

Energy Resources Council Meeting

Draft Minutes

March 31, 2012

College of Business

8:00am – 3:00pm

ERC Members Present:

Ron Harper, Tom Lockhart, Paul Lang, Kit Jennings, Carl Bauer, Indy Burke, Dave Palmerlee, Rob Hurless (Governor's representative), Tom Buchanan

ERC Members Absent:

Rob Wallace, (Please note Paul Matheny and Jim Kleckner submitted resignations prior to the meeting)

SER Staff in Attendance:

Mark Northam, Mary Byrnes, Diana Hulme, Don Roth, Shannon Dahl, Ron Surdam, Cath Harris, Nadia Kaliszewski, Pam Henderson, Bob Ballard

Others Attending:

Don Richards, Bill Gern, Brent Hathaway, Wendy Lowe, Ben Blalock, Chris Spooner, Larry Wolf (Holland & Hart), Wanda Burgett, Dennis Elliot

Action Items from Meeting:

1. Minutes of November 18, 2011 - Approved
2. Executive Session to discuss personnel
3. ERC Chairman and Vice-Chairman positions were agreed to remain as is into 2013.
4. Governor Mead was given the ERC's consent to fund travel and conference expenses for the 2012 International Advanced Coal Technologies Conference in Xi'an, China.

Agenda:

1. Minutes – November 18, 2011 – for approval
2. Introduction of new ERC member- Jim Bowzer
3. Don Richards—Legislative Update, Budget, Bills relevant to SER, Ramifications of State Revenue Projections, ACTF Update
4. New ERC responsibilities in light of legislation
5. Trona to Glass study - \$100,000
6. UW Foundation Update—Ben Blalock, Matching Funds & Fundraising
7. Division Updates
 - a. SER Research
 - b. SER Outreach
 - c. SER Academics
8. Budget: FY 2013/2014 SER Budget, \$10M Strategic Plan
9. Dean Rob Ettema & Jay Puckett: Engineering Complex Redesign Project
10. Mohammad Piri: Discuss Phases I-III of EnCana Research Lab, What it means for unconventional reservoir research
11. FYR 2012 SER Budget: Status and plans for unallocated funds

12. EIC (Energy Innovation Center)—Mark Northam/Diana Hulme: Update, 3-D Visualization Center, Collaboration Center, Occupancy
13. CERC Status
14. WYCUSP Update
15. Bill Gern— Update on NWSC, NCAR, HPCC, GE
16. Other Business

Chairman Ron Harper called the meeting to order at 8:00 a.m.

Opening Remarks:

Summary:

Brent Hathaway provided the opening remarks for the meeting. He discussed the launching of the new MBA program in Energy Management. He explained the program has reached fruition and curriculum has been determined. The College of Business is looking forward to accepting students into the new program starting in the Fall of 2012.

Chairman Harper asks that an “executive session” be added to the agenda for the immediate ERC members to discuss ERC personnel going forward. A motion was made by Kit Jennings, seconded by Paul Lang, it passed unanimously.

Minutes from November 18, 2011:

Action Taken: A motion to accept the minutes from November 18, 2011 was made by Paul Lang, seconded by Carl Bauer. It passed unanimously.

Introduction of new ERC member:

Summary:

Jim Bowzer, Vice President of North America, Marathon Oil Corporation has been appointed for Governor Mead to serve on the ERC beginning March 2012. Chairman Harper indicated that Jim would not be in attendance at the meeting today, but would be in attendance at the planning session tomorrow.

Legislative Update:

Summary:

Don Richards provided the ERC with a detailed on the content of the sixty-first Wyoming Legislative Session relevant to the ERC, SER, and the CCTF. He began by pointing out the decline in natural gas prices (as of March 29th natural gas was selling at \$1.85/mcf). This decline in natural gas prices is having a direct impact on Wyoming state revenues. The decline began in the fall of 2011, after SER had submitted its budget proposal to the Governor. Despite the uncertain revenue picture, Don reports that the legislature made decisions in this session that affirm their serious commitment to and investment in SER and the University of Wyoming. Don will continue to report back to the legislature going forward to reassure and justify their commitment. Don believes the general message from the Legislature to the ERC, SER, and CCTF after this session is “execute, execute, execute.”

