DOE Hydrogen Program 2024 AMR Program-at-a-Glance

Topic	Monday, May 6		Tuesday, May 7							Wednesday, May 8							Thursday, May 9		
			Hydrogen Production Technologies	Hydrogen Infrastructure Technologies	Fuel Cell Technologies	Systems Development and Integration	Analysis, Codes and Standards	Intra-Agency Activities		Hydrogen Production Technologies	Hydrogen Infrastructure Technologies	Fuel Cell Technologies	Systems Development and Integration	Interagency Activities	Intra-Agency Activities		Hydrogen Infrastructure Technologies	Fuel Cell Technologies	Systems Development and Integration
		Room	Regency E	Regency AB	Potomac III-VI	Regency CD	Regency F	Washington		Regency E	Regency AB	Potomac III-VI	Regency CD	Regency F	Washington		Regency AB	Potomac III-VI	Washington
	*All times in Eastern Time	8:00 AM	Continental Breakfast						8:00 AM	Continental Breakfast						8:00 AM	Continental Breakfast		
		8:30 AM							8:30 AM		IA013					8:30 AM	ST237		
1:00 PM	Welcome Opening Remarks Keynote Speeches	9:00 AM	P000	IN000	FC000	SDI000	SA-SCS000	FE000	9:00 AM	P216	SCS037	FC352	TA048	IA001		9:00 AM	ST241	FC331	TA053
		9:30 AM	ELY-BIL001	IN025	FC160	TA056	SA187	FE001	9:30 AM	P218	IN043	FC363	TA037	IA002	JO000	9:30 AM	ST001	FC330	TA052
		10:00 AM	SDI006	H2041		TA057	SA188	FE005	10:00 AM	P209	SCS042	FC327	TA030	IA003	VTO000 WPTO000	10:00 AM	ST235	FC355	
		10:30 AM	Break						10:30 AM	Break						10:30 AM	Break		
1:30 PM	Plenary	11:00 AM	P148	IN039	FC339	TA058	SA178	FE003	11:00 AM	P213	ST127	FC336	TA062	IA004 IA005	BETO000	11:00 AM	OCED001 (Regency CDEF)		
		11:30 AM		IN001a		SCS031	SA174	FE004	11:30 AM	P214		FC344	SDI002	IA006 IA007	WETO000 SETO000	11:30 AM	OCED002 (Regency CDEF)		
		12:00 PM		IN001b			SA181	FE016	12:00 PM	P215	ST209	FC345	SDI001	IA008 IA009	NE000 FE014a	12:00 PM	OCED003 (Regency CDEF)		
3:15 PM	Break	12:30 PM	Lunch (provided)						12:30 PM	Lunch (provided)						12:30 PM	Lunch (provided)		
3:45 PM	Plenary	1:45 PM	P196	IN021	FC353	TA016	SCS019	FE002	1:45 PM	P208	ST212	FC348	TA018/SDI004	IA010	BES000	1:45 PM	OCED004 (Regency CDEF)		
		2:15 PM		IN016	FC337	TA059	SCS028	FE007	2:15 PM		ST213	FC347	TA028	IA011 IA012	EJE000	2:15 PM	OCED005 (Regency CDEF)		
		2:45 PM		IN036	FC338	TA065	SCS021	FE011	2:45 PM	P212	ST217	FC346	TA039	TA009	AMMTO000 IEDO000 MESC000	2:45 PM	OCED006 (Regency CDEF)		
		3:15 PM	Break						3:15 PM	Break						3:15 PM	OCED007 (Regency CDEF)		
4:45 PM	Plenary	3:45 PM	P204	IN015	FC349	TA001	SCS001	FE008	3:45 PM	P211	ST218	MNF-BIL001	NE001		OTT000	3:45 PM			
		4:15 PM	P170	IN040	FC350	TA029	SCS011	FE010	4:15 PM	P217	ST234		TA044		ARPAE000	4:15 PM			
		4:45 PM	P200	IN034	FC351	TA063	SCS010	FE006	4:45 PM	P205	ST242	FC354	TA051/TA060		EIA000	4:45 PM			
		5:15 PM	P179	IN035				FE009	5:15 PM	P206	ST243		TA064			5:15 PM			
5:30 PM	AMR Awards Closing Remarks	5:30 PM	POSTER SESSION						5:30 PM	POSTER SESSION						5:30 PM			
6:00 PM		7:00 PM							7:00 PM							7:00 PM			

U.S. Department of Energy Hydrogen Program
2024 Annual Merit Review and Peer Evaluation Meeting (AMR)

Plenary Agenda

Monday, May 6, 2024		
1:00 PM	**Welcome and Introduction**	**Sunita Satyapal**, Director, Hydrogen and Fuel Cell Technologies Office (HFTO) and Hydrogen Program Coordinator, DOE
1:10 PM	**Opening Remarks: *U.S. Clean Hydrogen Priorities***	**David Turk**, Deputy Secretary of Energy, DOE
1:20 PM	**Panel: *Hydrogen Interagency Task Force —Executing the National Clean Hydrogen Strategy***	Moderator: **David Turk**, Deputy Secretary, DOE Panelists include: – **Betsy Dirksen Londrigan**, Administrator, Rural Business Cooperative Service, U.S. Department of Agriculture – **Tristan Brown**, Deputy Administrator, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation – **Grant T. Harris**, Assistant Secretary of Commerce for Industry and Analysis, International Trade Administration, U.S. Department of Commerce – **David Brown**, Director of Policy and Planning, U.S. Small Business Administration
2:10 PM	**Remarks: *Energy Efficiency and Renewable Energy (EERE) Office Perspectives***	**Alejandro Moreno**, Associate Principal Deputy Assistant Secretary, EERE, DOE
2:20 PM	**Remarks: *Environmental Justice Perspectives***	**Shalanda Baker**, Director, Office of Energy Justice and Equity
2:30 PM	**Presentation: *Hydrogen Program Overview***	**Sunita Satyapal**, HFTO Director and DOE Hydrogen Program Coordinator
3:15 PM	Break	
3:45 PM	**Panel: *Accelerating Progress from Hydrogen Shot to Hydrogen Hubs***	Moderator: **Eric Miller**, Chief Scientist, HFTO, DOE Panelists: Representatives from DOE Hydrogen Program Offices (Jennifer Arrigo, Crystal Farmer, Nichole Fitzgerald, Jason Marcinkoski, Gail McLean, Robert Schrecengost)
4:45 PM	**Panel: *HFTO Subprogram Overviews***	Moderator: **Eric Miller**, Chief Scientist, HFTO, DOE Panelists: Program Managers from HFTO, DOE (Jesse Adams, Dimitrios Papageorgopoulos, David Peterson, Neha Rustagi, Ned Stetson)
5:30 PM	**AMR Awards and Closing Remarks**	**Michael Berube**, Deputy Assistant Secretary for Sustainable Transportation and Fuels, EERE, DOE **Sunita Satyapal**, HFTO Director and DOE Hydrogen Program Coordinator
6:00 PM	Adjourn	

