THURSDAY, JULY 18, 2024

9:00–9:15 **Welcoming Remarks**

Dr. Mary Feeley, *Chief Geoscientist, Exxon Mobil (retired)*

9:15-9:30 **Department of the Interior: Orphaned Wells Program Office Overview**

Ms. Kimbra Davis**,** *Director, Orphaned Wells Program Office, US Department of the Interior*

9:30–11:30 **Session 1: Orphaned and Abandoned Well Plugging: Costs, Challenges, and Benefits**

Moderator: Mr. James Slutz*, Director of Study Operations, National Petroleum Council*

Ms. Lori Wrotenbery, *Executive Director, Interstate Oil and Gas Compact Commission*

Mr. Adam Peltz, *Director and Senior Attorney, Energy Program, Environmental Defense Fund*

Mr. David Alleman, *Director, Oil and Gas Research, US Department of Energy*

11:30–12:30 **Working Lunch**

12:30–1:30 **Compilation of State Well Plugging and Abandoning Standards and Procedures**

Moderator: Dr. Mary Feeley*, Chief Geoscientist, Exxon Mobil (retired)*

Mr. Rick Simmers, *Former Chief, Ohio Department of Natural Resources, Division of Oil and Gas Resources Management*

1:30–3:30 **Session 2: Well Plugging Prioritization: Evaluating Wellbore Integrity & Subsurface Conditions**

Moderator: Prof. Mileva Radonjic**,** *Professor & Samson Investment Chair in Petroleum Engineering*

Mr. Dan Arthur, *President and Chief Engineer, ALL Consulting*

Mr. Tom Kropatsch, *Oil and Gas Supervisor, Wyoming Oil and Gas Conservation Commission*

Mr. Don Hegburg, *Program Manager, Office of Oil and Gas Management, Pennsylvania Department of Environmental Protection*

Mr. Danny Sorrells, *Deputy Executive Director and Director, Oil and Gas Division, Railroad Commission of Texas*

Mr. Bryan McLellan, *Senior Petroleum Engineer, Alaska Oil and Gas Conservation Commission*

Mr. Matthew Warren, *National Oil and Gas Program Lead, Bureau of Land Management*

3:30–3:45 **Break**

3:45–5:15 **Session 3: Wellbore Procedures and Best Practices**

Moderator: Prof. Nathan Meehan**,** *Professor, Harold Vance Department of Petroleum*

Engineering, Texas A&M University

Mr. Drew Hunger, *President, Seashore Petroleum, LLC*

Mr. Steve Plants, *President of Abandonment Operations, Plants and Goodwin, Inc.*

Mr. James Bolander, *President, JLB Engineering, LLC*

5:15-5:30 **Day 1 Summary and Preview of Day 2**

END OF DAY 1

FRIDAY, JULY 19, 2024

9:00–9:05 **Welcoming Remarks and Recap of Day 1**

Dr. Mary Feeley*, Chief Geoscientist, Exxon Mobil (retired)*

9:05–11:25 **Session 4: Environmental Risks and Monitoring**

Moderator: Prof. Mary Kang, *Associate Professor, Department of Civil Engineering, McGill University*

Ms. Sarah Busch, *General Engineer, Environmental Protection Agency*

Dr. James France, *Senior International Methane Scientist, Environmental Defense Fund*

Prof. Susan L. Brantley, *Evan Pugh University Professor, Department of Geosciences Earth and Environmental Systems Institute, The Pennsylvania State University*

Dr. Greg Lackey, *Research Engineer, National Energy Technology Laboratory*

Prof. James Saiers, *Clifton R. Musser Professor of Hydrology, School of the Environment, Yale University*

11:25–12:25 **Working Lunch**

12:25–1:55 **Session 5: Reclamation and Restoration**

Moderator: Prof. Mary Kang*, Associate Professor, Department of Civil Engineering, McGill University*

Mr. Forrest Smith, *Lead Petroleum and Environmental Engineer, National Park Service*

Mr. Ron Krawczyk, *Senior Project Engineer, Parsons Corporation*

Mr. Michael Hickey, *Program Engineer, Colorado Oil and Gas Conservation Commission*

Mr. Brent Wilson, *Reclamation and Sustainability Manager, Red Willow Production Company*

1:55–4:05 **Session 6: Advances in Plugging and Abandonment for Idle Wells**

Moderator: Prof. Mileva Radonjic*, Professor & Samson Investment Chair in Petroleum Engineering*

Dr. Susan Nash, *Director of Innovation and Emerging Science, American Association of Petroleum Geologists*

Mr. Thomas Lopez, *Principal P&A, Exxon Mobil*

Mr. Jesse Frederick, *Owner, WZI*

Mr. Nick Gianoutsos, *Physical Scientist, Central Energy Resources Science Center, U.S. Geological Survey*

Prof. Eric van Oort, *Joe J. King Chair of Engineering No. 2 and B.J. Lancaster Professorship in Petroleum Engineering, The University of Texas at Austin*

4:05–4:20 **Break**

4:20–4:30 **Synthesis Remarks**

Dr. Mary Feeley, *Chief Geoscientist, Exxon Mobil (retired)*

4:30–4:35 **Next Steps and Future Work**

Dr. Deborah Glickson, *Board Director, Board on Earth Sciences and Resources*

4:35 **MEETING AJOURNS**

WORKSHOP STATEMENT OF TASK

The National Academies will convene a workshop for DOI's Orphaned Wells Program Office to discuss existing practices and standards for plugging orphaned and abandoned hydrocarbon wells and will include discussion of:

- Historic and current well-plugging standards and design and operational practices used in the United States;
- How these standards and practices may differ based on factors such as well age, well depth, well location, material specification (e.g., casing, line, screening), geologic and geophysical environment, production type, distance to populated areas, and remediation and restoration requirements;
- Consideration of cost, technology, or other factors that impact the development of well-plugging plans; and
- Environmental benefits to well-plugging and/or mitigation of adverse environmental impacts from well-plugging (e.g., methane leakage mitigation, groundwater and surface water protection, surface reclamation, landscape/seascape degradation or restoration, and protection of animal and bird migration corridors).

