

Energy Resources Council Meeting (ERC)

Final Minutes

March 11, 2016

Energy Innovation Center

8:00 AM – 12:00 PM

CALL TO ORDER:

The meeting was called to order at 7:50 AM by Chairman Paul Lang.

ATTENDANCE:

ERC Members Present

Sen. Jim Anderson (Natrona), Carl Bauer, Sen. Eli Bebout (via phone), Tom Botts, Rep. Tom Lockhart, Indy Burke, Rob Wallace, Dave Emery, Cindy Crane, Paul Lang, Dave True and Jeanne Hull.

ERC Members Absent

Dick McGinity

SER Staff in Attendance

Mark Northam, Mary Byrnes, Diana Hulme, Rob Hurless, Trish Steger, Richard Horner, Kipp Coddington, Steve Carpenter, Kimmie Takaki, Nadi Kaliszewski, Emma Jane Alexander and Rachel Ferrell

Others Attending

Chris Boswell, Brett Befus, Michael Pishko

MEETING ITEMS BY DETAIL:

Approval of Agenda

Action: Chairman Lang requested the agenda be changed to reflect election of new officers be moved to immediately follow the approval of the November minutes. A motion was made by Senator Anderson to accept the agenda with the change of item. It was seconded by Carl Bauer. Motion passed without objection.

Approval of November 2015 Minutes

Action: A motion was made by Vice Chairman Lockhart to accept the minutes with the following change: add Cindy Crane as present. This was seconded by Senator Anderson. Motion passed without objection.

Election of New ERC Officers

Chairman Lang announced his intention to relinquish his position and membership on the Energy Resource Council and called for nominations for a new chairman. Vice Chairman Lockhart nominated Jeane Hull and Senator Anderson seconded the nomination. No other nominations were brought forward. The nomination was unanimously accepted. New ERC Chairwoman, Jeane Hull, called for nominations for the position of Vice Chairman. Carl Bauer made a motion to retain Tom Lockhart as the ERC Vice Chairman; motion seconded by Senator Bebout. Motion passed without objection. Paul Lang departed the meeting and Ms. Hull assumed the chairmanship.

ERC and SER Introductions

Summary: Mr. Northam announced the re-appointments of the following members: David Emery, Tom Botts and Carl Bauer. New member, Vello A. Kuuskraa, President of Advanced Resources International, will replace outgoing member, Paul Lang. Tara Righetti, SER assistant professor in the College of Law, will become the new director for the Professional Landman program. Kimmie Takaki has been hired as the new accountant for SER.

DIVISION UPDATES

Full copies of all SER division reports are available in the **March 2016 ERC Notebook** or upon request.

Research

Comments/Tasks:

The Centers of Excellence are directly related to the College of Engineering. SER provides the seed money and assists with building the multi-disciplinary teams. Matching grant funds for the centers come directly from SER. The intention is for the centers to do fundamental research that moves into applied research and then, results in commercial technology. The Center for Biogenic Natural Gas Research is a successful example of this process.

Mr. Bauer and Mr. Horner have worked closely with the Reclamation Center and expressed their support of continued funding for this center. It was noted that during the recent legislative session appropriated FY11-12 funds scheduled to sunset this year were extended. There is approximately \$700,000 remaining for allocation.

The Rare Earth Elements study does have an economical component to it, but the uranium project does not. The collaboration with Idaho National lab (INL) is very fortuitous for UW on several fronts. INL is a world authority on rare earth elements and the shared work, specifically with CAES, is an excellent opportunity for UW.

The CCUS Demonstration is an enhanced oil recovery project working specifically with the Yan Chang Oil Company to implement a carbon motivated enhanced oil recovery project in a tight

reservoir with very limited data control. The second project, conducted by Dr. Fan, will focus on lowering the energy requirement for regeneration of carbon capture media. Both projects will assist with carbon abatement within the US and China. NCAR is not involved in this project. The funding allocation timeframe for CERC II has not yet been determined.

Outreach

Comments/Tasks: The International Standards Organization in Switzerland is developing a standard for CO2 EORCCS. There are 29 nations that participate. About every 9 months they meet at an international destination; UW is hosting the next event. (Item number 6- events list) SER is working with the Wyoming Geographic Information Center to bring together industry, government, and academia to discuss the geospatial data collection from unmanned aerial vehicles. There will be a nominal fee for entry which will assist in covering the associated costs of the event. It will bring together information on the policies that are in place for utilizing drones and collecting data within the state of Wyoming. This will be a demonstration of the drones rather than a data collection exercise. Wyoming trespassing laws will be a topic of discussion at the conference, as well as how to conduct research without breaking laws or statutes. (Item number 7- events list)

The outreach agenda has expanded as a result of more active involvement with CMI, EORI, as well as the efforts of Mr. Horner and others. There is a criteria for choosing the events and SER strives to keep a balance with number of events, budget and need/request for information for the UW and the State of Wyoming. A request was made from the council to review items which Outreach has turned down, as well as to provide a measurement of success for the programs. Mr. Bauer commended the efforts of SER to attempt to secure funding for events through nominal fees or sponsorships.

CMI

Comments/Tasks: CMI is working with SER to prepare a follow up submission for a large Department of Energy (DOE) grant under the topic of Field Demonstration of Reservoir Pressure Management through Fluid Injection. CMI is one of five awardees of a preliminary grant of about 1.5 million dollars. CMI hopes to partner up with PacifiCorp to drill some additional wells, extract water and reinject water to show the control of the pressure of the reservoir through this extraction. If successful this will be a multi-year, potentially 30 million dollar, research project. The project would allow CMI to do very important research, and holds the potential to put UW on the map in terms of being one of the major potential technology providers for operation of a CO2 storage reservoir. Mr. True declared to the council that his company, True Oil, has submitted a proposal to provide services to this project.

