



**Plains CO₂ Reduction (PCOR) Partnership Monthly Update
May 1–31, 2010**

PHASE III ACTIVITIES

Task 1 – Regional Characterization (Wesley D. Peck)

Highlights

- Continued upgrade and modification of the Decision Support System (DSS, © 2007–2010 EERC Foundation). The following efforts have been undertaken:
 - The flash-based image gallery application is ready for review.
 - The new geographic information system (GIS) interface is also ready for review.
- Continued efforts toward preparation of new text and images for the new national atlas (print version) on the background of the PCOR Partnership, as well as information on each of its Phase II field validation tests and its planned Phase III demonstration projects and outreach activities. The new information is due to the U.S. Department of Energy (DOE) by July 1, 2010.
- Initiated collection of preliminary oil field data from the portions of Colorado and Kansas that border the oil field region of western Nebraska. This effort will provide a better understanding of the potential for Nebraska CO₂.
- Received and began review of the final subcontractor report from the Missouri Department of Natural Resources – Division of Geology and Land Survey (DGLS).
- Traveled to the headquarters of DGLS in Rolla, Missouri, to participate in a discussion regarding future characterization of the Forest City Basin.

Task 2 – Public Outreach and Education (Daniel J. Daly)

Highlights

- Participated in the Regional Carbon Sequestration Partnership (RCSP) Outreach Working Group conference call on May 20, 2010.
- Provided requested information on May 4 to ClimateWire regarding PCOR Partnership terrestrial sequestration activities in the region.
- Attended the 9th Annual Conference on Carbon Capture and Sequestration in Pittsburgh, Pennsylvania (<http://carbonsq.com/>) and presented the following:
 - “Covering the Bases – Regional and Project Level Outreach for Sequestration,” presented on May 12 in the Outreach and Education technical concurrent session.

- “Development of a Manual for Public Outreach Best Practices,” presented on May 12 in the Initiatives under the U.S.–Canada Clean Energy Dialogue technical concurrent session.
- Initiated efforts to update the public outreach general audience PowerPoint presentation (Deliverable [D]17) due June 30.
- Initiated efforts to update the Fort Nelson Carbon Capture and Storage (CCS) Feasibility Project PowerPoint presentation (D19) due June 30.
- Participated in in-house meetings on May 19 and 28 to review proposed video clips (excerpted from the “Managing Carbon Dioxide: The Geologic Solution” documentary) and new Web pages for inclusion on the PCOR Partnership public Web site.
- Received notification on May 18 that the abstract on the RCSP Outreach Working Group’s Best Practices Manual was accepted for poster presentation at the upcoming 10th International Conference on Greenhouse Gas Control Technologies (GHGT-10) in Amsterdam, the Netherlands, in September 2010.
- Participated in an in-house meeting on May 25, to review the status of outreach video archiving with Prairie Public Broadcasting (PPB) and to assess progress on efforts to conduct outreach through libraries in the region.
- Participated in an in-house meeting on May 21 to review progress of outreach tracking activities.
- On May 19, held an in-house meeting to review the status of landowner outreach activities including a materials distribution list and an initial draft of landowner outreach materials.
- Participated in in-house meetings on May 19 and 24 to continue review and revision of current fact sheets as well as initiate plans for future fact sheets for use within the overall context of PCOR Partnership outreach activities.
- Discussed course materials with the North Dakota Petroleum Council regarding the upcoming 2010 Teacher Education Seminar at which the PCOR Partnership has been asked to present.
- Participated in a conference call with the Lignite Energy Council on May 24 regarding the upcoming 2010 Lignite Education Seminar: Energy, Economics and Environment at which the PCOR Partnership has been asked to present.

Task 3 – Permitting and NEPA (National Environmental Policy Act) Compliance (Lisa S. Botnen)

Highlights

- Continued efforts toward planning the upcoming regulatory meeting in Deadwood, South Dakota, on July 21–22, 2010, including holding in-house meetings on May 20 and 26.
- Submitted on May 19 the NEPA for additional characterization and laboratory work planned for the Zama, Alberta, Canada, site.
- Participated in the Interstate Oil and Gas Compact Commission (IOGCC) Pipeline Transportation Task Force conference calls.
- Participated in a training seminar on May 18–19 in Calgary, Alberta, Canada, sponsored by Oxand and Petroleum Technology Alliance Canada (PTAC) entitled “Risk Management for CCS Projects” (www.ptac.org/co2/dl/co2w1001b.pdf).
- Completed biennial review of the IOGCC “Summary of State and Provincial Action to Create a Legal and Regulatory Infrastructure for Storage of Carbon Dioxide in Geologic

Structures” and the IOGCC “Update on IOGCC Legal and Regulatory Guidance for States and Provinces.”