Tuesday, May 7 Oral Presentations						
Time	**Hydrogen Production Technologies** Regency E	**Hydrogen Infrastructure Technologies** Regency AB	**Fuel Cell Technologies** Potomac III-VI	**Systems Development and Integration** Regency CD	**Analysis, Codes and Standards** Regency F	**Intra-Agency Activities** Washington Room
8:00 AM	**Continental Breakfast**					
9:00 AM	P000 Hydrogen Production Technologies Subprogram Overview David Peterson, HFTO	IN000 Hydrogen Infrastructure Technologies Subprogram Overview Ned Stetson, HFTO	FC000 Fuel Cell Technologies Subprogram Overview Dimitrios Papageorgopoulos, HFTO	SDI000 Systems Development and Integration Subprogram Overview Jesse Adams, HFTO	SA-SCS000 Analysis, Codes & Standards Subprogram Overview Neha Rustagi, HFTO	FE000 FECM Hydrogen Technologies Program Overview Evan Frye & Eva Rodezno, FECM
9:30 AM	ELY-BIL001 Megawatt-Scale Low Temperature Electrolyzer Research Capability Daniel Leighton, NREL	IN025 ANL-H2 Delivery Technologies Analysis Amgad Elgowainy, ANL	FC160 ElectroCat 2.0 (Electrocatalysis Consortium) Deborah Myers, ANL & Piotr Zelenay, LANL	TA056 Ultra-Efficient Long-Haul Hydrogen Fuel Cell Tractor Darek Villeneuve, Daimler Trucks North America	SA187 Heavy-Duty Hydrogen Fueling Station Corridors Mark Chung, NREL	FE001 Recent Progress on Underground Hydrogen Storage by the SHASTA Team (Subsurface Hydrogen Assessment, Storage, and Technology Acceleration) Angela Goodman, NETL
10:00 AM	SDI006 High Temperature Electrolyzer Megawatt-Scale Test Facility John Moorehead, INL	H2041 H2@Scale CRADA: CA Research Consort. (Ref. Station, Fueling Perf. Test Device, Station Cap Model) Ethan Hecht, SNL & Jacob Thorson, NREL		TA057 High Efficiency Fuel Cell Application for Medium Duty Truck Vocations Stan Bower, Ford Motor Company	SA188 Sustainability Criteria for Hydrogen Deployments Mark Chung, NREL	FE005 Overview of NETL Gasification R&D for Hydrogen Production Eric Lewis, NETL
10:30 AM	**Break**					
11:00 AM	P148 HydroGEN Overview: A Consortium on Advanced Water Splitting Materials Huyen Dinh, NREL	IN039 Analytic Framework for Optimal Sizing of Hydrogen Fueling Stations for Heavy Duty Vehicles at Ports Todd Wall, PNNL	FC339 M2FCT: Million Mile Fuel Cell Truck Consortium Rod Borup, LANL & Adam Weber, LBNL	TA058 Freight Emissions Reduction via Medium Duty Battery Electric and Hydrogen Fuel Cell Trucks with Green Hydrogen Production via a New Electrolyzer Design and Electrical Utility Grid Coupling Jacob Lozier, GM	SA178 Cradle-to-Grave Transportation Analysis Amgad Elgowainy, ANL	FE003 Hydrogen Production from High Volume Organic Construction and Demolition Wastes Joshua Stanislowski, Energy and Environmental Research Center
11:30 AM		IN001a H-Mat Overview: Metals Chris San Marchi, SNL		SCS031 Assessment of Heavy-Duty Fueling Methods and Components Shaun Onorato, NREL	SA174 Life Cycle Analysis of Hydrogen Pathways Amgad Elgowainy, ANL	FE004 Advancing Entrained-Flow Gasification of Waste Materials and Biomass for Hydrogen Production Kevin Whitty, University of Utah
12:00 PM		IN001b H-Mat Overview: Polymers Kevin Simmons, PNNL			SA181 Global Change Analysis Model Expansion - Hydrogen Pathways Page Kyle, PNNL	FE016 Process Intensification of Hydrogen Production through Sorption-Enhanced Gasification of Biomass Kevin Whitty, University of Utah
12:30 PM	**Lunch (provided)**					
1:45 PM	P196 H2NEW Consortium: Hydrogen from Next-Generation Electrolyzers of Water Bryan Pivovar, NREL & Richard Boardman, INL	IN021 Microstructural Engineering and Accelerated Test Method Development to Achieve Low Cost, High Performance Solutions for Hydrogen Storage and Delivery Kip Findley, Colorado School of Mines	FC353 Fuel Cell Cost and Performance Analysis Brian James, Strategic Analysis, Inc.	TA016 Fuel Cell Hybrid Electric Delivery Van Lee Kirshenboim, Center for Transportation and the Environment	SCS019 Hydrogen Safety Panel, Safety Knowledge Tools, and First Responder Training Resources Nick Barilo, PNNL	FE002 Fluidized Bed Gasification for Conversion of Biomass and Waste Materials to Renewable Hydrogen Zach El Zahab, GTI Energy
2:15 PM		IN016 Free-Piston Expander for Hydrogen Cooling Devin Halliday, GTI Energy	FC337 Cummins PEM Fuel Cell System for Heavy Duty Applications Jean St-Pierre, Cummins Inc.	TA059 Identifying Medium & Heavy Duty Applications for Fuel Cell Electric Trucks (FCETs) Ram Vijayagopal, ANL	SCS028 Hydrogen Education for a Decarbonized Global Economy (H2EDGE) Eladio Knipping, EPRI	FE007 Development of Stable Solid Oxide Electrolysis Cells for Low-Cost Hydrogen Production Elango Elangovan, OxEon Energy
2:45 PM		IN036 Cost-Effective Pre-Cooling for High-Flow Hydrogen Fueling Devin Halliday, GTI Energy	FC338 Domestically Manufactured Fuel Cells for Heavy-Duty Applications Cynthia Rice, Plug Power Inc.	TA065 Total Cost of Ownership (TCO) Analysis of Hydrogen Fuel Cells in Off Road Heavy-Duty Applications – Preliminary Results Rajesh Ahluwalia, ANL	SCS021 NREL Hydrogen Sensor Testing Laboratory William Buttner, NREL	FE011 Investigation of Ammonia for Combustion Turbines John Vega, GTI
3:15 PM	**Break**					
3:45 PM	P204 Hydrogen Production Cost and Performance Analysis Brian James, Strategic Analysis, Inc.	IN015 Optimizing the Heisenberg Vortex Tube for Hydrogen Cooling Jacob Leachman, Celadyne Technologies, Inc.	FC349 Foil Bearing Supported Compressor-Expander Bill Buckley, R&D Dynamics Corporation	TA001 MEA Manufacturing R&D Peter Rupnowski, NREL	SCS001 Component Failure R&D Genevieve Saur, NREL	FE008 Solid Oxide Fuel Cells - Cell and Stack Degradation Evaluation and Modeling Harry Abernathy, NETL
4:15 PM	P170 Benchmarking Advanced Water Splitting Technologies: Best Practices in Materials Characterization Olga Marina, PNNL	IN040 The HyRIGHT Project: 700 bar Hydrogen Refueling Interface for Gaseous Heavy-Duty Trucks Will James, SRNL	FC350 High Efficiency and Transient Air Systems for Affordable Load-Following Heavy-Duty Truck Fuel Cells Doug Hughes, Eaton Corporation	TA029 Autonomous Hydrogen Fueling Station Keith Brown, Plug Power	SCS011 Hydrogen Quantitative Risk Assessment Brian Ehrhart, SNL	FE010 Advanced Process Control and Dynamic Optimization of Reversible Solid Oxide Cell Systems for Performance and Long-Term Health Debangsu Bhattacharyya, West Virginia University
4:45 PM	P200 Low-Cost Manufacturing of High Temperature Electrolysis Stacks Scott Swartz, Nextech Materials, Ltd.	IN034 HyBlend: Pipeline CRADA Cost and Emissions Analysis Mark Chung, NREL	FC351 Durable and Efficient Centrifugal Compressor-Based Filtered Air Management System and Optimized BOP Mike Bune, Mahle Powertrain, LLC	TA063 High Efficacy Validation of Hydride Mega Tanks at the ARIES Lab (HEVHY METAL) Katherine Hurst, NREL	SCS010 R&D for Safety, Codes and Standards: Hydrogen Behavior Ethan Hecht, SNL	FE006 Low-Cost Large Area SOEC Stack for Hydrogen and Chemicals Production Olga Marina, PNNL
5:15 PM	P179 BioHydrogen (BioH2) Consortium to Advance Fermentative Hydrogen Production Katherine Chou, NREL	IN035 HyBlend: Pipeline CRADA Materials R&D Chris San Marchi, SNL				FE009 Reversible Solid Oxide Fuel Cell (SOFC) and Solid Oxide Electrolysis Cell (SOEC) Stacks Based on Stable Rare-Earth Nickelate Oxygen Electrodes John Pietras, Saint-Gobain