The Legislature has appropriated \$20.4 million in General Funds for SER. Don considers this to be the base budget and it is slightly higher than last biennium’s budget (to account for additional

operating costs of new EIC facility), but changes are relatively modest. Don mentions that perhaps the most significant aspect of these funds is that the funds have been shifted from historic Abandoned Mine Land (AML) funds to a general block grant to SER as a separate line item. This was executed because AML funds are limited and are anticipated to cease after state fiscal year 2015. This shift over to General Funds gives the indication that when AML funds cease, SER funding may continue.

Final Status of SF 1, 2013-14 Budget Bill, and HB 121, Abandoned Mine Land Appropriations:

HPG-ATC: Don provided an update to the Joint Minerals Committee and the Joint Appropriations Committee during the Budget session. Both groups agreed that they wanted to maintain their commitment to the project even though the project is on hold. The legislature does not intend to reappropriate these funds at this time.

Funds that were deappropriated during the budget session include: 1) \$4,250,154 in returned 2009 CCTF awards (Ciris Energy); 2) \$1 million returned 2012 CCTF awards (Lawrence Livermore National Lab); and 3) \$40 million in WYCUSP funding.

Ten million in non-match, AML funds have been appropriated to **SER's Strategic Areas of Concentration** for implementation of SER's strategic plan. This appropriation is available through June 30, 2016 as the first component of the five-year SER strategic plan. The legislature has appropriated SER in total \$25 million to be matched by another \$15 million for a total of \$40 million for this 5-yr strategic plan.

Energy Partnership Matching Funds appropriated \$15 million in AML funds to SER to be matched by non-state funds. This appropriation is available through June 30, 2018 to provide ample time for fundraising and complete implementation of the five-year SER strategic plan. Mark Northam and Ben Blalock have been out soliciting support and partnerships, including faculty positions, and research projects, temporary participation of industry representatives. As of right now, \$8.5 million of these funds have some level of commitment.

Continued Carbon Storage and Enhanced Oil Recovery Research has been appropriated \$1M to be matched by non-state funds. Expenditure of these funds is contingent upon match. This could be a DOE or NSF grant.

Clean Coal Research Grants: There is some focus to move forward soon with these funds. Ten million in AML funds have been appropriated to SER for this effort. Recognizing the \$5.25 million deappropriated (above), this amounts to \$4.75 million in "new" funding and \$5.25 million in "reappropriated" funds under the existing CCTF program. Funds for this project have spanned from around \$14M to \$2 M but remains in the \$10M range. While this was not part of the budget request brought forward by the SER/UW the JAC recognized its absence and felt it important to be addressed.

Advanced Conversion Technology Awards was appropriated \$9 million in AML funds to the Governor's office for distribution. The ultimate decision for the selection of award(s) for

“minerals to value added conversion” will be by Governor Mead, with recommendation from the ERC siting as the new “Advanced Conversion Technologies Task Force (ACTTF).

To explore the feasibility of **evaluating Wyoming natural resources to manufacture glass** was appropriated \$100,000 in AML funds to SER. This study is requested to be completed by June 30, 2013. Grant(s) will be administered by the ACTTF. Don Richards advises SER to examine three different studies that have been completed in the past twenty years showing evaluating the economic feasibility of manufacturing Wyoming natural resources into glass.

Next, the Wyoming Pipeline Authority has been appropriated \$2 million in AML funds for a **Carbon Dioxide Pipeline study**. This appropriation was made to the Wyoming Pipeline Authority (not the ERC directly), and they are considering coordination with SER. This study should look at mapping, federal permitting, and expediting permitting of these projects. No match is required. Don anticipates that SER will be the fiscal manager for these funds.