- Began review of a U.S. Carbon Sequestration Council (USCSC) draft educational paper.
- Continued review of the Det Norske Veritas CO₂ storage guideline entitled “CO₂QUALSTORE Guideline for Selection, Characterization and Qualification of Sites and Projects for Geological Storage of CO₂.”
- Assumed responsibility for PCOR Partnership risk management, including assessment and management of overall program risk as well as site-specific risk.
- Began review of CO₂-PENS (a CO₂ sequestration systems model supporting risk-based decisions) for possible use when developing the updated risk management plan for the Fort Nelson CCS Feasibility Project.

Task 4 – Site Characterization and Modeling (James A. Sorensen)

Highlights

- Continued laboratory experiments on the effects of CO₂ and H₂S on samples of potential reservoir and seal rock from the Fort Nelson location and samples from Powder River Basin outcrops that serve as analogs for the Bell Creek reservoir and seal.
- Attended the 9th Annual Conference on Carbon Capture and Sequestration in Pittsburgh, Pennsylvania (<http://carbonsq.com/>) and presented the following:
 - “A New Risk Management Methodology for Large-Scale CO₂ Storage: Application to Spectra Energy’s Proposed Fort Nelson Carbon Capture and Storage Project,” presented on May 11 in the technical concurrent session entitled Geologic Storage/Risk Assessment.
 - “Results of the Plains CO₂ Reduction Partnership’s Phase II Demonstration in the Northwest McGregor Oil Field, North Dakota,” presented on May 11 in the technical concurrent session entitled CCS in Enhanced Oil Recovery (EOR).
 - “Zama Acid Gas EOR, CO₂ Sequestration, and Monitoring Project,” presented May 11 in the technical concurrent session entitled CCS via EOR.
 - “CO₂ Storage Pilot Study for Lignite Coal,” presented on May 11 in the technical concurrent session entitled Reservoirs/Modeling.
 - “Northwest McGregor Field CO₂ Huff -N- Puff: A Case Study of the Application of Selected Geophysical Techniques for CO₂ Monitoring in a Deep Carbonate Reservoir,” presented on May 12 in the technical concurrent session entitled Geological Storage/Monitoring, Verification, and Accounting (MVA).

Task 5 – Well Drilling and Completion (Steven A. Smith)

Highlights

- Nothing to note at this time.

Task 6 – Infrastructure Development (Melanie D. Jensen)

Highlights

- Continued preparation of the capture technology overview.

- Web-based information about capture technologies continues to be reviewed on a weekly basis.
- Completed review of the CO₂ source locations and made appropriate adjustments to the PCOR Partnership database if warranted.
- Attended the 9th Annual Conference on Carbon Capture and Sequestration (<http://carbonsq.com/>) and presented a poster entitled “Estimating the Cost to Capture, Compress, and Transport CO₂ from Stationary Sources in the PCOR Partnership Region” during the May 11, 2010, poster session entitled Economics of CCS.
- Initiated review of two draft educational documents prepared by USCSC.
- Presented the risks associated with capture, compression, and pipeline transportation at a risk management for CCS training seminar conducted by Oxand and PTAC on May 18, 2010, in Calgary, Alberta, Canada (www.ptac.org/co2/dl/co2w1001b.pdf).
- Provided updated regional CO₂ emission statistics at the request of a partner.

Task 7 – CO₂ Procurement (John A. Harju)

Highlights

- Continued discussions with potential CO₂ suppliers. Because of the sensitive nature of negotiations, specifics cannot be shared at the present time.

Task 8 – Transportation and Injection Operations (Steven A. Smith)

- This task is anticipated to be initiated Quarter 3 – Budget Period (BP) 4, Year 4 (April 2011).

