower Track

Tuesday, October 8, 2019 Hydropower Track 1 Grid Reliability and Resilience, New Technology and Modernization						
Start	End	Agenda Session	Presenter	Affiliation	Track	Room
8:00 AM	8:45 AM	Check-in, Breakfast				
8:45 AM	9:15 AM	U.S. Department of Energy (DOE) Water Power Technologies Office (WPTO) Overview	Alejandro Moreno	WPTO	Plenary	Grand Ballroom A/B/C
9:15 AM	9:25 AM	Remarks from Department of Energy Deputy Assistant Secretary for Renewable Power	David Solan	DOE	Plenary	Grand Ballroom A/B/C
9:25 AM	9:40 AM	Keynote - Paul Bunje, Co-Founder & CSO/COO, Conservation X Labs	Paul Bunje	Conservation X-Labs	Plenary	Grand Ballroom A/B/C
9:40 AM	9:55 AM	Keynote - Emily Reichert, CEO, Greentown Labs	Emily Reichert	Greentown Labs	Plenary	Grand Ballroom A/B/C
9:55 AM	10:25 AM	Fireside Chat with Keynote Speakers and Alejandro			Plenary	Grand Ballroom A/B/C
10:25 AM	10:45 AM	Peer Review Logistics	Allison Johnson	WPTO	Plenary	Grand Ballroom A/B/C
10:45 AM	11:00 AM	Coffee Break and Transition				
11:00 AM	11:45 AM	Hydropower Program Overview	Tim Welch	WPTO	Hydro Plenary	Washington/ Jefferson
11:45 AM	12:30 PM	Hydropower Vision Roadmap Update	TJ Heibel	PNNL, ANL, INL, NREL, ORNL	Hydro Plenary	Washington/ Jefferson
12:30 PM	1:20 PM	Lunch				
1:20 PM	2:05 PM	Overview of HydroWIRES	Sam Bockenhauer	WPTO	Hydro Plenary	Washington/ Jefferson
2:05 PM	2:15 PM	Break and Transition				
2:15 PM	2:25 PM	Introduce Lab Projects	Sam Bockenhauer	WPTO	Grid	Washington/ Jefferson
2:25 PM	3:10 PM	Hydropower Value Study	Abhishek Somani	PNNL, ANL, INL, NREL, ORNL	Grid	Washington/ Jefferson
3:10 PM	3:40 PM	North American Renewable Integration Study	Greg Brinkman	NREL	Grid	Washington/ Jefferson
3:40 PM	3:50 PM	Coffee Break				
3:50 PM	4:00 PM	Introduce Lab Projects	Sam Bockenhauer	WPTO	Grid	Washington/ Jefferson
4:00 PM	4:30 PM	Valuation Guidance and Techno-Economic Studies for Pumped Storage Hydropower	Vladimir Koritarov	ANL	Grid	Washington/ Jefferson
4:30 PM	5:00 PM	Integrated Hydropower and Storage Systems Operation for Enhanced Grid Services	Thomas Mosier	INL	Grid	Washington/ Jefferson
5:00 PM	5:30 PM	Modeling the Value of Networked, Small Hydro Generators to the Grid	Greg Stark	NREL	Grid	Washington/ Jefferson
5:30 PM	5:50 PM	End-of-Session Networking Activity	All recent presenters	All recent presenters	Grid	Washington/ Jefferson
5:50 PM	6:30 PM	Hydro-Grid Peer Reviewer Only Meeting				Madison

Tuesday, October 8, 2019 Hydropower Track 2 | Environmental R&D & Data Management

Start	End	Agenda Session	Presenter	Affiliation	Track	Room
8:00 AM	8:45 AM	Check-in, Breakfast				
8:45 AM	9:15 AM	U.S. Department of Energy (DOE) Water Power Technologies Office (WPTO) Overview	Alejandro Moreno	WPTO	Plenary	Grand Ballroom A/B/C
9:15 AM	9:25 AM	Remarks from Department of Energy Deputy Assistant Secretary for Renewable Power	David Solan	DOE	Plenary	Grand Ballroom A/B/C
9:25 AM	9:40 AM	Keynote - Paul Bunje, Co-Founder & CSO/COO, Conservation X Labs	Paul Bunje	Conservation X-lab	Plenary	Grand Ballroom A/B/C
9:40 AM	9:55 AM	Keynote - Emily Reichert, CEO, Greentown Labs	Emily Reichert	Greentown Labs	Plenary	Grand Ballroom A/B/C
9:55 AM	10:25 AM	Fireside Chat with Keynote Speakers and Alejandro			Plenary	Grand Ballroom A/B/C
10:25 AM	10:45 AM	Peer Review Logistics	Allison Johnson	WPTO	Plenary	Grand Ballroom A/B/C
10:45 AM	11:00 AM	Coffee Break and Transition				
11:00 AM	11:45 AM	Hydropower Program Overview	Tim Welch	WPTO	Hydro Plenary	Washington/ Jefferson
11:45 AM	12:30 PM	Hydropower Vision Roadmap Update	TJ Heibel	PNNL, ANL, INL, NREL, ORNL	Hydro Plenary	Washington/ Jefferson
12:30 PM	1:20 PM	Lunch				
1:20 PM	2:05 PM	Overview of HydroWIRES	Sam Bockenbauer	WPTO	Hydro Plenary	Washington/ Jefferson
2:05 PM	2:15 PM	Break and Transition				
2:15 PM	2:45 PM	Overview of Big-Data Access and Management	Hoyt Battey	WPTO	Enviro+Data	Potomac
2:45 PM	3:15 PM	Annual Hydropower Market and Trends Report	Rocio Uria-Martinez	ORNL	Enviro+Data	Potomac
3:15 PM	3:45 PM	Hydropower Regulatory and Permitting Information Desktop (RAPID) Toolkit	Aaron Levine	NREL	Enviro+Data	Potomac
3:45 PM	3:55 PM	Coffee Break				
3:55 PM	4:25 PM	An Examination of the Hydropower Licensing and Federal Authorization Process	Aaron Levine	NREL	Enviro+Data	Potomac
4:25 PM	4:45 PM	End-of-Session Networking Activity	All recent presenters	All recent presenters	Enviro+Data	Potomac
4:45 PM	5:15 PM	Hydro Enviro + Data Peer Reviewer Only Meeting				Madison
6:30 PM	8:30 PM	Optional, No-Host Social Event				Details pending
5:50 PM	6:30 PM	Hydro-Grid Peer Reviewer Only Meeting				Madison