The 4% budget reduction proposal is due by July 1, 2012 and SER will be required to submit a report. Since SER is now supported by General Funds, SER will be subject to the statewide 4% budget reduction. Don anticipates reviewing this proposal prior to May 1 as the UW Board of Trustees will be evaluating the reduction the first week in May and he suggests SER have their reductions outlined and ready at that time. Now that SER is operating under General Funds rather than AML Funds, these funds are subject to additional fiscal oversights and cross-agency requirements. It should be noted that Governor Mead does have the authority to reduce any budgets at any time.

The remaining items Don discussed are **indirect appropriations of potential interest to ERC** members. The first of which included the Compressed Natural Gas Station and UW vehicle Conversion which was appropriated \$1 million in AML funds. The appropriation was made to the Wyoming Department of Transportation, with input by UW, and there are provisions to encourage resident contractors and exploration of public-private partnerships with the project. There are private funds being allocated to this project as well.

The **UW College of Engineering** was appropriated \$1.15 million (of the originally requested \$1.25M) in AML funds to support the Level II “Engineering and Detailed Architectural Design” phase for the Engineering complex. The Legislature has, however, set aside a down payment of \$30 million (to be matched) for the future renovation and expansion of the College of Engineering. In fact, the Legislature put a mark of \$100 million in the statute.

The **Enhanced Oil Recovery Commission** received standard approval from the General Fund budget from prior biennia, without an increase.

Research into rare earth minerals was appropriated \$700,000 in AML Funds and will be directed by the UW College of Engineering.

To complete a geologic survey of rare earth deposits, the Legislature appropriated \$200,000 in AML Funds to the Wyoming State Geologic Survey.

Finally, UW was appropriated \$5 Million for infrastructure improvements such as steam tunnels and burying electrical power lines near the new Energy Innovation Center (EIC).

House Bills with relation to SER:

HB (House Bill) 29: Uranium Research Center Funds Extension

In 2008, the Legislature provided funds to the School of Energy Resources to support research in uranium. This bill extends the deadline for the expenditure of these funds to June 30, 2015. There is approximately \$578,000 remaining that is available for grants. HEA (House Enrolled Act) 0005. Don notes the time sensitivity to this bill (i.e. research and fund allocation need to be complete by June 30, 2015).

SF (Senate File) 12: Nuclear Energy Task Force Extension

Last year, the Legislature created a task force (Ruthfuss, Cooper, Miller and Harshman) (Ann Alexander is UW representative on this task force) to explore nuclear energy production in the state. This bill extends the task force's sunset date and funds its activities through the end of 2012. (SEA0022)

SF14: Nuclear and Hybrid Energy System Related Projects

The Legislature is directing the Wyoming Business Council to explore the feasibility of locating a next generation nuclear plant and hybrid energy system facilities in the state. Of the \$250,000 (to be matched by INL) appropriated to support this effort, the Council shall provide up to \$50,000 to UW's College of Business, College of Engineering, School of Energy Resources or WSGS to assist with the research. (SEA0023)

SF15: Advanced Conversion Technologies Task Force Amendments

The Clean Coal Task Force (CCTF) has been renamed the Advanced Conversion Technologies Task Force (ACTTF). While the Task Force will continue to award competitive grants to explore clean coal, its mission was expanded to include advanced conversion technologies and research into value added products, and the Task Force's sunset date was extended to June 30, 2017. The effective date of these changes is July 1, 2012. (SEA00034)

The ERC was delegated one additional duty under the budget appropriation for the university. The legislature appropriated \$15 million to UW for renovation of the Half Acre Gym. The budget bill includes the following language:

4. In providing artwork for the half acre recreation center pursuant to the provisions of W.S. 16-6-801 through 16-6-805, the university shall require artwork which displays the historical, cultural and current significance of transportation, agriculture and minerals in Wyoming's history. Notwithstanding the provisions of W.S. 16-6-801 through 16-6-805, the proposals for artwork shall be submitted to the university's energy resources council and the governor for approval.