Tuesday, May 7 Poster Presentations, 5:30–7:00 p.m.

Hydrogen Production Technologies		
P148A	HydroGEN: Low Temperature Electrolysis	Shaun Alia, NREL
P148B	HydroGEN: High Temperature Electrolysis	Dong Ding, INL
P148C	HydroGEN: Photoelectrochemical (PEC) Water Splitting	Joel Ager, LBNL
P148D	HydroGEN: Solar Thermochemical Hydrogen (STCH) Water Splitting	Sean Bishop, SNL
P148E	HydroGEN: Cross-Cut Modeling	Tadashi Ogitsu, LLNL
P154	Thin-Film, Metal-Supported High-Performance and Durable Proton-Solid Oxide Electrolyzer Cell	Tianli Zhu, Raytheon Technologies Research Center
P176	Development of Durable Materials for Cost Effective Advanced Water Splitting Utilizing All Ceramic Solid Oxide Electrolyzer Stack Technology	Brian Oistad, Saint-Gobain
P183	Extremely Durable Concrete Using Methane Decarbonization Nanofiber Co-Products with Hydrogen	Alan Weimer, University of Colorado, Boulder
P184	Scalable and Highly Efficient Microbial Electrochemical Reactor for Hydrogen Generation from Lignocellulosic Biomass and Waste	Hong Liu, Oregon State University
P196a	H2NEW LTE: Durability and AST Development	Rangachary Mukundan, LBNL
P196b	H2NEW LTE: Benchmarking and Performance	Deborah Myers, ANL
P196c	H2NEW LTE: Manufacturing, Scale-Up, and Integration	Scott Mauger, NREL
P196d	H2NEW LTE: System and Techno-Economic Analysis -- Hydrogen from Next-Generation Electrolyzers	Alex Badgett, NREL
P196e	H2NEW HTE: Durability and AST Development	Olga Marina, PNNL
P196f	H2NEW HTE: Cell Characterization	David Ginley, NREL
P196g	H2NEW HTE: Multiscale Degradation Modeling	Brandon Wood, LLNL
P196h	H2NEW LTE: Liquid Alkaline Water Electrolysis	Meital Shviro, NREL
P197	Advanced Manufacturing Processes for Gigawatt-Scale Proton Exchange Membrane Water Electrolyzers	Andrew Steinbach, 3M
P198	Enabling Low Cost PEM Electrolysis at Scale Through Optimization of Transport Components and Electrode Interfaces	Chris Capuano, Nel Hydrogen
P199	Integrated Membrane Anode Assembly & Scale-Up	Adam Paxson, Plug Power
P202	Novel Microbial Electrolysis Cell Design for Efficient Hydrogen Generation from Wastewaters	Ruggero Rossi, Pennsylvania State University
P203	Novel Microbial Electrolysis System for Conversion of Biowastes into Low-Cost Renewable Hydrogen	Noah Meeks, Southern Company Services, Inc.
ELY-BIL002	Ultralow Iridium Catalysts with Controlled Morphology and Speciation	Jacob Spendelow, LANL
ELY-BIL003	Accelerated Discovery of Metallic Pyrochlores OER Catalysts for PEM Water Electrolyzers: High-Throughput Computational and Experimental Approach	Ahmed Farghaly, ANL
ELY-BIL004	Hierarchical Electrode Design for Highly Efficient and Stable Anion Exchange Membrane Water Electrolyzers	Xiong Peng, LBNL
ELY-BIL005	Studying-Polymers-On a-Chip (SPOC): Increased Alkaline Stability in Anion Exchange Membranes	Johanna Schwartz, LLNL
ELY-BIL006	Hierarchically Structured Advanced Electrodes for Alkaline Water Electrolyzers	Jun Yang, ORNL
ELY-BIL007	Thin, Highly Selective Polymer Membrane Separators for Advanced Liquid Alkaline Water Electrolysis	Abhishek Roy, NREL
ELY-BIL008	Advanced Hydrocarbon Based Proton Exchange Membrane Water Electrolyzers	Cy Fujimoto, SNL

Tuesday, May 7 Poster Presentations, 5:30–7:00 p.m.