Wednesday, October 9, 2019 Hydropower Track 1 Grid Reliability and Resilience, New Technology and Modernization						
Start	End	Agenda Session	Presenter	Affiliation	Track	Room
8:00 AM	8:30 AM	Check-in, Breakfast				
8:30 AM	8:35 AM	Introduction: Malcolm Woolf, President and CEO of the National Hydropower Association (NHA)	Alejandro Moreno	WPTO	Hydro Plenary	Washington/ Jefferson
8:35 AM	8:45 AM	The Evolution to a Carbon-Free Electric Grid: Perspectives on Getting from Here to There and Hydro's Role	Malcolm Woolf	NHA	Hydro Plenary	Washington/ Jefferson
8:45 AM	9:30 AM	Panel discussion featuring Steve Capanna, Environmental Defense Fund; Steve Clemmer, Union of Concerned Scientists; and Jeremy Harrell, ClearPath	Malcolm Woolf (moderator)	NHA	Hydro Plenary	Washington/ Jefferson
9:30 AM	9:45 AM	Break and Transition				
9:40 AM	9:45 AM	Introduce Lab Projects	Marisol Bonnet	WPTO	Grid	Washington/ Jefferson
9:45 AM	10:15 AM	Transforming the U.S. Market with a New Application of Ternary- Type Pumped-Storage Hydropower Technology	Mark Jacobson	NREL	Grid	Washington/ Jefferson
10:15 AM	10:45 AM	Ground-Level Integrated Diverse Energy Storage (GLIDES)	Ahmad Abuheiba	ORNL	Grid	Washington/ Jefferson
10:45 AM	10:55 AM	Coffee Break				
10:55 AM	11:00 AM	Introduce FOA Projects	Marisol Bonnet	WPTO	Grid	Washington/ Jefferson
11:00 AM	11:30 AM	Hydro Battery Systems Catalog Development	JT Steenkamp	Shell Energy North America (US), L.P.	Grid	Washington/ Jefferson
11:30 AM	12:00 PM	Cost Effective Small Scale Pumped Storage Configuration	Henry Obermeyer	Obermeyer Hydro Accessories, Inc.	Grid	Washington/ Jefferson
12:00 PM	12:15 PM	End-of-Session Networking Activity	All recent presenters	All recent presenters	Grid	Washington/ Jefferson
12:15 PM	12:30 PM	Closing Remarks on Grid Integration	Sam Bockenbauer	WPTO	Grid	Washington/ Jefferson
12:30 PM	1:15 PM	Lunch				
1:15 PM	1:35 PM	Overview of Technology R&D for Low-Impact Hydro Growth	Marisol Bonnet	WPTO	New Tech+Mod	Washington/ Jefferson
1:35 PM	1:45 PM	Introduce FOA Projects	Marisol Bonnet	WPTO	New Tech+Mod	Washington/ Jefferson
1:45 PM	2:15 PM	Modular Roots-Based Rotor Turbine-Generator System for Small Hydro	David Yee	Eaton Corporation	New Tech+Mod	Washington/ Jefferson
2:15 PM	2:45 PM	Rapidly Deployable Advanced Integrated Low Head Hydropower Turbine Prototype	Arnie Fontaine	Pennsylvania State University	New Tech+Mod	Washington/ Jefferson

Wednesday, October 9, 2019 Hydropower Track 1 | Grid Reliability and Resilience, New Technology and Modernization

Start	End	Agenda Session	Presenter	Affiliation	Track	Room
2:45 PM	2:55 PM	Coffee Break				
2:55 PM	3:25 PM	Optimized Composite Prototype for Archimedes Turbine Manufacture	Marisol Bonnet (on behalf of Percheron)	Percheron Power, LLC	New Tech+Mod	Washington/ Jefferson
3:25 PM	3:55 PM	The Design and Development of a Composite Hydropower Turbine Runner	Paul Fabian	Composite Technology Development, Inc.	New Tech+Mod	Washington/ Jefferson
3:55 PM	4:25 PM	A Cost-Disruptive, Low-Impact, Modular Form Factor Low-Head Hydropower System	David Duquette	Littoral Power Systems, Inc.	New Tech+Mod	Washington/ Jefferson
4:25 PM	4:55 PM	Efficient, Modular Low-Head Linear Pelton Turbine with Simple, Low-Cost Civil Works	Abe Schneider	Natel Energy	New Tech+Mod	Washington/ Jefferson
4:55 PM	5:40 PM	Standard Modular Hydropower Technology Acceleration	Brennan Smith	ORNL	New Tech+Mod	Washington/ Jefferson
5:40 PM	6:00 PM	End of Session Networking Activity	All recent presenters	All recent presenters	New Tech+Mod	Washington/ Jefferson
6:15 PM	8:30 PM	Optional, No-Host Trivia at Port City Brewing Pre-Pay and Registration Required				

