

HEI Research Planning Workshop

Understanding Population-Level Exposures Related to the Development of Oil and Natural Gas from Unconventional Resources

Denver, CO
July 11-12, 2018

WORKSHOP AGENDA

Purpose of Workshop:

The workshop provides an opportunity for the Energy Research Committee to hear from a broad range of stakeholders about their expert opinions and perspectives on the literature, important knowledge gaps, and research priorities along with the criteria used to define the priorities. The Committee will consider information received during the workshop as it conducts its own review of the literature and formulates research priorities for population-level exposure research.

With the benefit of an interdisciplinary group of experts at the workshop, HEI's Energy Research Committee expects to complete a conceptual model of potential human exposure to UOGD. The conceptual model will provide a framework for piecing together information from the literature to show what we know and where knowledge gaps remain about possible human exposure pathways, thus providing a roadmap for research planning.

Workshop Charge Questions:

- (1) What does the literature tell us?
- (2) What does the literature not tell us?
- (3) What are your recommendations for criteria for prioritizing research?
- (4) What are your recommendations for population-level exposure research?
- (5) What are your recommendations for further literature review and data analysis before the September workshop to help in defining research priorities?

Workshop Chair: George Hornberger, Chair, HEI Energy Research Committee

AGENDA DAY 1 (10:30am to 5:30pm)

TIME	TOPIC	SPEAKER
10:00-10:30	Registration	
10:30-11:20	Introductions and Workshop Overview	
10:30-10:35	Welcome	Bob O'Keefe, Vice President, HEI
10:35-10:50	Introductions	George Hornberger, Chair, HEI Energy Research Committee
10:50-11:10	Committee's Approach to Literature Review and Research Planning	Donna Vorhees, Director of Energy Research, HEI
11:10-11:20	Brief Description of Unconventional Oil and Gas Development	Shari Dunn-Norman, HEI Energy Research Committee
11:20-12:20	Overview of Exposure Assessment Literature (Moderator: Judy LaKind)	
11:20-11:50	NIOSH Research of Occupational Exposures in the Upstream Oil and Gas Industry (20 min presentation followed by 10 min Q&A)	Bradley King, NIOSH
11:50-12:20	Community Exposures Near Unconventional Oil and Gas Development (20 min presentation followed by 10 min Q&A)	John Adgate, Univ of CO
12:20-12:30	Discussion	
12:30-1:15	Lunch	

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AGENDA DAY 1 (10:30am to 5:30pm)		
TIME	TOPIC	SPEAKER
1:15-2:15	Industry Trends and Related Research	
1:15-1:45	Overview of Air Emissions from Unconventional Oil and Gas Operations (20 min presentation followed by 10 min Q&A)	Adam Pasci, Chevron
1:45-2:15	MSEEL – The Marcellus Shale Engineering and Environmental Laboratory (20 min presentation followed by 10 min Q&A)	Mike McCawley, WVU
2:15-2:45	Perspectives on Regulatory Trends (Moderator: Bob O'Keefe)	
	Panel discussion with Martha Rudolph, CDPHE; Michael Honeycutt, TX CEQ; Nichole Saunders, EDF	
2:45-3:00	Break	
3:00-3:45	Group Exercise #1: What criteria should be used to prioritize exposure research recommendations?	
3:45-5:05	Air Quality Literature (Moderator: Ted Russell)	
3:45-4:15	Emissions from Upstream Oil and Gas Operations in the United States: Key Questions for Health Assessments (20 min presentation followed by 10 min Q&A)	David Allen, Univ TX
4:15-4:45	Emissions and Near-field Dispersion of Air Toxics from Oil and Gas Drilling, Completions, and Production in Colorado (20 min presentation followed by 10 min Q&A)	Jeff Collett, CSU
4:45-5:05	Barnett Shale Revisited: Plan for Exposure Assessment of Emissions from Unconventional Oil and Gas Development and Production (15 min presentation followed by 5 min Q&A)	Tiffany Bredfeldt, TX CEQ
5:05-5:30	Discussion; wrap up for the day; review plan for day 2	
AGENDA DAY 2 (8:00am to 12:00pm)		
TIME	TOPIC	SPEAKER
7:00-8:00	Breakfast	
8:00-8:10	Recap from Previous Day	
8:10-9:45 AM	Water Quality Literature	
8:10-8:25	Overview of Potential Water-related Human Exposures	George Homberger, Chair, HEI Energy
8:25-8:55	Highlights from Recent Research on Surface and Ground Water Quality (20 min presentation followed by 10 min Q&A)	Isabelle Cozzarelli, USGS
8:55-9:15	Advancing Research on Oil and Gas Produced Water (15 min presentation followed by 5 min Q&A)	Cloelle Danforth, EDF
9:15-9:45	Groundwater Quality and Hydraulic Fracturing: Current Understanding and Science Needs (20 min presentation followed by 10 min Q&A)	Dan Soeder, SD School of Mines and Technology
9:45-10:00	Break	
10:00-10:40	Group Exercise #2: What potential human exposure would you study and where if you were given \$2M for research?	
10:40-12:00 AM	Human Health Risk Assessment	
10:40-11:10	Acute and Chronic Health Risks Estimated from Ambient Non-methane Levels in Colorado's Oil and Gas Basins (20 min presentation followed by 10 min Q&A)	Lisa McKenzie, University of Colorado
11:10-11:40	CDPHE's Assessment of Human Health Risk (20 min presentation followed by 10 min Q&A)	Mike van Dyke, CDPHE
11:40-12:00	Wrap-up with next steps in research planning and opportunities for continued participation	
THROUGHOUT THE WORKSHOP		
<p>1. Posters describing ongoing research and data will be posted in the workshop meeting room.</p> <p>2. Workshop participants can contribute their ideas and recommendations to two charts posted in the workshop meeting room:</p> <ul style="list-style-type: none"> a. Framework of a conceptual model of exposure b. Chart with workshop charge questions 		