ELY-BIL009	High Performance and Robust Proton Conducting Solid Oxide Electrolysis Cells Enabled by New Materials, Interfaces and Fabrication Methods	Dong Ding, INL
ELY-BIL010	Directed Search for Stable and Conductive Electrolytes for Next-Generation Proton Conducting Solid Oxide Electrolysis Cells	Joel Varley, LLNL
ELY-BIL011	Stable High-Performing Oxygen Electrode for SOEC Operating at Lower Temperatures	Olga Marina, PNNL
ELY-BIL012	Developing High-Entropy Materials as Superior Alternative Electrodes for Long-Lasting Oxide-Conducting Solid Oxide Electrolysis Cells (O-SOECs)	Nicholas Strange, SLAC
Analysis, Codes and Standards		
SA190	Patent and Technology Portfolios Resulting from HFTO R&D Funding	Lindsay Steele, PNNL
SA191	Hydrogen Sustainability Assessment Methods for Project Development	Jennie Huya-Kouadio, Strategic Analysis, Inc.
SCS00a	Advancing Safety in Hydrogen Technologies: The Center for Hydrogen Safety and Hydrogen Safety Panel	Nick Barilo, Center for Hydrogen Safety
SCS005	R&D for Safety, Codes and Standards: Materials and Components Compatibility	Joe Ronevich, SNL
SCS022	Fuel Cell and Hydrogen Energy Association Codes and Standards Support	Karen Quackenbush, Fuel Cell and Hydrogen Energy Association
SCS030	MC Formula Protocol for H35HF Fueling	Taichi Kuroki, NREL
SCS032	Smart Hydrogen Wide Area Monitoring for Outdoor H2@Scale Demonstration Sites and Enclosure	David Peaslee, NREL
SCS033	Risk Assessments of Design and Refueling for Hydrogen Locomotive and Tender	Brian Ehrhart, SNL
SCS034	Large-Scale Hydrogen Storage - Risk Assessment Seattle City Light and Port of Seattle	Arun Veeramany, PNNL
SCS035	Modeling and Risk Assessment of Hydrogen / Natural Gas Blends	Austin Glover, SNL
SCS036	The Electrical Hydrogen Sensor Technology with a Sub-Minute Response Time and a Part-Per-Billion Detection Limit for Hydrogen Environmental Monitoring	Tho Nguyen, University of Georgia
SCS038	Real-Time Ionic Liquid Electrochemical Sensor for Highly Sensitive and Selective Hydrogen Detection and Quantification	Xiangqun Zeng, University of Missouri
SCS039	Low Cost Hydrogen Monitor for Continuous Quantification of Facility Emissions	Scott Herndon, Aerodyne
SCS040	Multi-Gap Fabry Perot Fiber Optic Sensor for Real-Time and Cumulative Leak Detection and Quantification	Navin Manjooran, Solve Technology and Research, Inc.
SCS041	Commercialization of Hollow-Core Fiber Optic Hydrogen Sensor	Minsu Oh, LLNL
Office of Fossil Energy and Carbon Management		
FE012	Design and Optimization Infrastructure for Tightly Coupled Hybrid Systems	John Siirola, SNL
FE014	NETL RIC Hydrogen Sensors for Pipelines and Underground Hydrogen Storage Portfolio Overview	Ruishu Wright, NETL
FE015	Enabling the Hydrogen Value Chain Using Natural Gas Resources and Infrastructure	Daniel Haynes, NETL
Interagency Activities		
IA014	Hydrogen Interagency Task Force Workforce and Energy Justice Activities	Workforce and Energy Justice Crosscutting Team, Hydrogen Interagency Task Force
Intra-Agency and Cross-Cutting Activities		
AMMTO001	The Lab Embedded Entrepreneurship Program - Connecting Exciting Clean Energy Startups to the National Labs	Paul Syers, AMMTO
BES001	DOE Energy Earthshot Research Center: Ionomer-Based Water Electrolysis	Adam Weber, LBNL
BES002	DOE Energy Earthshot Research Center: Plasma-Enhanced Hydrogen Production	Yiguang Ju, Princeton University
HFTO001	HFTO Post-Doc Award Competition Celebrates Five Years of Success!	Haboon Osmond, BGS & Christina Walls, The Building People

Tuesday, May 7 Poster Presentations, 5:30–7:00 p.m.

HFTO002	Community Benefit Plans and You!	Natalie Alvarado & Rebecca Erwin, HFTO
INTRA001	Clean Hydrogen Technology Alignment Cooperative (CHyTAC)	Rangachary Mukundan, LBNL & Katherine Hurst, NREL
INTRA002	Equitable, Affordable & Resilient Nationwide Energy System Transition (EARNEST)	Ines Azevedo & Liang Min, Stanford University
INTRA003	Power electronics Accelerator Consortium for Electrification (PACE)	Madhu Chinthavali, ORNL
INTRA004	The Status and Impact of DOE's Energy Materials Network (EMN) on Hydrogen Technology	Michael Rawlings, The Minerals, Metals, and Materials Society (TMS)
MESC001	Supercharging Critical Hydrogen Supply Chains with MMAC	Diane Graziano, ANL & Justin Bracci, NREL
PRA001	Ionomer Durability in Membrane and Electrodes	Tanya Agarwal, LANL
PRA002	Model-Driven Engineering of Materials for Solid-Oxide Electrolysis and Solid-State Storage of Hydrogen	Andrew Rowberg, LLNL
PRA003	Approaching the Complex Composite Electrode Interface with Operando AP-XPS	Rebecca Hamlyn, LBNL
PRA004	New Materials and Approaches for Fuel Cells and Electrolyzers	Kui Li, LANL