Wednesday, October 9, 2019 Hydropower Track 2 Environmental R&D & Data Management						
Start	End	Agenda Session	Presenter	Affiliation	Track	Room
8:00 AM	8:30 AM	Check-in, Breakfast				
8:30 AM	8:35 AM	Introduction: Malcolm Woolf, President and CEO of the National Hydropower Association (NHA)	Alejandro Moreno	WPTO	Hydro Plenary	Washington/Jefferson
8:35 AM	8:45 AM	The Evolution to a Carbon-Free Electric Grid: Perspectives on Getting from Here to There and Hydro's Role	Malcolm Woolf	NHA	Hydro Plenary	Washington/Jefferson
8:45 AM	9:30 AM	Panel discussion featuring Steve Capanna, Environmental Defense Fund; Steve Clemmer, Union of Concerned Scientists; and Jeremy Harrell, ClearPath	Malcolm Woolf (moderator)	NHA	Hydro Plenary	Washington/Jefferson
9:30 AM	9:45 AM	Break and Transition				
9:45 AM	10:10 AM	Overview of Environmental R&D and Hydrologic Systems Science	Dana McCoskey	WPTO	Enviro+Data	Potomac
10:10 AM	10:20 AM	Introduce 9505, Water Modeling	Simon Gore	WPTO	Enviro+Data	Potomac
10:20 AM	10:50 AM	Third SECURE Water Act Section 9505 Assessment	Shih-Chieh Kao	ORNL, PNNL	Enviro+Data	Potomac
10:50 AM	11:05 AM	Coffee Break				
11:05 AM	11:35 AM	Advancing Modeling Tools for Assessment of Long-Term Energy/Water Risks for Hydropower	Mark Wigmosta	PNNL	Enviro+Data	Potomac
11:35 AM	12:05 PM	Monitoring Technology Development for Sensitive Species (Eel/ Lamprey Tag Development)	Daniel Deng	PNNL	Enviro+Data	Potomac
12:05 PM	12:30 PM	End-of-Session Networking Activity	All recent presenters	All recent presenters		Potomac
12:30 PM	1:15 PM	Lunch				
1:15 PM	1:20 PM	Introduce BioDE, EDS	Dana McCoskey	WPTO	Enviro+Data	Potomac
1:20 PM	2:05 PM	Biologically-Based Design and Evaluation of Hydropower Turbines	Alison Colotelo	PNNL, ORNL	Enviro+Data	Potomac
2:05 PM	2:50 PM	Environmental Decision Support: Science-Based Tools for Hydropower Stakeholder Collaboration	Brenda Pracheil	ORNL	Enviro+Data	Potomac
2:50 PM	3:00 PM	Coffee Break				
3:00 PM	3:10 PM	Introduce 1662 projects	Dana McCoskey	WPTO	Enviro+Data	Potomac
3:10 PM	3:40 PM	Deep Learning for Automated Identification of Eels in Sonar Data	Paul Jacobson	Electric Power Research Institute (EPRI)	Enviro+Data	Potomac

Wednesday, October 9, 2019 Hydropower Track 2 | Environmental R&D & Data Management

Start	End	Agenda Session	Presenter	Affiliation	Track	Room
3:40 PM	4:10 PM	Modular and Scalable Downstream Passage Systems for Silver American Eels	Steve Amaral	Alden Research Laboratory, Inc.	Enviro+Data	Potomac
4:10 PM	4:40 PM	Fishway Entrance Palisade	Kevin Mulligan	University of Massachusetts Amherst	Enviro+Data	Potomac
4:40 PM	5:00 PM	End-of-Session Networking Activity	All recent presenters	All recent presenters	Enviro+Data	Potomac
5:00 PM	5:30 PM	Hydro Enviro + Data Peer Reviewer Only Meeting				Madison
6:15 PM	8:30 PM	Optional, No-Host Trivia at Port City Brewing Pre-Pay and Registration Required				