The final two pieces of legislation Don discussed dealt with public meetings and electronic record retention. First, there were modifications made to the **public meetings legislation** that become effective July 1, 2012. One change includes notification times, it is now required to post a meeting time and place eight hours in advance. The second change deals with calling an executive session—you are now required to be more specific and announce *why* you are calling an executive meeting, for example “to discuss ERC personnel.”

With respect to **electronic retention**, council members may not use sequential emails to make internal decisions; the public must have the ability to be present. Cataloging any electronic correspondence is at the Chairman’s discretion and the retention can be cataloged by each member of the ERC, SER, and CCTF according to their own email retention practices. Don provided copies of the University’s electronic retention policy (See APPENDIX A).

Chapter 74, SF 25 (public records): A couple changes were made to definitions within this chapter. First, the ERC, SER, and CCTF can now require that a public records request be made in writing whereas previously it could be made verbally. This is helpful because we will better know exactly what is being requested. Secondly, the chapter now obligates the ERC, SER, and the CCTF to acknowledge a public records request within 7 days. This does not mean the request must be fulfilled within seven days, only that we need to acknowledge the request within that timeframe. Compensation may be requested for the time, copies, mailings, etc... that is necessary to fulfill a request for public records.

Comments:

- Chairman Harper asks if the ERC should consider developing its own policy for record retention and public meetings.
- Tom Buchanan offered the UW’s policy on email and record retention and had his staff provide this to the ERC.

ACTF Update: Mark Northam discussed the Clean Coal Task Force (CCTF) name change to the Advanced Conversion Technology Fund (ACTF). Chairman Harper applauded the legislature on the name change, for looking at things from a global perspective, and believes the name is more inclusive. Vice-Chairman Lockhart comments that as we look forward, we need to look broadly.

New ERC responsibilities in light of new legislation:

Summary:

Chairman Harper addressed the ERC regarding ERC appointments for the coming year. Vice-Chairman Lockhart suggests that the ERC address the appointments now as the ERC and SER have a very full year ahead.

Action Taken: Kit Jennings makes a motion to leave the Chairman and Vice-Chairman positions as they are for the next year, Carl Bauer seconds, it passed unanimously.

Trona to Glass study - \$100,000

Summary:

Mark- there are 2 studies directly looking at trona to glass. Mark suggests we make a recommendation to the minerals committee that SER look at the four studies that have been done and then look at other applications for the trona. Mark will get the three studies to the ERC for review.

Action Taken:

Paul Lang puts forth a motion that Mark Northam directs SER to examine the four existing trona-to-glass studies and provide a summary report and recommendations for the Minerals Committee and the CCTF to move forward. Carl Bauer seconds, Kit Jennings amends saying it should include wording that allows for a portion of the funds to be used for a summary report and recommendations, he suggests \$5,000. Don Richards clarifies that the \$100,000 has been allocated to the CCTF, not the ERC. (The CCTF later took action on this motion in their meeting.)

Comments:

- Mark Northam asks that we get scheduled on the June 2012 Minerals Committee agenda.

UW Foundation Update:

Summary:

Ben Blalock applauded the legislature and President Buchanan on passing important legislation and raising private funds for the University and SER. Ben emphasized that industry is supportive and believes that by June 30, 2012 these private commitment will be confirmed. The Foundation and SER have been targeting 11 companies that have the potential to put as much as \$15-21M toward the legislature's \$15.8M state match gift for a total of \$30.8M.

SER Research Update:

Summary:

Diana Hulme provided an update regarding SER's research efforts. The School of Energy Resources appropriated \$1.6 million to the In-Situ Recovery of Uranium (ISRU) Research Program with a reversion date of 6/30/2013. This date has been extended to 6/30/2015 in the 2012 legislative session (HB29/HEA5). At this point, 4 ISRU research projects focused on uranium research on economic optimization of uranium recovery, wastewater management and groundwater restoration are in progress working off of \$826,849. Funds in the amount of \$583,450.93 remain for new RFP's.