Wednesday, May 8 Oral Presentations						
Time	**Hydrogen Production Technologies** Regency AB	**Hydrogen Infrastructure Technologies** Regency E	**Fuel Cell Technologies** Potomac III-VI	**Systems Development and Integration** Regency CD	**Interagency Activities** Regency F	**Intra-Agency Activities** Washington Room
8:00 AM	**Continental Breakfast**					
8:30 AM		IA013 H2 Biogeochemical Cycle: Implications for Hydrogen Climate Impact Fabien Paulot, NOAA				
9:00 AM	P216 Scalable Halide Perovskite Photoelectrochemical Cell Modules with 20% Solar-to-Hydrogen Efficiency and 1000 Hours of Diurnal Durability Aditya D. Mohite, Rice University	SCS037 Sensing Hydrogen Losses at 1 ppb-Level for Hydrogen-Blending Natural Gas Pipelines Shan Hu, Iowa State University	FC352 Leveraging ICE Air System Technology for Fuel Cell System Cost Reduction Paul Wang, Caterpillar, Inc.	TA048 ARIES / Flatirons Facility - Hydrogen System Capability Buildout Daniel Leighton, NREL	IA001 U.S. Department of Energy (DOE) Hydrogen and Fuel Cell Technologies Office (HFTO) Overview Sunita Satyapal, HFTO	
9:30 AM	P218 All-Perovskite Tandem Photoelectrodes for Low-Cost Solar Hydrogen Fuel Production from Water Splitting Zhaonig Song, University of Toledo	IN043 Detection System Comprising Inexpensive Printed Sensor Arrays for Hydrogen Gas Emission Monitoring and Reporting Rahul Pandey, Palo Alto Research Center	FC363 Advanced FC Vehicle DC-DC Converter Development Vivek Sujan, ORNL	TA037 Demonstration and Framework for H2@Scale in Texas and Beyond Rich Myhre, Frontier Energy Inc.	IA002 Hydrogen Interagency Task Force Working Group Panel Panel Moderator: Pete Devlin, HFTO Kandilarya Barakat, Mary McDaniel, & Laura Hill, Infrastructure, Siting & Permitting Oliver Fritz & Benjamin Gould, Supply & Demand at Scale Neha Rustagi, Maureen Clapper, & Stephanie Grumet, Analysis & Global Competitiveness Emily Loker & Sara Wylie, Workforce, Equity & Justice	JO000 Joint Office Update for HFTO AMR Rachel Nealer, Joint Office of Energy and Transportation
10:00 AM	P209 Gallium Nitride (GaN) Protected Tandem Photoelectrodes for High Efficiency, Low Cost, and Stable Solar Water Splitting Zetian Mi, University of Michigan	SCS042 Hydrogen Component Reliability Database (HyCReD) Genevieve Saur, NREL	FC327 Durable High Power Density Fuel Cell Cathodes for Heavy-Duty Vehicles Shawn Litster, Carnegie Mellon University	TA030 Demonstration of Integrated Hydrogen Production and Consumption for Improved Utility Operations Paul Brooker, Orlando Utilities Commission	IA003 U.S. Department of Defense (DOD) Panel Panel Moderator: Benjamin Gould, HFTO Tim Tetreault, Office of the Secretary of Defense Kevin Centeck, U.S. Army Matthew Haupt, U.S. Navy Richard Hartman, U.S. Air Force	VTO000 Overview of Hydrogen Combustion Activities within the VTO Decarbonization of Off-Road, Rail, Marine, and Aviation (DORMA) Program Siddiq Khan, VTO WPTO000 Hydrogen Activities within the Water Power Technologies Office Bill McShane, WPTO
10:30 AM	**Break**					
11:00 AM	P213 >200 cm2 Type-3 PEC Water Splitting Prototype Using Bandgap-Tunable Perovskite Tandem and Molecular-Scale Designer Coatings Shu Hu, Yale University	ST127 HyMARC Overview/Technoeconomic Analysis of Hydrogen Storage Materials Systems Mark Allendorf, SNL/Hanna Breunig, LBNL	FC336 A Systematic Approach to Developing Durable, Conductive Membranes for Operation at 120C Tom Zawodzinski, University of Tennessee - Knoxville	TA062 Validation of Interconnection and Interoperability of Grid-Forming Inverters Sourced by Hydrogen Technologies in View of 100% Renewable Microgrids Kumaraguru Prabakar, NREL	IA004 Hydrogen Hubs Update Crystal Farmer, OCED IA005 Alternative Fuel Corridors Rachael Nealer, Joint Office of Energy and Transportation	BETO000 Clean Fuels and Products Shot Lisa Guay, BETO
11:30 AM	P214 Demonstration of a Robust, Compact Photoelectrochemical (PEC) Hydrogen Generator Joel Haber, California Institute of Technology		FC344 Low-Cost Corrosion-Resistant Coated Aluminum Bipolar Plates by Elevated Temperature Formation and Diffusion Bonding Tianli Zhu & Chris Smith, Raytheon Technologies Research Center	SDI002 Hydrogen Microgrid in Underserved Communities Kumaraguru Prabakar, NREL	IA006 Clean Ports Program Reza Farzaneh, EPA IA007 Microgrid and Energy Storage R&D David Cook, U.S. Navy	WETO000 Floating Offshore Wind Shot and Co-Generation Jian Fu, WETO SETO000 Solar-Thermal Fuels Via Concentrated Solar-Thermal Energy Rajgopal Vijaykumar, SETO
12:00 PM	P215 Semi-Monolithic Devices for Photoelectrochemical Hydrogen Production Nicolas Gaillard, University of Hawaii at Manoa	ST209 HyMARC Seedling: Theory-Guided Design and Discovery of Materials for Reversible Methane and Hydrogen Storage Debabrata Sengupta, Northwestern University	FC345 Development and Manufacturing for Precious Metal Free Metal Bipolar Plate Coatings for PEM Fuel Cells CH Wang, Treadstone Technologies, Inc.	SDI001 Integrated Modeling, TEA, and Reference Design for Renewable Hydrogen to Green Steel and Ammonia - Greenheart Jennifer King, NREL	IA008 Army Ground Vehicle Fuel Cell Program Kevin Centeck, U.S. Army Devcom GVSC IA009 H2Charge Kari Walker, U.S. Army Devcom GVSC & Michael Bearman, GM	NE000 Nuclear-Based Hydrogen for Refineries and E-Fuels Richard Boardman, INL FE014a Real-Time Sensor Technologies for H2 Subsurface Storage and Transportation Monitoring Ruishu Wright, NETL
12:30 PM	**Lunch (provided)**					