Thursday, October 10, 2019 Hydropower Track 1 Grid Reliability and Resilience, New Technology and Modernization						
Start	End	Agenda Session	Presenter	Affiliation	Track	Room
8:15 AM	9:00 AM	Check-in, Breakfast				
9:00 AM	9:10 AM	Introduction: Dan Reicher, Lecturer and Research Scholar at Stanford University	Hoyt Battey	WPTO	Hydro Plenary	Washington/ Jefferson
9:10 AM	9:20 AM	Hydropower: Climate Solution and Conservation Challenge	Dan Reicher	Stanford University	Hydro Plenary	Washington/ Jefferson
9:20 AM	10:10 AM	Panel discussion featuring Shannon Ames, Low Impact Hydro-power Institute; Mark Lambrides, The Nature Conservancy (invited); Ben Longstreth, Natural Resources Defense Council; and Chris Williams, American Rivers	Dan Reicher (moderator)	Stanford University	Hydro Plenary	Washington/ Jefferson
10:10 AM	10:20 AM	Break and Transition				
10:20 AM	10:30 AM	Introduce Lab Projects	Tim Welch	WPTO	New Tech+Mod	Washington/ Jefferson
10:30 AM	11:00 AM	An Assessment of Conduit Hydropower Potential at Public Drinking Water Systems—Pilot Study	Shih-Chieh Kao	ORNL	New Tech+Mod	Washington/ Jefferson
11:00 AM	11:30 AM	Solid State Processing for Improved Performance of Current and Next-Generation Hydropower Components	Ken Ross	PNNL	New Tech+Mod	Washington/ Jefferson
11:30 AM	11:50 AM	End-of-Session Networking Activity	All recent presenters	All recent presenters	New Tech+Mod	Washington/ Jefferson
11:50 AM	12:25 PM	Hydro New Tech + Mod Peer Reviewer Only Meeting				Madison
12:25 PM	1:15 PM	Lunch				
1:15 PM	1:35 PM	Overview of R&D to Support Modernization, Upgrades and Security for Existing Hydropower Fleet	Mark Christian	WPTO	New Tech+Mod	Washington/ Jefferson
1:35 PM	2:05 PM	Hydro Fleet Database Development and Analyses (Hy-dro Source)	Brennan Smith	ORNL	New Tech+Mod	Washington/ Jefferson
2:05 PM	2:35 PM	Low-Head, Short-Intake Flow Measurement Research	Sam Harding	PNNL	New Tech+Mod	Washington/ Jefferson
2:35 PM	3:05 PM	Hydropower Fleet Intelligence	Stephen Signore	ORNL	New Tech+Mod	Washington/ Jefferson
3:05 PM	3:15 PM	End-of-Session Networking Activity	All recent presenters	All recent presenters	New Tech+Mod	Washington/ Jefferson
3:15 PM	3:35 PM	WPTO's Closing Words from the New Tech+Mod Panel	Marisol Bonnet	WPTO	New Tech+Mod	Washington/ Jefferson
3:35 PM	3:45 PM	Coffee Break and Transition				
3:45 PM	5:30 PM	“Town Hall” with WPTO Staff (open feedback forum for all attendees)	All attendees	All attendees	Plenary	Grand Ballroom A/B/C
5:30 PM	6:00 PM	Peer Reviewer Only Meetings (all hydro reviewers)				Madison

Thursday, October 10, 2019 Hydropower Track 2 | Environmental R&D & Data Management

Start	End	Agenda Session	Presenter	Affiliation	Track	Room
8:15 AM	9:00 AM	Check-in, Breakfast				Foyer
9:00 AM	9:10 AM	Introduction: Dan Reicher, Lecturer and Research Scholar at Stanford University	Hoyt Battey	WPTO	Hydro Plenary	Washington/ Jefferson
9:10 AM	9:20 AM	Hydropower: Climate Solution and Conservation Challenge	Dan Reicher	Stanford University	Hydro Plenary	Washington/ Jefferson
9:20 AM	10:10 AM	Panel discussion featuring Shannon Ames, Low Impact Hydropower Institute; Mark Lambrides, The Nature Conservancy (invited); Ben Longstreth, Natural Resources Defense Council; and Chris Williams, American Rivers	Dan Reicher (mod-erator)	Stanford University	Hydro Plenary	Washington/ Jefferson
10:10 AM	10:20 AM	Coffee Break and Transition				
10:20 AM	10:30 AM	Introduction: Lab Projects	Dana McCoskey	WPTO	Enviro + Data	Potomac
10:30 AM	10:55 AM	Commercialization of Sensor Fish Technology to Support Hydropower Development (TCF)	Daniel Deng	PNNL	Enviro+Data	Potomac
10:55 AM	11:20 AM	Self-Powered Acoustic Transmitter	Daniel Deng	PNNL	Enviro+Data	Potomac
11:20 AM	11:50 AM	Evaluation of the Whooshh Fish Transport System	Alison Colotelo	PNNL	Enviro+Data	Potomac
11:50 AM	12:05 PM	End-of-Session Networking Activity	All recent present-ers	All recent present-ers	Enviro+Data	Potomac
12:05 PM	12:25 PM	Closing Remarks on Enviro + Data	Dana McCoskey	WPTO	Enviro+Data	Potomac
12:25 PM	1:15 PM	Lunch				
1:15 PM	3:30 PM	Hydro Enviro + Data Peer Reviewer Only Meeting				Madison
3:30 PM	3:45 PM	Coffee Break and Transition				
3:45 PM	5:30 PM	“Town Hall” with WPTO Staff (open feedback forum for all attendees)	All attendees	All attendees	Plenary	Grand Ballroom A/B/C
5:30 PM	6:00 PM	Peer Reviewer Only Meetings (all hydro reviewers)				Madison

