Committee on the Review of Inland Estimated Recovery System Potential (ERSP) Prototype Calculator

Public Briefing Book

February 24 - 25, 2022

Virtual Meeting

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

Review of Inland Estimated Recovery System Potential (ERSP) Prototype Calculator

Virtual Meeting

February 24 - 25, 2022

Public Briefing Book Contents

1

Study Information

Division on Earth and Life Studies
Ocean Studies Board (OSB)

Review of Inland Estimated Recovery System Potential (ERSP) Prototype Calculator

Statement of Task

An ad hoc committee of the National Academies of Sciences, Engineering, and Medicine (National Academies) will conduct an independent, peer review of the inland Estimated Recovery System Potential (ERSP) prototype calculator and quick-start guide. The review will be based on the Government's conceptual model and design document within the context of the prototype calculator's intended use for planning, Coast Guard's desire for consistency with BSEE's ERSP methodology, and user community modeling capabilities. The Committee shall:

1) Assess and scientifically validate whether Coast Guard's Research and Development Center's methodologies for estimating the ERSP of oil skimming systems are appropriate;
2) Provide justification for its determination of appropriateness and explain any criteria used for that determination (e.g., suitability for use in inland waters and balance between accuracy and usability);
3) Provide recommendations for improving ERSP methodologies, if any, to inform oil spill planning and preparedness for the inland and nearshore environments; and
4) Provide recommendations for new ERSP methodologies and guidelines, if any, for mechanical response systems deployed in inland and nearshore operating environments.

2

Meeting Information

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

Review of the Inland Estimated Recovery System Potential Prototype Calculator
Committee Meeting 1
February 24-25, 2022
VIRTUAL MEETING

Meeting objectives:

- Discuss study statement of task, National Academies procedures, and committee approach
- Clearly understand the needs, perspectives, and expectations of the study sponsors
- Identify information needs

February 24, 2022
OPEN SESSION FROM 1:30 PM – 4:30 PM Eastern

OPEN SESSION

1:30 PM	**Welcome and Introductions**	Stacee Karras and Vanessa Constant, Study Directors Berrin Tansel, Committee Chair
1:45 PM	**National Academies' Study Process and Study Work Plan**	Stacee Karras, Study Director
2:15 PM	**Recorded Presentation from IOSC**	
2:30 PM	*Break*	
3:00 PM	**Sponsor comments**	Alex Balsley, United States Coast Guard
3:10 PM	**Discussion of Statement of Work with Sponsor**	
4:30 PM	*Adjourn Open Session*	

February 25, 2022
OPEN SESSION FROM 12 PM – 2 PM Eastern

OPEN SESSION

12:00PM	Welcome	Stacee Karras, Study Director
12:15 PM	**Review of Calculator Documents and Factors**	
1:55 PM	**Closing Remarks**	Berrin Tansel, Committee Chair Stacee Karras, Study Director
2:00 PM	*Adjourn Open Session/Break*	

ERSP: Meeting 1

Zoom Connection Information

****all times are EDT*

Day 1
Thursday, February 24, 2022

Open Session
1:30 PM – 4:30 PM EDT

Join ZoomGov Meeting
https://nas-sec.zoomgov.com/j/1617118009?pwd=ZVdJV2o1bk13SlJCSDFRanB2TEYwUT09

Meeting ID: 161 711 8009
Password: 816512
One tap mobile
+16692545252,,1617118009#,,1#,816512# US (San Jose)
+16468287666,,1617118009#,,1#,816512# US (New York)

Dial by your location
+1 669 254 5252 US (San Jose)
+1 646 828 7666 US (New York)
+1 669 216 1590 US (San Jose)
+1 551 285 1373 US
833 568 8864 US Toll-free
Meeting ID: 161 711 8009
Password: 816512

Day 2
Friday, February 25, 2022

Open Session
12:00 PM – 2:00 PM EDT

Join ZoomGov Meeting
https://nas-sec.zoomgov.com/j/1603477286?pwd=c1BpbWJRZTBhRXNPN0NjNVhkUmloZz09

Meeting ID: 160 347 7286
Password: 941247
One tap mobile
+16692545252,,1603477286#,,1#,941247# US (San Jose)
+16468287666,,1603477286#,,1#,941247# US (New York)

Dial by your location

+1 669 254 5252 US (San Jose)

+1 646 828 7666 US (New York)

+1 551 285 1373 US

+1 669 216 1590 US (San Jose)

833 568 8864 US Toll-free

Meeting ID: 160 347 7286

Password: 941247

MEETING CONTROLS

AUDIO

After joining or starting a meeting, you can join audio by phone or by computer. Choose Join Audio by Computer to connect your computer's speaker and microphone to the Zoom meeting. You can test your audio connection before joining by clicking the Test Computer Audio link.