Wednesday, May 8 Oral Presentations						
Time	**Hydrogen Production Technologies** Regency AB	**Hydrogen Infrastructure Technologies** Regency E	**Fuel Cell Technologies** Potomac III-VI	**Systems Development and Integration** Regency CD	**Interagency Activities** Regency F	**Intra-Agency Activities** Washington Room
1:45 PM	P208 Non-intermittent, Solar-thermal Processing to Split Water Continuously via a Near-isothermal, Pressure-Swing Redox Cycle Alan Weimer, University of Colorado, Boulder	ST212 HyMARC Seedling: Methane and Hydrogen Storage with Porous Cage-Based Composite Materials Eric Bloch, Indiana University	FC348 Fuel Cell Bipolar Plate Technology Development for Heavy Duty Applications Siguang Xu, GM	TA018/SDI004 High Temperature Electrolysis, Stack, and Systems Testing/Hydrogen Coach Bus Fueling Demonstration Micah Casteel, INL	IA010 Green Proving Ground Joshua Banis, GSA	BES000 Hydrogen-Related Fundamental Research in the DOE Office of Basic Energy Sciences John Vetrano, BES
					IA011 Fuel Cell REAP Awards Chris Cassidy, USDA	EJE000 Empowering Equity: Energy Justice and DOE's Environmental Justice Strategic Plan Kelly Crawford, EJE
2:15 PM		ST213 HyMARC Seedling: Uniting Theory and Experiment to Deliver Flexible MOFs for Superior Methane (NG) Storage Brian Space, North Carolina State University	FC347 Development of Low Cost, Thin Flexible Graphite Bipolar Plates for Heavy Duty Fuel Cell Applications David Chadderdon, NeoGraf Solutions, LLC	TA028 Demonstration of Electrolyzer Operation at a Nuclear Plant to Allow for Dynamic Participation in an Organized Electricity Market and In-House Hydrogen Supply Uuganbayar Otgonbaatar, Constellation Energy	IA012 NASA Fuel Cell and Hydrogen Activities Ian Jakupca, NASA Glenn Research Center	
					TA009 Maritime (Shore Power) Fuel Cell Generator Project Lennie Klebanoff, SNL	AMMTO000 AMMTO - Office Mission and Activities Relevant to Hydrogen Production, Distribution, and Use Paul Syers, AMMTO
2:45 PM	P212 Ca-Ce-Ti-Mn-O-Based Perovskites for Two-Step Solar Thermochemical Hydrogen Production Cycles Robert Wexler, Washington University in St. Louis	ST217 HyMARC Seedling: A Reversible Liquid Hydrogen Carrier System Based on Ammonium Formate and Captured CO2 Hongfei Lin, Washington State University	FC346 Fully Unitized Fuel Cell Manufactured by a Continuous Process Jon Owejan, Plug Power Inc.	TA039 Solid Oxide Electrolysis System Demonstration Hossein Ghezel-Ayagh, FuelCell Energy, Inc.		IEDO000 Industrial Decarbonization Pathways Joe Cresko, IEDO
						MESC000 From Analysis to Pipeline: Fueling the U.S. Hydrogen Manufacturing and Supply Chains Jesús Alvelo Maurosa, MESC
3:15 PM	**Break**					
3:45 PM	P211 Inverse Design of Perovskite Materials for Solar Thermochemical Water Splitting Christopher Muhich, Arizona State University	ST218 HyMARC Seedling: High Capacity Step-Shaped Hydrogen Adsorption in Robust, Pore-Gating Zeolitic Imidazolate Frameworks Michael McGuirk, Colorado School of Mines	MNF-BIL001 R2R: Roll to Roll Consortium Scott Mauger, NREL	NE001 LWR Integrated Energy Systems Interface Technology Development & Demonstration Greg Michael, Vistra Corp.		OTT000 Clean Hydrogen Liftoff Enabling Programs - Bipartisan Infrastructure Law Technology Commercialization Fund Kyle Fricker, OTT & Emanuele Pecora, OCED
4:15 PM	P217 Scalable Solar Fuels Production in a Reactor Train System by Thermochemical Redox Cycling of Novel Nonstoichiometric Perovskites Xin Qian, Saint-Gobain	ST234 Development of Magnesium Borane Containing Solutions of Furans and Pyroles as Reversible Liquid Hydrogen Carriers Craig Jensen, University of Hawaii		TA044 System Demonstration for Supplying Clean, Reliable and Affordable Electric Power to Data Centers Using Hydrogen Fuel Paul Wang, Caterpillar, Inc.		ARPAE000 Geologic H2 - A New Primary Energy Source for the Transition to Clean Energy Doug Wicks, ARPA-E
4:45 PM	P205 Metal-Organic Framework-Based Heterostructure Electrocatalysts with Tailored Electron Density Distribution for Cost-Effective and Durable Fuel Cells and Electrolyzers Sreeprasad Sreenivasan, University of Texas, El Paso	ST242 DME as a Renewable Hydrogen Carrier: Innovative Approach to Renewable Hydrogen Production Michael Heidlage, LANL	FC354 L'Innovator Program Emory De Castro, Advent Technologies	TA051/TA060 Low Total Cost of Hydrogen by Exploiting Offshore Wind and PEM Electrolysis Synergies/Offshore Wind to Hydrogen-Modeling, Analysis, Testing, and International Collaboration Work Judith Lattimer, Giner, Inc./Genevieve Saur, NREL		EIA000 EIA Manufacturing Energy Consumption Survey and Hydrogen Data Reporting Faouzi Aloulou, EIA
5:15 PM	P206 Single-Walled Carbon Nanotubes with Confined Chalcogens as the Catalysts and Electrodes for Oxygen Reduction Reaction in Fuel Cells Juchen Guo, University of California, Riverside	ST243 FueL Additives for Solid Hydrogen (FLASH) Carriers for Electric Aviation Noemi Leick, NREL		TA064 Hydrogen Production, Grid Integration, and Scaling for the Future Samantha Medina, NREL & Brittany Westlake, EPRI, NREL		

Wednesday, May 8 Poster Presentations, 5:30–7:00 p.m.