MHK Track

Tuesday, October 8, 2019 MHK Track 1 Foundational R&D, Technology Design, and Validation						
Start	End	Agenda Session	Presenter	Affiliation	Track	Room
8:00 AM	8:45 AM	Check-in, Breakfast				
8:45 AM	9:15 AM	U.S. Department of Energy (DOE) Water Power Technologies Office (WPTO) Overview	Alejandro Moreno	WPTO	Plenary	Grand Ballroom A/B/C
9:15 AM	9:25 AM	Remarks from Department of Energy Deputy Assistant Secretary for Renewable Power	David Solan	DOE	Plenary	Grand Ballroom A/B/C
9:25 AM	9:40 AM	Keynote - Paul Bunje, Co-Founder & CSO/COO, Conservation X Labs	Paul Bunje	Conservation X Labs	Plenary	Grand Ballroom A/B/C
9:40 AM	9:55 AM	Keynote - Emily Reichert, CEO, Greentown Labs	Emily Reichert	Greentown Labs	Plenary	Grand Ballroom A/B/C
9:55 AM	10:25 AM	Fireside Chat with Keynote Speakers and Alejandro			Plenary	Grand Ballroom A/B/C
10:25 AM	10:45 AM	Peer Review Logistics	Allison Johnson	WPTO	Plenary	Grand Ballroom A/B/C
10:45 AM	11:00 AM	Coffee Break and Transition				
11:00 AM	11:45 AM	MHK Program Overview	Tim Ramsey	WPTO	MHK Plenary	Grand Ballroom A&B
11:45 AM	12:30 PM	WPTO Support to Testing featuring Ryan Coe, Sandia National Laboratories; Jonathan Colby, Verdant Power; Steve DeWitt, WPTO; Lauren Moraski Ruedy, WPTO; Brian Polagye, Pacific Marine Energy Center & University of Washington	Tim Ramsey (moderator)	WPTO	MHK Plenary	Grand Ballroom A&B
12:30 PM	1:20 PM	Lunch				
1:20 PM	1:40 PM	Overview of Foundational & Crosscutting R&D	Bill McShane	WPTO	Foundational R&D	Grand Ballroom A&B
1:40 PM	1:50 PM	Introduce FOA Projects	Yana Shininger	WPTO	Foundational R&D	Grand Ballroom A&B
1:50 PM	2:20 PM	Reduction of System Cost Characteristics through Innovative Solutions to Installation, Operations and Maintenance	Michael Ondusko	Columbia Power Technologies, Inc.	Foundational R&D	Grand Ballroom A&B
2:20 PM	2:50 PM	Demonstration of an Advanced Multi-Mode Point Absorber for Wave Energy Conversion	Tim Mundon	Oscilla Power, Inc.	Foundational R&D	Grand Ballroom A&B
2:50 PM	3:20 PM	Advanced TidGen Power System	Jarlath McEntee	Ocean Renewable Power Company (ORPC) - Maine	Foundational R&D	Grand Ballroom A&B
3:20 PM	3:35 PM	End-of-Session Networking Activity	All recent presenters	All recent presenters	Foundational R&D	Grand Ballroom A&B
3:35 PM	3:50 PM	Coffee Break				

Tuesday, October 8, 2019 MHK Track 1 | Foundational R&D, Technology Design, and Validation

Start	End	Agenda Session	Presenter	Affiliation	Track	Room
3:50 PM	4:00 PM	Introduce Lab Projects	Jeff Rieks	WPTO	Foundational R&D	Grand Ballroom A&B
4:00 PM	4:30 PM	Wave Energy Converter (WEC) Modeling	Yi-Hsiang Yu	NREL, SNL	Foundational R&D	Grand Ballroom A&B
4:30 PM	5:00 PM	DTOcean (Optimal Design Tools for Ocean Energy)	Jesse Roberts	SNL	Foundational R&D	Grand Ballroom A&B
5:00 PM	5:30 PM	Material Design Tools for Marine and Hydrokinetic Composite Structures	Bernadette Hernandez-Sanchez	SNL, PNNL, NREL	Foundational R&D	Grand Ballroom A&B
5:30 PM	5:45 PM	End-of-Session Networking Activity	All recent presenters	All recent presenters	Foundational R&D	Grand Ballroom A&B
5:45 PM	6:15 PM	Peer Reviewer Only Meetings				Madison

Tuesday, October 8 MHK Track 2 Reducing Barriers to Testing and Data Sharing						
Start	End	Agenda Session	Presenter	Affiliation	Track	Room
8:00 AM	8:45 AM	Check-in, Breakfast				
8:45 AM	9:15 AM	U.S. Department of Energy (DOE) Water Power Technologies Office (WPTO) Overview	Alejandro Moreno	WPTO	Plenary	Grand Ballroom A/B/C
9:15 AM	9:25 AM	Remarks from Department of Energy Deputy Assistant Secretary for Renewable Power	David Solan	DOE	Plenary	Grand Ballroom A/B/C
9:25 AM	9:40 AM	Keynote - Paul Bunje, Co-Founder & CSO/COO, Conservation X Labs	Paul Bunje	Conservation X-Labs	Plenary	Grand Ballroom A/B/C
9:40 AM	9:55 AM	Keynote - Emily Reichert, CEO, Greentown Labs	Emily Reichert	Greentown Labs	Plenary	Grand Ballroom A/B/C
9:55 AM	10:25 AM	Fireside Chat with Keynote Speakers and Alejandro			Plenary	Grand Ballroom A/B/C
10:25 AM	10:45 AM	Peer Review Logistics	Allison Johnson	WPTO	Plenary	Grand Ballroom A/B/C
10:45 AM	11:00 AM	Coffee Break and Transition				
11:00 AM	11:45 AM	MHK Program Overview	Tim Ramsey	WPTO	MHK Plenary	Grand Ballroom A&B
11:45 AM	12:30 PM	WPTO Support to Testing featuring Ryan Coe, Sandia National Laboratories; Jonathan Colby, Verdant Power; Steve DeWitt, WPTO; Lauren Moraski Ruedy, WPTO; Brian Polagye, Pacific Marine Energy Center & University of Washington	Tim Ramsey (moderator)	WPTO	MHK Plenary	Grand Ballroom A&B
12:30 PM	1:20 PM	Lunch				
1:20 PM	1:40 PM	Overview of Reducing Barriers to Testing	Steve DeWitt	WPTO	Testing & Data	Grand Ballroom C
1:40 PM	1:50 PM	Introduce Lab Projects	Simon Gore	WPTO	Testing & Data	Grand Ballroom C
1:50 PM	2:20 PM	MHK Regulatory Initiatives Analysis	Bo Saulsbury	PNNL	Testing & Data	Grand Ballroom C
2:20 PM	2:50 PM	MHK Environmental Compliance Cost Assessment	Jesse Roberts	SNL	Testing & Data	Grand Ballroom C
2:50 PM	3:20 PM	Hydrodynamic and Acoustic Models for Quantitative Environmental Assessment	Jesse Roberts	SNL	Testing & Data	Grand Ballroom C
3:20 PM	3:35 PM	End-of-Session Networking Activity	All recent presenters	All recent presenters	Testing & Data	Grand Ballroom C
3:35 PM	3:50 PM	Coffee Break				
3:50 PM	4:00 PM	Introduce Lab Projects	Dana McCoskey	WPTO	Testing & Data	Grand Ballroom C
4:00 PM	4:30 PM	MHK Performance Measurement and Instrumentation	Rick Driscoll	NREL	Testing & Data	Grand Ballroom C
4:30 PM	5:00 PM	Video Analysis Software Development	Shari Matzner	PNNL	Testing & Data	Grand Ballroom C
5:30 PM	5:45 PM	End-of-Session Networking Activity	All recent presenters	All recent presenters	Testing & Data	Grand Ballroom C
5:45 PM	6:15 PM	Peer Reviewer Only Meetings				Madison