The workshop will include perspectives from the federal government, states, tribes, industry, and other stakeholders. The workshop will include a written proceedings.

WORKSHOP PLANNING COMMITTEE BIOGRAPHIES

Mary Hart Feeley, Chair, retired as Chief Geoscientist from ExxonMobil Exploration Company in 2014. Her responsibilities included advising senior ExxonMobil Upstream management on strategic geoscience matters and identifying global geoscience opportunities for ExxonMobil. Her graduate work focused on understanding depositional patterns in upper slope salt basins and the Mississippi Fan using seismic stratigraphy techniques. She also spent many years working on lease sales, prospect maturation, and energy development in the Gulf of Mexico. Feeley received a Ph.D. in oceanography from Texas A&M University. She previously served on the National Academies of Sciences, Engineering, and Medicine's Ocean Studies Board, the Committee on Guidance for NSF on National Ocean Science Research Priorities: Decadal Survey of Ocean Sciences, and the Committee on Offshore Science and Assessment for BOEM.

Mary Kang is an Associate Professor in Civil Engineering at McGill University, studying methane emissions from oil and gas systems and subsurface hydrology. Kang made the first direct measurements of methane emissions from abandoned oil and gas wells in the United States, and over the past decade, she has led projects on direct measurements of abandoned/inactive wells in Pennsylvania, West Virginia, Oklahoma, California, British Columbia, Alberta, Saskatchewan, Ontario, and internationally and conducts data mining, geospatial/statistical analysis, and machine learning to determine the scope of the emissions and develop mitigation solutions. Kang received a B.A.Sc. and M.A.Sc. in civil and environmental engineering at the University of Waterloo, Canada, a Ph.D. in civil and environmental engineering from Princeton University and was a postdoctoral fellow in Earth system science at Stanford University.

Donald Nathan Meehan is a Professor in the Harold Vance Department of Petroleum Engineering at Texas A&M University, specializes in carbon capture, utilization, and storage, blue hydrogen, emissions reduction in oil and gas operations, and enhanced recovery in unconventional wells using carbon dioxide. He serves as a Senior Technology Advisor for Petro.ai and as a non-executive Director of Ignis H2, a geothermal energy startup. With over 45 years of industry experience, he held leadership roles at CMG Petroleum Consulting, Gaffney, Cline & Associates, and Baker Hughes. Meehan served as the 2016 President of the Society of Petroleum Engineers (SPE), is a Member of the National Academy of Engineering, and a recipient of SPE's Lester C. Uren Award, the Degolyer Distinguished Service Medal, and the SPE Public Service Award. He received the World Oil Lifetime Achievement Award and Petroleum Economist magazine's Legacy Award. Meehan received a B.Sc. in physics from the Georgia Institute of Technology, an M.Sc. in petroleum engineering from the University of Oklahoma, and a Ph.D. in petroleum engineering from Stanford University.

Mileva Radonjic is a Professor & Samson Investment Chair in Petroleum Engineering at Oklahoma State University where she established Hydraulic Barrier Materials and Geomimicry Labs, in the School of Chemical Engineering. She spent a year at the Federation of American Scientists in Washington, DC, focusing on building materials for rapid rebuilding post-Katrina in New Orleans, prior to employment with BP America drilling team in Houston. Her primary research interest remains focused on investigating mechanisms of rock/cement-fluid interactions and their impact on engineering performance, in concrete structures, ancient monuments, and wellbores. Radonjic received a doctoral degree at the Interface Analysis Center, the University of Bristol, United Kingdom, followed by a visiting scholarship at Princeton University.

James Allen Slutz is the Director of Study Operations for the National Petroleum Council (NPC), an independent federal advisory committee to the United States, reporting to the Secretary of Energy. Prior to NPC, he led a global energy consulting practice with projects in North America, Asia, and Europe. Previously, Slutz served as Acting Assistant Secretary of Fossil Energy at the United States Department of Energy (DOE) and before that as Deputy Assistant Secretary of Oil and Natural Gas. Prior to joining DOE, Jim served as the Indiana Oil and Gas Director, regulating the State's upstream oil and gas industry and natural gas storage wells. He is a former Vice-Chair of the Interstate Oil and Gas Compact Commission. Jim serves as an advisor to the National Bureau of Asia Research and is a Board Member of the local chapter of the Society of Petroleum Engineers (SPE). In his capacity with SPE, he serves as the program chair for the annual SPE/American Association of Petroleum Geologists/SEG Washington, DC Technology and Sustainability Symposium. He has published papers in collaboration with the American Enterprise Institute, The East West Center, the U.S. Chamber of Commerce Foundation, and the National Bureau of Asia

Research. Slutz received a B.S. from The Ohio State University School of Natural Resources and an MBA degree from The Ohio State University, Fisher College of Business. He previously served as chair of the Committee on Earth Resources and as a member of the Board of Earth Sciences and Resources of the National Academies of Sciences, Engineering, and Medicine.