VIDEO

1. Before or during a meeting, click Settings in the Zoom app menu.
2. Click on the Video tab to preview your camera or click the drop-down arrow to choose a different camera.
3. During a meeting, click Video in the meeting toolbar to start or stop your video.

SHARE SCREEN

1. After selecting Share Screen located in your meeting toolbar, you can choose to share your desktop, an individual application/window, or start a whiteboard.
2. During your screen share, select Annotate to use screen share tools for drawing, pointing, etc.
3. Any attendee in your meeting can start annotating on a shared screen. The attendee can access Annotate in the upper meeting toolbar.

CHAT

1. Click Chat to instant message with other participants while in the meeting.
2. In the Chat panel, click the dropdown to select if you want the message to go to everyone in the meeting or a single participant.

IN-MEETING SHORTCUTS

ON COMPUTER

Start/Stop Video	**Alt+V**
Mute/Unmute	**Alt+A**
Mute all	**Alt+M**
Start/Stop Share	**Alt+T**
Start/Stop Recording	**Alt+C**
Pause/Resume Record	**Alt+P**
Full Screen Mode	**Alt+F**
Raise/Lower Hand	**Alt+Y**
End Meeting	**Alt+Q**

ON PHONE ONLY

Mute/Unmute ***6**

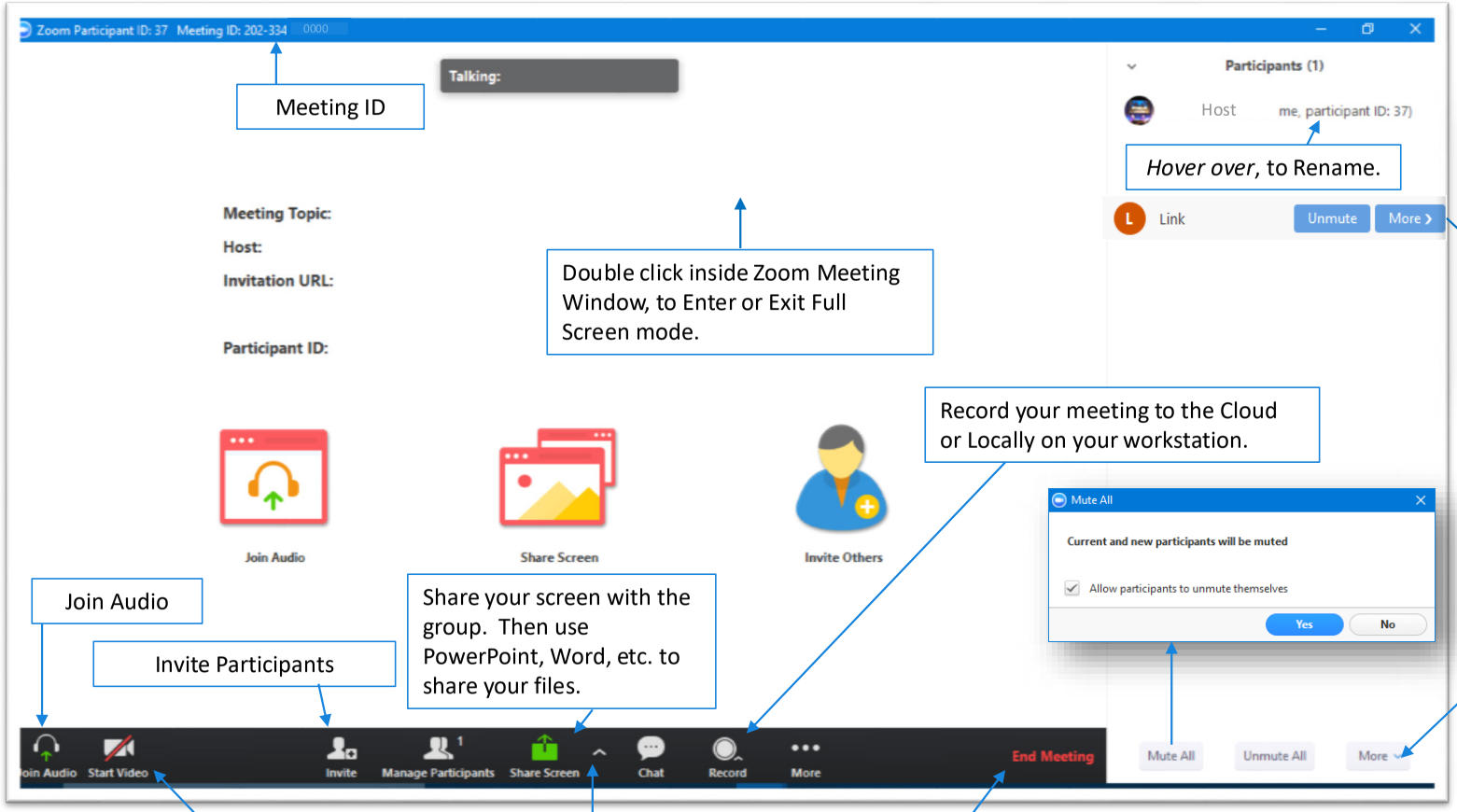
**If you have trouble hearing a participant, and they have unmuted their physical phone, have them try pressing *6.*