Wednesday, October 9 MHK Track 1 | Foundational R&D, Technology Design, and Validation

Start	End	Agenda Session	Presenter	Affiliation	Track	Room
8:00 AM	8:30 AM	Check-in, Breakfast				
8:30 AM	8:45 AM	Review of Major International Developments in Marine Energy	Henry Jeffrey	International Energy Agency-Ocean Energy Systems	MHK Plenary	Grand Ballroom A&B
8:45 AM	8:50 AM	Introduction: PacWave	Steve DeWitt	WPTO	MHK Plenary	Grand Ballroom A&B
8:50 AM	9:20 AM	Enabling Cost-Effective Electricity from Ocean Waves - PacWave	Burke Hales	Oregon State University	MHK Plenary	Grand Ballroom A&B
9:20 AM	9:40 AM	PacWave Q&A	Burke Hales	Oregon State University	MHK Plenary	Grand Ballroom A&B
9:40 AM	9:50 AM	Break and Transition				
9:50 AM	10:00 AM	Introduce Lab & FOA Projects	Bill McShane	WPTO	Foundational R&D	Grand Ballroom A&B
10:00 AM	10:30 AM	Optimal Wave Energy Converter (WEC) Controls using Causal and MPC Methods	Mirko Previsic	Re Vision Consulting, LLC	Foundational R&D	Grand Ballroom A&B
10:30 AM	11:00 AM	Wave Prediction Leveraging Multiple Measurement Sources – A Sensor Fusion Approach	Mirko Previsic	Re Vision Consulting, LLC	Foundational R&D	Grand Ballroom A&B
11:00 AM	11:10 AM	Coffee Break				
11:10 AM	11:40 AM	Advanced Wave Energy Converter (WEC) Dynamics and Controls	Ryan Coe	SNL	Foundational R&D	Grand Ballroom A&B
11:40 AM	12:10 PM	Wave Energy Converter (WEC) Design Optimization	Ryan Coe	SNL	Foundational R&D	Grand Ballroom A&B
12:10 PM	12:30 PM	End-of-Session Networking Activity	All recent present-ers	All recent present-ers	Foundational R&D	Grand Ballroom A&B
12:30 PM	1:15 PM	Lunch				
1:15 PM	1:35 PM	Overview of Technology-Specific Design and Validation	Lauren Moraski Ruedy	WPTO	Foundational R&D	Grand Ballroom A&B
1:35 PM	1:45 PM	Introduce FOA Projects	Erik Mauer	WPTO	Foundational R&D	Grand Ballroom A&B
1:45 PM	2:05 PM	HydroAir Power Take Off System	Rod Blunk	Siemens Government Technologies	Foundational R&D	Grand Ballroom A&B
2:05 PM	2:25 PM	Demonstration of the Ocean Energy (OE) Buoy at US Navy's Wave Energy Test Site	Erik Mauer			
2:25 PM	2:45 PM	Joint Q&A for Siemens & OE			Foundational R&D	Grand Ballroom A&B
2:45 PM	3:00 PM	Coffee Break				
3:00 PM	3:30 PM	Azura Demonstration at the Navy's Wave Energy Test Site (WETS)	Bradley Ling	Northwest Energy Innovations	Foundational R&D	Grand Ballroom A&B
3:30 PM	3:35 PM	Introduce Lab Projects	Carrie Schmaus	WPTO	Foundational R&D	Grand Ballroom A&B