Fuel Cell Technologies		
FC167	FY22 SBIR IIC: Multi-Functional Catalyst Support	Minette Ocampo, pH Matter, LLC
FC356	FY22 SBIR II: Durable High Efficiency Membrane and Electrode Assemblies for Heavy Duty Fuel Cell Vehicles	Natalia Macauley, Giner, Inc.
FC362	FY23 STTR II: Mobile Fuel Cell Generator	Jurgen Schulte, RockeTruck, Inc.
FC365	FY23 SBIR I: Advanced Thermal Management System for Heavy-Duty Hydrogen Fuel Cells Stacks	Ramy Abdelmaksoud, Advanced Cooling Technologies, Inc.
FC364	FY23 SBIR I: Compact and Low-Cost Thermal Management for Heavy-Duty Vehicle Fuel Cells	John Kelly, Altex Technologies
FC366	FY23 SBIR I: High-Effectiveness Heat Exchangers for PEM Fuel Cell Thermal Management	Daniel Murphy, Mainstream Engineering Corporation
FC367	Technoeconomic Analysis of Discrete and Unitized Reversible Fuel Cells for Energy Storage Applications	Evan Reznicek, NREL
FC368	Surface Protected High Activity Pt Alloy Catalysts for Durable Heavy Duty Fuel Cells	Nagappan Ramaswamy, GM
FC369	Designing Highly Durable Ternary PtCoM Intermetallic Catalysts on Advanced Support for Heavy-Duty MEAs	Gang Wu, SUNY Buffalo
FC370	Advanced Low-PGM Cathode Catalysts with Self-Healing Properties for High Performing and Highly Durable MEAs	Voya Stamenkovic, UC Irvine
FC371	Selective Transport Layers for Durable, Low Cost MEAs	Anu Kongkanand, GM
FC372	High Performance Hydrocarbon Membrane	Rob Darling, Raytheon Technologies Research Center
FC373	High Performing and Durable MEAs with Novel Electrode Structures and Hydrocarbon Proton Exchange Membranes	Yunfeng Zhai, University of Hawaii at Manoa
FC374	Integrated Approaches for Enhanced Transport and Reaction in Unitized Reversible Fuel Cells (URFCs)	Jacob Spendelow, LANL
MNF-BIL002	Fuel Cell and Electrolyzer Manufacturing and Recycling Analysis	Jeffrey Spangenberger, ANL
MNF-BIL003	FY23 SBIR I: 11a Sustainable Recovery of Fuel Cell and Electrolyzer Materials	Chris Topping, Tetramer Technologies, L.L.C.
MNF-BIL004	FY23 SBIR I: Development of Second Use Applications for Ionomer Materials Recovered from Hydrogen Economy Systems	Stephen Grot, Ion Power, Inc.
MNF-BIL005	FY23 SBIR I: Modification of Nafion® Thermoplastic Precursor to Enable Reprocessing of Fuel Cell Manufacturing Scraps	Yinghua Alice Jin, Rockytech, Ltd.
MNF-BIL006	FY23 SBIR I: Sustainable Recovery of Critical Materials from End-of-Life Fuel Cells/Electrolyzers	Andrew Moran, Faraday Technology, Inc.
MNF-BIL007	FY23 SBIR I: Precious Metal Recovery and Recycling for Fuel Cells and Electrolyzers at End-of-Life	Philip Stuckey, FC Renew
MNF-BIL008	FY23 SBIR I: Amphiphilic Titanium Porous Transport Layers for Highly Effective Low-Temperature Reversible Fuel Cell	Kathryn Coletti, Giner, Inc.
MNF-BIL009	FY23 SBIR I: High-Throughput Discovery and Development of Bifunctional and Stable Reversible Fuel Cell Catalysts	Jordan Swisher, Mattiq, Inc.
MNF-BIL010	FY23 SBIR I: High-Resolution/High-Precision PEM Quality Control	Hans Courrier, Resonon, Inc.
MNF-BIL011	FY23 SBIR I: In-Line Monitoring System for Membrane and Electrode Assembly Manufacturing	Daniel Carr, SkyVision Sciences, LLC
MNF-BIL012	FY23 SBIR I: In-Line Quality Control with Terahertz Scanners for High-Throughput Production of Low Temperature Fuel Cells and Electrolyzer MEAs	Nezih Yardimci, Lookin, Inc.
MNF-BIL013	FY23 SBIR I: Power Electronics Manufacturing Improvements for Heavy-Duty Fuel Cell Vehicle Applications	Ian Byers, Marel Power Solution, Inc.
MNF-BIL014	FY23 SBIR I: Fuel Cell Integrated Power Electronics Module (FCIPEM)	Paul Scott, RockeTruck, Inc.
MNF-BIL015	FY23 SBIR I: Bipolar Plate Manufacturing and Reconditioning Using Next-Generation IMPULSE® HiPIMS Etching, Surface Preparation, and Pinhole-Free	Nick Connolly, University of Illinois Urbana-Champaign
MNF-BIL016	FY23 SBIR I: Conformal Corrosion-Resistant Coatings for Fuel Cell Bipolar Plates by Atomic Layer Deposition	Katherine Hansen, Radiation Monitoring Devices, Inc.

Wednesday, May 8 Poster Presentations, 5:30–7:00 p.m.

MNF-BIL017	FY23 SBIR I: Low Cost Metal Bipolar Plate Carbon Coating Technology for Heavy Duty Fuel Cells	CH Wang, TreadStone Technologies, Inc.
MNF-BIL018	FY23 SBIR I: Low-Cost High-Volume Durable Coating Method for Bipolar Plates	Mruthunjaya Uddi, Advanced Cooling Technologies, Inc.
MNF-BIL019	FY23 SBIR I: Solution Based Nanostructured Carbon Coatings for Reusable, Corrosion Resistant, Stamped Metallic Bipolar Plates	Ramesh Sivarajan, Nano-C, Inc.
MNF-BIL020	FY23 SBIR I: Highly Conductive Hydrocarbon Membranes for Fuel Cells and Electrolyzers	Dana Kazerooni, Celadyne Technologies, Inc.
Hydrogen Infrastructure Technologies		
IN019	Ultra-Cryopump for High Demand Transportation Fueling	David Chalk, RotoFlow
IN029	Reducing the Cost of Fatigue Crack Growth Testing for Storage Vessel Steels in Hydrogen Gas	Kevin Nibur, Hy-Performance
IN045	Scalable, Low-Cost Hydrogen Delivery Systems	Colin Wolden, Colorado School of Mines
IN048	Chemical Hydrogen Storage Media with Value-Added Co-Products	Travis Williams, University of Southern California
IN049	Highly Active Hexagonal Boron Nitride Catalysts for the Dehydrogenation of Liquid Organic Hydrogen Carriers	Sheng Dai, University of Tennessee - Knoxville
IN050	Efficient Ammonia Decomposition Using PGM-Free High-Entropy Alloy Catalysts	Chao Wang, Johns Hopkins University
IN053	Solid State Based Hydrogen Loss Recovery During LH2 Transfer	Thomas Gennett, Colorado School of Mines
ST008	Hydrogen Storage System Modeling: Public Access, Maintenance, and Enhancements	Sam Sprik, NREL & Huamin Wang, PNNL
ST135	NIST-NREL Overview	Ryan Klein, NIST
ST201	HyMARC—SLAC Activities	Nicholas Strange, SLAC
ST202	HyMARC—NREL Activities	Tom Gennett, NREL
ST204	HyMARC—PNNL Activities	Tom Autrey, PNNL
ST207	HyMARC—LLNL Activities	Brandon Wood, LLNL
ST210	HyMARC Seedling: Metal-Organic Frameworks Containing Frustrated Lewis Pairs for Hydrogen Storage at Ambient Temperature	Shengqian Ma, University of North Texas
ST224	HyMARC—LBNL Activities	Jeffrey Long, LBNL
ST225	HyMARC—LBNL/ALS Activities	David Prendergast, LBNL
ST233	HyMARC—SNL Activities	Mark Allendorf, SNL
ST238	Low-Cost, High-Strength Hollow Carbon Fiber for Compressed Gas Storage Tanks	Matthew Weisenberger, University of Kentucky
ST240	Cost-Optimized Structural Carbon Fiber for Hydrogen Storage Tanks	Amit Naskar, ORNL
ST245	Formic Acid-Based Hydrogen Energy Production and Distribution System	Arun Agarwal, OCO, Inc.
ST250	Combustion Synthesis of Nanoscale Magnesium Borides with Improved Hydrogen Uptake and Release	Evgeny Shafirovich, University of Texas at El Paso
ST251	Developing Highly Porous Metal-Organic Frameworks and Composite Materials for Hydrogen Storage	Yangyang Liu, California State University, Los Angeles
ST252	Onboard Monitoring Method for Detection of Damage to Carbon Fiber Composite Overwrap on Hydrogen Fuel Tanks	Joshua Biller, TDA
ST253	HyMARC—DEI Activities	Megan Lazorski, Metropolitan State University of Denver
Systems Development and Integration		
TA043	SOEC Stack Development and Manufacturing	Olga Marina, PNNL

Wednesday, May 8 Poster Presentations, 5:30–7:00 p.m.