Raise Hand ***9**

It is a good practice to be aware of your time zone when connecting via telephone. There have been cases where calling the Eastern telephone number while on the West Coast resulted in some issues.

Using the "Call Me" option will incur a cost even if you aren't using the "Toll-free" number. It is best to use VoIP (computer audio with a stable internet connection) or dial the number yourself for the best results. Computer audio, and dialing yourself, is free.

Meeting Quick Reference Guide



The National Academies of SCIENCES ENGINEERING MEDICINE

3

Committee Information

Review of Inland Estimated Recovery System Potential (ERSP) Prototype Calculator
Committee roster

Berrin Tansel (*Chair),* *Florida International University,* Miami, Florida
Victoria Broje, *Shell E&P Technology Company*, Houston, Texas
Brian House, *Moran Environmental Recovery LLC (ret.) & Spill Control Association of America (ret.)*, Scituate, Massachusetts
W. Scott Pegau, *Prince William Sound Science Center*, Cordova, Alaska
Malcolm L. Spaulding, *Spaulding Environmental Associates,* LLC & *University of Rhode Island (ret.)*, Wakefield, Rhode Island
William Stafford, *Marine Spill Response Corporation*, Herndon, Virginia

OSB Staff Members
Susan Roberts, *Director*
Stacee Karras, *Senior Program Officer*
Vanessa Constant, *Associate Program Officer*
Kenza Sidi-Ali-Cherif, *Senior Program Assistant*

Review of Inland Estimated Recovery System Potential (ERSP) Prototype Calculator

Committee Biographies

Dr. Berrin Tansel, Chair

Dr. Berrin Tansel is an environmental engineer, researcher, author, educator, and professor in the Civil and Environmental Engineering Department. Before joining FIU, Dr. Tansel was a project manager at Massachusetts Water Resources Authority on the Boston Harbor clean up project. Dr. Tansel's areas of expertise include coastal infrastructure, water pollution, adaptation for climate change in coastal areas, coastal hazards, fate and transport of contaminants in coastal environments, ecosystem services, hazardous waste management and site remediation. Dr. Tansel is an elected Fellow of the American Society of Civil Engineers (ASCE), elected Diplomate of American Academy of Water Resources Engineers, and board-certified environmental engineer by American Academy of Environmental Engineers and Scientists (AAEES). She is a member of Water Environment Federation, Environmental and Water Resources Institute of ASCE, and Association of Environmental Engineering and Science Professors. Dr. Tansel is the editor in chief Journal of Environmental Challenges and was co-editor in chief Journal of Environmental Management. Dr. Tansel is the recipient 2021 Science Award from American Academy of Environmental Engineers and Scientists, 2021 Margaret Peterson Awards from American Society of Civil Engineers, 2009 Edmund Freidman Professional Achievement Award from American Society of Civil Engineers, 2007 Engineer of the Year by the American Society of Civil Engineers Miami-Dade Branch, and Kika E. de la Garza Fellowship from U.S. Department of Agriculture. Dr. Tansel serves on the Environmental Engineering Council of the National Council of Examiners for Engineering & Surveying (NCEES), and on the Board of Trustees for the American Academy of Water Resources Engineers. She is a registered professional engineer in Florida, USA. Dr. Tansel holds PhD and MS degrees in environmental engineering from University of Wisconsin-Madison.