Wednesday, October 9 MHK Track 1 Foundational R&D, Technology Design, and Validation						
Start	End	Agenda Session	Presenter	Affiliation	Track	Room
3:35 PM	4:05 PM	WaveSPARC	Jochem Weber	NREL	Foundational R&D	Grand Ballroom A&B
4:05 PM	4:35 PM	Flexible Material WEC Technology Techno-Economic Performance	Jochem Weber	NREL	Foundational R&D	Grand Ballroom A&B
4:35 PM	5:05 PM	Standards Development for Marine Energy	Walt Musial	NREL	Foundational R&D	Grand Ballroom A&B
5:05 PM	5:25 PM	End-of-Session Networking Activity	All recent present-ers	All recent present-ers	Foundational R&D	Grand Ballroom A&B
5:25 PM	5:55 PM	Peer Reviewer Only Meetings				Madison
6:15 PM	8:30 PM	Optional, No-Host Trivia at Port City Brew-ing Pre-Pay and Registration Re-quired				

Wednesday, October 9 MHK Track 2 Reducing Barriers to Testing and Data Sharing						
Start	End	Agenda Session	Presenter	Affiliation	Track	Room
8:15 AM	8:30 AM	Check-in, Breakfast				
8:30 AM	8:45 AM	Review of Major International Developments in Marine Energy	Henry Jeffrey	International Energy Agency- Ocean Energy Systems	MHK Plenary	Grand Ballroom A&B
8:45 AM	8:50 AM	Introduction: PacWave	Steve DeWitt	WPTO	MHK Plenary	Grand Ballroom A&B
8:50 AM	9:20 AM	Enabling Cost-Effective Electricity from Ocean Waves - PacWave	Burke Hales	Oregon State University	MHK Plenary	Grand Ballroom A&B
9:20 AM	9:40 AM	PacWave Q&A	Burke Hales	Oregon State University	MHK Plenary	Grand Ballroom A&B
9:40 AM	9:50 AM	Break and Transition				
9:50 AM	9:55 AM	Introduce Mammal Study	Corey Vezina	WPTO	Testing & Data	Grand Ballroom C
9:55 AM	10:25 AM	Marine Mammal Behavioral Response to Tidal Turbine Sound	Brian Polagye	University of Washington	Testing & Data	Grand Ballroom C
10:25 AM	10:35 AM	Introduce Triton & FOA 1418	Dana McCoskey	WPTO	Testing & Data	Grand Ballroom C
10:35 AM	11:15 AM	Triton Initiative	Meg Pinza	PNNL	Testing & Data	Grand Ballroom C
11:15 AM	11:30 AM	Coffee Break				
11:30 AM	12:00 PM	NoiseSpotter: Cost-effective, Real-time Acoustic Characterization and Localization System	Kaus Raghukumar	Integral Consulting Inc.	Testing & Data	Grand Ballroom C
12:00 AM	12:30 PM	DAISY: A Drifting Acoustic Instrumentation System	Brian Polagye	University of Washington	Testing & Data	Grand Ballroom C
12:30 PM	1:15 PM	Lunch				
1:15 PM	1:45 PM	A Combined Electric/Magnetic Field Instrument for MHK Environmental Monitoring	Alan Chave	Woods Hole Oceanographic Institution	Testing & Data	Grand Ballroom C
1:45 PM	2:15 PM	Benthic Habitat Monitoring Tools for MHK Environmental Assessments	Gene Revelas	Integral Consulting Inc.	Testing & Data	Grand Ballroom C
2:15 PM	2:45 PM	Long-Range Target Detection and Classification System for Environmental Monitoring at MHK Sites	Jim Dawson	BioSonics Inc.	Testing & Data	Grand Ballroom C
2:45 PM	3:00 PM	Coffee Break				
3:00 PM	3:30 PM	Unobtrusive Multi-Static Serial LiDAR Imager for Wide-Area Surveillance and Identification of Marine Life at MHK Installations	Anni Dalglish	Florida Atlantic University	Testing & Data	Grand Ballroom C
3:30 PM	4:00 PM	Third-Generation Adaptable Monitoring Package (3G-AMP)	Brian Polagye	University of Washington	Testing & Data	Grand Ballroom C
4:00 PM	4:30 PM	End-of-Session Networking Activity	All recent presenters	All recent presenters	Testing & Data	Grand Ballroom C
4:30 PM	4:50 PM	End-of-Session Triton & 1418 discussion as a group	All attendees	WPTO	Testing & Data	Grand Ballroom C
4:50 PM	5:20 PM	Peer Reviewer Only Meetings				Madison
6:15 PM	8:30 PM	Optional, No-Host Trivia at Port City Brewing Pre-Pay and Registration Required				