Ten proposals were received, but 9 did not receive external funding with respect to the Matching Grant Fund (MGF) Program. The 2012 MGF RFP was released February 1, 2012 with proposals due March 23, 2012. At this time, the MGF program has a total of \$209,914.00 in remaining commitments.

The Major Equipment Purchase RFP is a 2012 RFP for major equipment purchases for UW faculty. The purpose of this RFP is to advance energy-related research at UW, demonstrate institutional support to external funders, and enhance faculty and graduate student recruitment--proposals due April 20, 2012. Requests must be over \$100K as this is intended for large purchases of equipment. The funds for this RFP must be used by June 30, 2012.

With regard to the Centers of Excellence, the Center for Photoconversion and Catalysis (CPAC) recently awarded two undergraduate research RFPs to fund research to increase efficiency and decrease costs for solar fuel generation. Two new Centers of Excellence, the Advanced Oil and Gas Technology Center (AOGTC) and the Advanced Conversion Technology Center (ACTC) are in the works and a search for directors has begun.

Comments:

- Chairman Harper asks about whether RFPs require a commercialization component. Diana-Yes.
- Kit Jennings asked to know more about the research projects going on, what are the most unique projects currently in progress? Diana—Yes, Clean Coal projects

SER Outreach Update:

Summary:

Mary reported on SER Outreach efforts. An updated general brochure will be printed in the coming months including the new ERC member, Jim Bowzer and updates regarding progress of the SER strategic plan. A SER Outreach ‘Criteria for Sponsorship’ document was devised with the goal of gathering concrete details regarding any future SER funded event. This document requires any entity interested in partnering with SER on an event to agree on preliminary terms for an event including goals, objectives, expected outcomes, steering committee responsibilities, summary reports, etc... If the established terms in the ‘Criteria for Sponsorship’ are not being met, this document allows for SER to remove their funding.

Upcoming conferences and symposia sponsored by SER include:

- International Advanced Coal Technologies Conference, June 3-7, 2012, Xi'an, ShaanXi, China
- Secondary Biogenic Coal Bed Natural Gas International Conference, June 20-21, 2012, Hilton Garden Inn, Laramie, WY
- Power Generation, CO2 Emissions, and the Environment: Choices & Economic Trade-offs, October 1-2, 2012 with the Center for Energy Economics & Public Policy, Teton Village, WY

Comments:

- Kit Jennings asks for some numbers, where are conference attendees are coming from? Can we get a breakdown of conference attendee demographics? ROI measures? Summary of accomplishments of conference? Can this be posted on the SER website? SER staff will review and report back to the ERC.

SER Academics Update:

Summary:

Don Roth discussed the progress being made with SER's Energy Resource Management & Development undergraduate degree program. There are currently 42 students enrolled with six scheduled for internships this summer. Three students of the program have been offered jobs prior to graduation. With regard to graduate assistantships, 46 students are currently involved. Don also discussed the progress being made on the development of the MBA in Energy Management.

Comments:

- Chairman Harper asks about the “people” component of the ERMD degree.
- Kit Jennings asks about bringing in an “industry” mentorship opportunity for ERMD students.

FY 2012 SER Budget:

Summary:

Mark Northam discussed the 2011/2012 SER budget outlining where the unallocated funds of \$4,076,483 from FY 2011 will be reallocated in FY 2012.

Comments:

- Chairman Harper asks for clarification regarding ownership of equipment that is purchased with SER funds. Mark Northam clarifies that *all* the equipment is owned by UW.

FY 2013/2014 SER Budget, \$10M Strategic Plan:

Summary:

Mark Northam discussed the 2013/2014 SER budget taking into consideration the proposed budget reductions in years to come. Mark believes the biggest reductions can be made through decreasing the funds toward Centers of Excellences’ (COE) and Graduate Assistants. He hopes that more of the COE’s will be getting to the point where they can stand alone financially.