Dr. Victoria Broje

Dr. Victoria Broje is an internationally recognized specialist with 20 years of experience in environmental science, emergency planning and response, research projects, and outreach. She received her Master's degree in Offshore Engineering in 2001 from the Saint-Petersburg State Technical University in Russia where she specialized in modeling oil spill behavior and response under Arctic conditions. She received her Doctoral degree in Environmental Science and Management in 2006 from the University of California Santa Barbara. Her dissertation was focused on mechanical recovery of oil spills and resulted in a patented skimming technology which later won the Wendy Schmidt Oil Cleanup X-Challenge. Since 2006 Dr. Broje has been supporting Shell businesses worldwide as a Subject Matter Expert for spill response technologies, research projects, and environmental impacts assessments. Dr. Broje represents Shell at API, IOGP, CAPP and IPIECA committees developing best practices in emergency response and environmental protection. She also frequently advises academic and governmental projects. She is the Chair of the Board of the Clean Caribbean and Americas, a non-profit organization dedicated to outreach on spill response and environmental protection topics. She also chairs the API Science and Technology Working Group for oil spill prevention and response. In 2013 Dr. Broje served on the NASEM Committee which produced a Letter Report "A Review of Genwest's Final Report on Effective Daily Recovery Capacity (EDRC)". She is currently serving on the NASEM Committee developing "Oil in the Sea IV" book.

Mr. Brian House

Brian J. House recently retired as President and Chief Executive Officer of Moran Environmental Recovery LLC (MER), a nationally recognized Oil Spill Removal Organization (OSRO) holding WCD Tier III classifications for the inland and river/canal environments across numerous US COTP Sectors, as well as a classification for non-floating oils (NFO). He is also a past President and Chair of the Government Affairs Committee of the Spill Control Association of America (SCAA), the largest and most notable industry trade group representing the interests of the spill response community. Mr. House served as the oil spill response industry advisor and team member on the Incident Specific Preparedness Review (ISPR) for the Deepwater Horizon Oil Spill, released in January of 2011. Subsequent to that report, he has provided industry input to a number of cross-agency workgroups focused on matters involving potential improvement of the nation's response regime. Mr. House holds a BS Degree from Bates College and has 36 years of experience in the management of oil spill response activities. He also holds a Graduate Certificate in Environmental Policy from the University of Massachusetts.

Dr. W. Scott Pegau

Dr. Scott Pegau serves as the Research Program Manager for the Oil Spill Recovery Institute. His duties include searching for the best research and development projects that can improve oil spill recovery in Arctic and subarctic marine waters. This involves understanding the capabilities of existing oil spill response equipment and how it is used. He also serve as crew and alternate captain on a fishing vessel that is contracted for rapid response to oil spills in Prince William Sound. He trains annually and perform drills in nearshore and offshore response. This allows him to train on many of the response tactics used in the nearshore environment and provides first-hand knowledge of the equipment used during spill response. He has a background in oceanography with a Ph.D. from Oregon State University and a B.S. in physics from the University of Alaska – Fairbanks. The oceanography training includes fluid dynamics which provides a basic understanding of oil spill trajectory modeling. He also had basic training on NOAA's GNOME oil spill trajectory model.