Thursday, October 10 MHK Track 1 Foundational R&D, Technology Design, and Validation						
Start	End	Agenda Session	Presenter	Affiliation	Track	Room
8:15 AM	9:00 AM	Check-in, Breakfast				
9:00 AM	9:05 AM	Introduce FOA & Lab Projects	Carrie Noonan	WPTO	Foundational R&D	Grand Ballroom A&B
9:05 AM	9:35 AM	Kinetic Hydropower System TriFrame Mount Integrated Development and IO&M Testing at RITE	Dean Corren	Verdant Power, Inc.	Foundational R&D	Grand Ballroom A&B
9:35 AM	10:05 AM	CalWAVE Open Water Demonstration	Thomas Boerner	CalWave Power Technologies Inc.	Foundational R&D	Grand Ballroom A&B
10:05 AM	10:35 AM	A Hermetically Sealed Magnetically Geared Marine Hydrokinetic Generator	Jonathan Bird	Portland State University	Foundational R&D	Grand Ballroom A&B
10:35 AM	10:45 AM	Coffee Break				
10:45 AM	11:15 AM	Robotic Juggler Offshore WEC	Vassilios Vamvas	Enorasy LLC	Foundational R&D	Grand Ballroom A&B
11:15 AM	11:45 AM	Techno-Economic Analysis and Program Support	Scott Jenne	NREL	Foundational R&D	Grand Ballroom A&B
11:45 AM	12:05 PM	End-of-Session Networking Activity	All recent presenters	All recent presenters	Foundational R&D	Grand Ballroom A&B
12:05 PM	12:25 PM	Closing Remarks on Foundational R&D	Lauren Moraski Reudy & Bill McShane	WPTO	Foundational R&D	Grand Ballroom A&B
12:25 PM	1:15 PM	Lunch				
1:15 PM	1:45 PM	Powering the Blue Economy: WPTO Strategy Presentation	Simon Geerlofs	WPTO	MHK Plenary	Grand Ballroom A&B
1:45 PM	2:00 PM	Remarks from Deerin Babb-Brott, Principal Assistant Director for Oceans and Environment, White House Office of Science and Technology Policy	Deerin Babb-Brott	White House	MHK Plenary	Grand Ballroom A&B
2:00 PM	3:00 PM	PBE Panel – Perspectives from End Users featuring Jenn Garson, WPTO; Carl Gouldman, NOAA; Karl Hill, Igiugig Village Council; Dana Manalang, University of Washington; Richard Schilke, Nishati, Inc. Reenst Lesemann	Reenst Lesemann (moderator)	NHA Marine Energy Council	MHK Plenary	Grand Ballroom A&B
3:00 PM	3:10 PM	WPTO Presentation on Mechanisms for PBE	Jenn Garson	WPTO	MHK Plenary	Grand Ballroom A&B
3:10 PM	3:30 PM	Open Q&A and Discussion	Multiple	Multiple	MHK Plenary	Grand Ballroom A&B
3:30 PM	3:45 PM	Coffee Break and Transition				
3:45 PM	5:30 PM	“Town Hall” with WPTO Staff (open feedback forum for all attendees)	All attendees	All attendees	Plenary	Grand Ballroom A/B/C
5:30 PM	6:00 PM	Peer Reviewer Only Meetings (all MHK reviewers)				Madison

Thursday, October 10 MHK Track 2 Reducing Barriers to Testing and Data Sharing						
Start	End	Agenda Session	Presenter	Affiliation	Track	Room
8:15 AM	8:45 AM	Check-in, Breakfast				
8:45 AM	9:05 AM	Overview of Data Sharing & Analysis and Introduction of Lab Projects	Hoyt Battey	WPTO	Testing & Data	Grand Ballroom C
9:05 AM	9:35 AM	Tidal Resource Gaps Analysis	Kevin Haas (on behalf of NREL)	NREL	Testing & Data	Grand Ballroom C
9:35 AM	10:05 AM	Model Validation and Site Characterization for Early Deployment MHK Sites and Establishment of Wave Classification Scheme	Levi Kilcher	NREL, PNNL, SNL	Testing & Data	Grand Ballroom C
10:05 AM	10:35 AM	International Environmental Data Sharing Initiative (OES-Environmental & Tethys Database)	Andrea Copping	PNNL	Testing & Data	Grand Ballroom C
10:35 AM	10:45 AM	Coffee Break				
10:45 AM	11:15 AM	Marine and Hydrokinetic Data Repository (MHKDR)	Jon Weers	NREL	Testing & Data	Grand Ballroom C
11:15 AM	11:45 AM	MHK Data Products and User Community Development	Kelley Ruehl	SNL, NREL, PNNL	Testing & Data	Grand Ballroom C
11:45 AM	12:05 PM	End-of-Session Networking Activity	All recent presenters	All recent presenters	Testing & Data	Grand Ballroom C
12:05 PM	12:25 PM	Closing Remarks on Testing & Data	Steve DeWitt	WPTO	Testing & Data	Grand Ballroom C
12:25 PM	1:15 PM	Lunch				
1:15 PM	1:45 PM	Powering the Blue Economy: WPTO Strategy Presentation	Simon Geerlofs	WPTO	MHK Plenary	Grand Ballroom A&B
1:45 PM	2:00 PM	Remarks from Deerin Babb-Brott, Principal Assistant Director for Oceans and Environment, White House Office of Science and Technology Policy	Deerin Babb-Brott	White House	MHK Plenary	Grand Ballroom A&B
2:00 PM	3:00 PM	PBE Panel – Perspectives from End Users featuring Jenn Garson, WPTO; Carl Gouldman, NOAA; Karl Hill, Igiugig Village Council; Dana Manalang, University of Washington; Richard Schilke, Nishati, Inc.	Reenst Lesemann (moderator)	NHA Marine Energy Council	MHK Plenary	Grand Ballroom A&B
3:00 PM	3:10 PM	WPTO Presentation on Mechanisms for PBE	Jenn Garson	WPTO	MHK Plenary	Grand Ballroom A&B
3:10 PM	3:30 PM	Open Q&A and Discussion	Multiple	Multiple	MHK Plenary	Grand Ballroom A&B
3:30 PM	3:45 PM	Coffee Break and Transition				
3:45 PM	5:30 PM	“Town Hall” with WPTO Staff (open feedback forum for all attendees)	All attendees	All attendees	Plenary	Grand Ballroom A/B/C
5:30 PM	6:00 PM	Peer Reviewer Only Meetings (all MHK reviewers)				Madison