TA061	Optimal Wind Turbine Design for H2 Production	Chris Bay, NREL
SDI008	Hydrogen-Electric Smelting Reduction for Green Iron & Steel Production	Daniel Bullard, Hertha Metals Inc
SDI009	Demonstration of a SOEC Hydrogen Direct Reduction (HDR) at the Toledo, Ohio Steel Plant	Luca Mastropasqua, University of Wisconsin-Madison
SDI010	Scaled Solid Oxide Co-Electrolysis for Low Cost Syngas Synthesis from Nuclear Energy	Paul Glaser, GE Research
SDI013	Port Demand Assessment - MARAD Co-Fund / Hydrogen for Maritime and Rail Fuel Cell Technologies	Leonard Klebanoff, SNL
SDI015	LTE Electrolyzer Data Collection	Sam Sprik, NREL
SDI016	High Rate Liquid Hydrogen Fueling for HD Rail	Sean Kelly, Linde Engineering North America
SDI017	HTE Electrolyzer Data Collection	Micah Casteel, INL
Interagency Activities		
IA014	Hydrogen Interagency Task Force Workforce and Energy Justice Activities	Workforce and Energy Justice Crosscutting Team, Hydrogen Interagency Task Force
Intra-Agency and Cross-Cutting Activities		
AMMTO001	The Lab Embedded Entrepreneurship Program - Connecting Exciting Clean Energy Startups to the National Labs	Paul Syers, AMMTO
EJE001	Empowering Equity: Energy Justice and DOE's Environmental Justice Strategic Plan	Kelly Crawford, EJE
HFTO001	HFTO Post-Doc Award Competition Celebrates Five Years of Success!	Haboon Osmond, BGS & Christina Walls, The Building People
INTRA001	Clean Hydrogen Technology Alignment Cooperative (CHyTAC)	Rangachary Mukundan, LBNL & Katherine Hurst, NREL
INTRA002	Equitable, Affordable & Resilient Nationwide Energy System Transition (EARNEST)	Ines Azevedo & Liang Min, Stanford University
INTRA003	Power electronics Accelerator Consortium for Electrification (PACE)	Madhu Chinthavali, ORNL
INTRA004	The Status and Impact of DOE's Energy Materials Network (EMN) on Hydrogen Technology	Michael Rawlings, The Minerals, Metals, and Materials Society (TMS)
MESC001	Supercharging Critical Hydrogen Supply Chains with MMAC	Diane Graziano, ANL & Justin Bracci, NREL
PRA001	Ionomer Durability in Membrane and Electrodes	Tanya Agarwal, LANL
PRA002	Model-Driven Engineering of Materials for Solid-Oxide Electrolysis and Solid-State Storage of Hydrogen	Andrew Rowberg, LLNL
PRA003	Approaching the Complex Composite Electrode Interface with Operando AP-XPS	Rebecca Hamlyn, LBNL
PRA004	New Materials and Approaches for Fuel Cells and Electrolyzers	Kui Li, LANL
SA190	Patent and Technology Portfolios Resulting from HFTO R&D Funding	Lindsay Steele, PNNL

Thursday, May 9 Oral Presentations			
Time	**Hydrogen Infrastructure Technologies** Regency AB	**Fuel Cell Technologies** Potomac III-VI	**Systems Development and Integration** Washington
8:00 AM	**Continental Breakfast**		
8:30 AM	ST237 Carbon Composite Optimization Reducing Tank Cost Duane Byerly, Hexagon R&D		
9:00 AM	ST241 First Demonstration of a Commercial Scale LH2 Storage Tank Design for International Trade Applications Ed Holgate, Shell	FC331 A Novel Stack Approach to Enable High Round Trip Efficiencies in Unitized PEM Regenerative Fuel Cells Katherine Ayers, Nel Hydrogen	TA053 Grid-Interactive Steelmaking with Hydrogen (GISH) Yuri Korobeinkov, ASU
9:30 AM	ST001 System Level Analysis of Hydrogen Storage Options Rajesh Ahluwalia, ANL	FC330 High Efficiency Reversible Solid Oxide System Hossein Ghezel-Ayagh, FuelCell Energy, Inc.	TA052 Solid Oxide Electrolysis Cells (SOEC) Integrated with Direct Reduced Iron (DRI) Plants for Producing Green Steel Jack Brouwer, University of California, Irvine
10:00 AM	ST235 Hydrogen Storage Cost and Performance Analysis Cassidy Houchins, Strategic Analysis, Inc.	FC355 LANL Minority Serving Institution Program Tommy Rockward, LANL	
10:30 AM	**Break**		
Time	**Regional Clean Hydrogen Hubs** Regency Ballrooms C–F		
11:00 AM	OCED001 Alliance for Renewable Clean Hydrogen Energy Systems (ARCHES) Angelina Galiteva, Scott Brandt & Adam Weber, ARCHES		
11:30 AM	OCED002 Pacific Northwest Hydrogen Hub: Decarbonizing Hard to Abate Sectors while Building Stronger Communities in the Pacific Northwest Chris Green, PNW		
12:00 PM	OCED003 MachH2 Overview and Opportunities Neil Banwart, MACHH2		
12:30 PM	**Lunch (provided)**		
1:45 PM	OCED004 Heartland Hydrogen Hub Chad Wocken, HH2H		
2:15 PM	OCED005 Appalachian Regional Clean Hydrogen Hub Shawn Bennett, ARCH2		
2:45 PM	OCED006 Mid-Atlantic Clean Hydrogen Hub Joe Colella & Manny Citron, MACH2		
3:15 PM	OCED007 HyVelocity – Gulf Coast Regional H2Hub Ted Barnes, HyVelocity		
3:45 PM			
4:15 PM			
4:45 PM			
5:15 PM			