Dr. Malcolm L. Spaulding

Dr. Malcolm L. Spaulding is Professor Emeritus, Ocean Engineering, University of RI and Principal, Spaulding Environmental Sciences (SEA) LLC. He served for 40 yrs on the faculty and over a decade as department chair, before retiring in 2011. He founded Applied Science Associates (ASA) Inc in 1979 and served in various leadership and technical roles through 2014. Dr. Spaulding specializes in numerical modeling of near shore and coastal processes of estuarine, coastal, and continental shelf regions to include hydrodynamics, waves, sediment transport, and oil and chemical spill transport and fate. He is internationally recognized for his work in developing and applying oil transport and fate models for spills, including blowouts, in both temperate and arctic waters. In 2018, he was named a Fellow, American Society of Civil Engineers (ASCE) in recognition of his contributions in marine environmental modeling. Dr. Spaulding served on the National Research Council's Marine Board and liaison to the Ocean Studies Board from 1996 to 2001. He has been a member of numerous NRC committees including those on heavy oil spills, environmental studies programs to support offshore energy development, and risk assessment of oil barge spills.

Mr. William Stafford

William Stafford is the Director of Engineering Services at Marine Spill Response Corporation. In this role he provides overall technical leadership to the organization. His professional experience spans many aspects of marine systems engineering on a wide variety of vessels. His current work focuses on the concept development, evaluation and maintenance of oil spill response platforms, equipment and recovery systems. His recent projects include a retrofit of response vessels for improved safety performance and development of several concept designs for skimming barges and vessels. He has significant experience using regulatory planning tools to evaluate recovery system performance. He is a member on the ASTM Committee F-20 on Hazardous Substances and Oil Spill Response. He received a BS in Marine Engineering Systems from the US Merchant Marine Academy and MS in Ocean Technology and Commerce from Webb Institute.

PREVENTING DISCRIMINATION, HARASSMENT, AND BULLYING
EXPECTATIONS FOR PARTICIPANTS IN NASEM ACTIVITIES

The National Academies of Sciences, Engineering, and Medicine (NASEM) are committed to the principles of diversity, integrity, civility, and respect in all of our activities. We look to you to be a partner in this commitment by helping us to maintain a professional and cordial environment. All forms of discrimination, harassment, and bullying are prohibited in any NASEM activity. This commitment applies to all participants in all settings and locations in which NASEM work and activities are conducted, including committee meetings, workshops, conferences, and other work and social functions where employees, volunteers, sponsors, vendors, or guests are present.

Discrimination is prejudicial treatment of individuals or groups of people based on their race, ethnicity, color, national origin, sex, sexual orientation, gender identity, age, religion, disability, veteran status, or any other characteristic protected by applicable laws.

Sexual harassment is unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature that creates an intimidating, hostile, or offensive environment.

Other types of harassment include any verbal or physical conduct directed at individuals or groups of people because of their race, ethnicity, color, national origin, sex, sexual orientation, gender identity, age, religion, disability, veteran status, or any other characteristic protected by applicable laws, that creates an intimidating, hostile, or offensive environment.

Bullying is unwelcome, aggressive behavior involving the use of influence, threat, intimidation, or coercion to dominate others in the professional environment.

REPORTING AND RESOLUTION

Any violation of this policy should be reported. If you experience or witness discrimination, harassment, or bullying, you are encouraged to make your unease or disapproval known to the individual, if you are comfortable doing so. You are also urged to report any incident by:

- Filing a complaint with the Office of Human Resources at 202-334-3400, or
- Reporting the incident to an employee involved in the activity in which the member or volunteer is participating, who will then file a complaint with the Office of Human Resources.

Complaints should be filed as soon as possible after an incident. To ensure the prompt and thorough investigation of the complaint, the complainant should provide as much information as is possible, such as names, dates, locations, and steps taken. The Office of Human Resources will investigate the alleged violation in consultation with the Office of the General Counsel.

If an investigation results in a finding that an individual has committed a violation, NASEM will take the actions necessary to protect those involved in its activities from any future discrimination, harassment, or bullying, including in appropriate circumstances the removal of an individual from current NASEM activities and a ban on participation in future activities.

CONFIDENTIALITY

Information contained in a complaint is kept confidential, and information is revealed only on a need-to-know basis. NASEM will not retaliate or tolerate retaliation against anyone who makes a good faith report of discrimination, harassment, or bullying.

Updated June 7, 2018