With respect to the new SER building, Mark Northam stated that the name of the building was changed from the Energy Resource Center (ERC) to the Energy Innovation Center (EIC) to distinguish it from other entities with the ERC acronym. Mark also mentioned that the EIC is on budget and on schedule to open in November 2012.

Comments:

- Vice-Chairman Lockhart asks how the new EIC building will affect the 2013/14 budget. What about operating costs? Mark responded that this was the only growth in the operational budget and is accounted for.

Dean Rob Ettema & Jay Puckett:

Summary:

Dean Ettema and Jay Puckett provided a PowerPoint presentation on the proposed UW Engineering Complex. UW is currently working on a major plan to strengthen engineering education and accommodate growth in enrollment and research opportunities. He explained that the proposed “Engineering Complex” consists of two (2) projects: 1) Engineering Building Project (to upgrade and expand the college’s capacity to deliver high quality programs of education and research) and 2) Energy Engineering Research Facility Project (to create additional research labs for increased research in strategic energy areas).

The planning process has been outlined to consist of 3 levels with different completion dates. Level 1 will focus on the functional requirements of the complex with a detailed analysis of the project (enrollment growth, research growth, desired characteristics of the complex, building functionality). In their first analysis, they predict significant growth in the areas of energy,

geomechanics, water, infrastructure development, biomedical and health, computational sciences, materials, mechatronics, and environment and atmosphere. Level 1 is slated to be completed by Q2 of 2012 and has already begun. Level 2 will focus on schematic design and is predicted to complete in Q3 2014, and the third level will include the final, detailed design and construction of the complex to be completed by Q4 2017. The complex, in addition to the EIC and the Enzi STEM building, will help create an environment that supports energy and engineering education and advanced engineering and energy research.

Comments:

- Chairman Harper asks about Dean Ettema's growth estimate. If the growth rate of 4% in engineering students continues, the size of the complex will not be large enough to house the projected student population.

- Dean Ettema provided the following response: Evaluation of an enrollment capacity entails determining a limit or range for the college. The capacity limit selected was determined from the enrollment estimates and consultation with the college's immediate constituencies:

1. University administration,
2. College's National Advisory Board,
3. Department Advisory Boards, and
4. College's administrative team, faculty and staff.

There is some flexibility in enrollment estimation. Additional classroom resources are available campus-wide, and over a broader time per day, should our in-college classroom demand exceed planning estimates during the coming years.

An important consideration is the forthcoming faculty resources necessary for maintaining a favorable student-to-faculty ratio relative to our comparators; productive, student access to faculty is a hallmark feature of the college's undergraduate programs. After the building is constructed as envisioned, our primary need will be for additional faculty and staff to support quality growth.

- Carl Bauer asks about the ROI of the complex. What consideration have you given to potential changes happening between now and 2017?
 - Dean Ettema responded with the following: The college's engineering and computer science programs maintain close ROI connections in several ways, including via department and college advisory boards, employer and employee links, and research activities. These connections enable the college to adjust its education and research programs in response to changes over time. With good investment and guidance, the college's programs will significantly advance in quality and quantity workforce development, research output, and consultative expertise.
- Kit Jennings-- What happens if you max out on space?

- Dean Ettema: Our constraints are on both space and faculty and staff resources. Again, the classroom resources can be shared/garnered from the UW pool if necessary. UW colleges are not islands in this regard, but can work together to provide for programs. Our growth will also depend upon forthcoming faculty growth that must be developed independently of the Complex. Should resources max out, we might have to look toward some type of enrollment cap. Our focus is on delivering high-quality programs of education.
- Chairman Harper -- What about the environmental issues associated with this building—why are the building plans not seeking zero emissions?
 - Dean Ettema: Zero emission is a good idea, which we will consider in Level II of our work.