Special Projects

Comments/Tasks: A large number of process options in addition to the coal refinery have been investigated. Among these options were gasification and liquefaction. Both were rejected because they negatively impacted at least one or two constraints. SER has funded a number of

faculty members this year to research converting Wyoming coal to mediate liquids and solids. The results will be reviewed in July 2016. The carbon engineering project will work directly with private industry and is meant to stimulate manufacturing aspects, provide new markets and open up economic development to the state of Wyoming within five years. Performance metrics should be available by the end of December 2016. It is hoped that the project will enhance the effort to reach Tier 1 status and SER will be collaborating with the College of Engineering to achieve this goal. Financing for this project was part of the FY16 SER operating budget. This is a new model for the coal refinery which will integrate previously developed technologies.

3D Visualization Lab

Comments/Tasks: Software for the 3D Visualization Center can be kept current through annual renewal of licenses; technology should remain current for approximately five to twelve years. Connectivity to other service centers has the potential to be worldwide.

The center has engaged in a strong effort to grow their user base and has moved toward assisting UW faculty with securing research grants which will enable them to utilize the services of the cave on a user-fee basis. This in turn will determine the success of the center. Most centers fail due to a lack of user base.

The new class scheduled to begin Fall FY16 will be taught by four members each specializing in one of the following four component areas: hardware, programming, management and artistic design.

The center was created as a cross-disciplinary, multi-function research tool for the entire university. Its ability to allow researchers to view and work with large scale models and big data sets, as well as be linked to NCAR makes it an incredible asset for the UW.

Academic

Comment/Tasks: New major renewable projects are not currently being developed in the State of Wyoming. Therefore it is most likely that SER will not see opportunities for new internships. The UW Foundation is making an effort at this time to cultivate more opportunities with new contacts. SER student enrollment looks as though it may slow, but results won't really be known until after the Fall recruitment has finished. Although student enrollment in SER programs may diminish it most likely will not affect the need for SER faculty. SER faculty teach multi-disciplinary classes which typically are filled easily.

Legislative Update

Summary: Dr. Northam relayed a report from Chris Boswell on the current legislative issues affecting SER. The SER line item in the University of Wyoming (UW) Budget includes an appropriation of \$21,874,188 for the 2017-2018 biennium. This reflects the 1.5% reduction to the standard budget. Reductions are based on the GF Standard Budget figure for the biennium. All agencies have been instructed to prepare for a total of 5% in reductions from the 2017-2018 GF

Standard budget figure. The reduction plan is to be phased in, with not less than 3.5% reductions in FY2019 and the 5% level in FY 2020. Several footnotes to the 067 budget are relevant: Footnote 6 requires a report on SER's research associated with the viability of Powder River Basin coal and Footnote 7 notes the availability of \$10,350,000 in matching funds for several entities at UW, including SER.

There will be no extensions of any of the AML or General Fund appropriations set to expire 06/30/2016.

Section 321 allows for an extension of \$5,000,000, General Funds appropriated in FY2014, to be expended for the endowment challenge fund program to support up to three (3) positions within the department of petroleum engineering.

The \$20,000,000 appropriated to UW as matching funds in FY2014 are contingent upon the availability of funds. It is probable the funds will not be available.

Engineering Update

Summary: Bill Bellamy provided a presentation on The Center of Excellence in Produced Water Management (CEPWM). The PPT presentation is available upon request.

SER Budgets

Summary: SER is on track to spend its annual FY2016 operating budget. It will be reviewed again during the 3rd quarter to ensure it remains on target for expenditures.

EORI Update

The EORI update is available as a written report in the March 2016 ERC Notebook or upon request.

Comments/Tasks: None

Executive Session

Summary: Vice Chairman Lockhart made a motion to adjourn the regular meeting to go into executive session for the purpose of discussing personnel issues. Chairman Hull seconded the motion. Motion passed without objection. Executive session commenced at 12:10 PM. The regular ERC meeting resumed discussion at 1:16 PM.

SER Strategic Planning Session

Summary: Dr. Northam outlined for the council the need to revise strategic priorities for the SER to create technology and knowledge that will leverage Wyoming's natural resources to generate additional revenue opportunities that will include the supply of clean energy and carbon products. Actions to be taken by SER include: partner with UW colleges for related undergraduate and graduate instruction, position UW as a research leader, and be the reliable source of current engineering, economic and policy knowledge to stakeholders, agencies and the public. In addition to SER's Unconventional Reservoirs and Coal Conversion programs, SER will sharpen focus on the following: a) education – ongoing dialog with employees, b) research – carbon engineering in conjunction with the CEAS, CO2 mitigation specifically utilization and storage, assessment and evaluation to inform on impact of policy, and critical produced water and air quality management, c) outreach – new offerings to inform the public and stakeholder about the new energy economy and provide perspective of the changing energy landscape, d) emerging interest – primary energy resource conversion industry as additional revenue stream in Wyoming. Next steps will be to gain and incorporate feedback from the ERC, have each SER division develop statements to align with the revised priorities, communicate with government and industry stakeholders to validate and align. It is anticipated the activity road map for the Strategic plan will be presented at the next quarterly meeting to the ERC.

New Business/Directions for Next Meeting

Summary: There was no new business for discussion.

Adjournment

Mr. Bauer made a motion to adjourn the meeting. The motion was seconded by Ms. Crane. Motion passed without objection and the meeting ended at 1:48 PM.

Respectfully submitted:

Jeane Hull
Interim Co-Chairman

Tom Lockhart
Vice-Chairman