

OCTOBER 8-10, 2019

HOSTED AT THE HILTON ALEXANDRIA OLD TOWN

1767 KING ST | ALEXANDRIA, VA 22314

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 Bockenbauer	WPTO	Hydro Plenary	Washington/Jefferson
2:05 PM	2:15 PM	Break and Transition				
2:15 PM	2:25 PM	Introduce Lab Projects	Sam Bockenbauer	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 Bockenbauer	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

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
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
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 Hydropower 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 (Hydro 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 (moderator)	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 presenters	All recent presenters	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