Mohammad Piri:

Summary:

Mohammad Piri discusses Phase I-III of EnCana Research Lab and what it means for unconventional reservoir research

Comments:

- Chairman Harper- What has Encana's reaction been? Mark Northam- SER has leveraged what Encana has started; the ROI for Encana is three fold as SER and Hess have built upon what Encana helped begin.
- Chairman Harper - Are you looking at CCS? Piri- yes, with DOE grant\$

EIC (Energy Innovation Center):

Summary:

Mark Northam and Diana Hulme provided an update on the WUC 3-D Visualization Center, Collaboration Center, Mohammad Piri's lab, and the drilling simulation lab. SER is currently looking for investors from equipment companies to establish a long-term relationship and decrease maintenance costs in the long term.

CERC Status:

Summary:

Mark Northam reported on the Joint China-US Clean Energy Research Center noting that UW is a large player in this project. The DOE provides \$2.5M for five years and it is required that partners in this project match this funding. GE, Duke, LPAmia, AES, GreatPoint, we have 4-5 private partners in this. Ron Surdam and his team are working on an enhanced oil recovery design and a carbon capture design in a coal to ethanol plant in China. We have two new projects being added to the CERC, one includes a project directed by David Bell, professor Chemical Engineering, will be looking at the kinetics of gasification of PRB coal and Maohong Fan's work in expendable catalysts for gasifiers. The DOE is very impressed thus far with the progress UW is making with respect to CERC projects.

WYCUSP Update:

Summary:

Ron Surdam provided an update on the progress being made with the 3-D seismic data being analyzed by WY-CUSP researchers. Interpreted seismic attributes are being integrated with core, log suite and fluid sample observations from the stratigraphic test well in order to provide a more detailed view of the sub-surface. The EM data continues to be analyzed by WY-CUSP researchers and will be integrated into results. The WY-CUSP team met with Baker Hughes to clarify changes for the Class I UIC permit modifications. The modifications will reflect the use of water for the injection tests, the geophone array placement, zones for the DSTs as well as the plan for plugging and abandoning the well.

PetroArc International has completed the continuous visual documentation of the of core obtained from the stratigraphic test well. Software to view and manipulate the core images continues to be modified and perfected. Final software completion is expected by the end of April 2012. New England Research has completed continuous permeability and velocity scans of 135 feet of core from the Madison reservoir. A final report with findings and data is expected by the end of June 2012. Initial analyses of fluid samples from the RSU well have been completed by PENCOR and Energy Labs. The WY-CUSP team will use these analyses and perform additional analyses.

Comments:

- Kit Jennings- Will Mohammad Piri be working on evaluating the core samples? Ron Surdam said yes, Dr. Piri will get these core samples in next couple weeks.

Bill Gern:

Bill Gern, UW Vice President of Research and Economic Development, provided an update on the National Center for Atmospheric Research- Wyoming Supercomputing Center (NWSC), the NCAR super computer, the High Performance Computing Center (HPCC), the Advanced Research Computing Center (ARC2) and the partnership between UW and GE.

The NWSC will be available to researchers by September 2012. Bill believes the economic development potential for Wyoming out of this project will be substantial.

Other Business:

Travel reimbursements (See Appendix B)

INL Scientific Advisory Board: Mark Northam notified the ERC that he has been asked to serve on the INL Scientific Advisory Board. This will allow for UW researchers to better INL expertise and equipment.

International Advanced Coal Technologies Conference (IACTC): To cover costs of travel and conference fees, \$42,000 of private money and \$86,000 of grant money from CERC will be used. Governor Mead has asked for the opinion of the ERC on this effort and furthermore requests their consent to move forward. Kit Jennings moved to support the Governor, seconded by Paul Lang. It passed unanimously.

Next Meetings: These dates have been circulated and settled:

- May 18, 2012
- August 24, 2012

- November 16, 2012

Meeting adjourned at 3pm

Respectfully Submitted:

Ron Harper
Chairman

Tom Lockhart
Vice-Chairman