Task 9 – Operational Monitoring and Modeling (Charles D. Gorecki)

Highlights

- In collaboration with Spectra Energy, continued to develop a new version of the petrophysical model (Version June 2010) for the Fort Nelson CCS Feasibility Project. This version will be developed using a number of 2-D seismic lines and several 3-D seismic surveys to better gauge the structure and properties in each zone.
- Attended the 9th Annual Conference on Carbon Capture and Sequestration (<http://carbonsq.com/>) and presented the following:
 - “Laboratory and Numerical Modeling of CO₂–H₂S–Water–Rock Interactions at Williston Basin Reservoir Conditions,” presented on May 11 in the technical concurrent session entitled Reservoirs/Modeling.
 - “Geochemical Modeling of Enhanced Oil Recovery and CO₂ Storage at the Northwest McGregor Oil Field,” presented on May 11 in the technical concurrent session entitled CCS via EOR.
 - “Developing Resource Estimates for CO₂ Storage in Regional Deep Saline Formations,” presented Tuesday, May 11, in the technical concurrent session entitled Large-Scale CCS Projects.
 - “History Matching a CO₂ Huff -N- Puff EOR Project with CMGs GEM and CMOST,” presented on May 12 in the poster session entitled Geologic Storage – Simulation.

- “Introducing New Statistical Methods in Geochemical Kinetics Modeling for Better Estimations of CO₂–Water–Rock Interactions,” presented on May 11 in the poster session entitled Geologic Storage – Risk Assessment.

Task 10 – Site Closure (to be announced [TBA])

- This task is anticipated to be initiated in Quarter 1 – BP5, Year 9 (October 2015).

Task 11 – Postinjection Monitoring and Modeling (TBA)

- This task is anticipated to be initiated in Quarter 1 – BP5, Year 9 (October 2015).

Task 12 – Project Assessment (Katherine K. Anagnost)

Highlights

- Nothing to note at this time. The next project assessment report is due December 31, 2010.

Task 13 – Project Management (Edward N. Steadman)

Highlights

- On May 4, provided a brief discussion to DOE regarding the types of geologic sinks and the agreed-upon methodology for inclusion in the North American Carbon Atlas Partnership progress report.
- Sent a “Book Your Hotel” e-mail on May 4, to invited regulatory and pipeline personnel in the region regarding the upcoming PCOR Partnership Regulatory Meeting in Deadwood in July.
- Technical staff are participating in the development of an RCSP Best Practice Manual for Drilling, Well Installation, Operations, Mitigation and Closure.
- Continued planning for the upcoming PCOR Partnership annual meeting to be held October 19–21, 2010, at the Graves 601 Hotel in downtown Minneapolis, Minnesota.
- Held a Fort Nelson CCS Project update meeting with representatives from DOE NETL, Spectra Energy, and the EERC on May 12 at the Pittsburgh Hilton.
- Attended the first Bilateral National Conference on CCS held on May 10 at the Pittsburgh Hilton.
- Attended, presented, and exhibited a display booth at the 2010 Williston Basin Petroleum Conference held May 2–4, 2010, in Bismarck, North Dakota.
- Attended the U.S. Environmental Protection Agency (EPA) and DOE first public meeting of the Interagency Task Force on Carbon Capture and Storage on May 6, 2010, in Washington, D.C.
- Participated in a roundtable discussion on May 19 focusing on the challenges and opportunities facing the United States and the international community regarding the rapidly warming Arctic climate. “Climate Change in the Arctic: Global Implications” was organized in partnership with the Royal Norwegian Embassy in Washington, D.C., and Clean Air–Cool Planet, an organization working to motivate the public and U.S. policymakers to take action on climate change, along with the University of North Dakota (UND) Center for Innovation and the Nordic Initiative.

- Participated in a conference call on May 20 regarding the upcoming revised edition of the RCSP Atlas.
- Distributed PCOR Partnership outreach materials, e.g., atlas, latest documentary on DVD, and general program information, to new contacts made while attending the 9th Annual Conference on Carbon Capture and Sequestration in Pittsburgh.
- Attended the IOGCC 2010 Midyear Issues Summit in Lexington, Kentucky, on May 23–25. In addition to learning new information from the various presentations, the meeting was very beneficial in paving the way for greater attendance and understanding of the upcoming PCOR Partnership regulatory meeting this summer.
- On May 18, received notifications of acceptance to present for all 10 abstracts submitted to the GHGT-10 Conference in September in Amsterdam.
- Attended the 9th Annual Conference on Carbon Capture and Sequestration and presented the following:
 - “The PCOR Partnership: Collaborative U.S.–Canada Carbon Capture and Storage Demonstration Activities,” presented on May 12 in the technical concurrent session entitled Initiatives under the U.S.–Canada Clean Energy Dialogue.
 - “The PCOR Partnership: CCS Demonstration Activities,” presented on May 12 in the plenary session chaired by Traci Rodosta entitled The Regional Partnerships Move Forward on CCS Deployment.
- Deliverables and milestones for May:
 - April monthly update
 - M23: Task 14 – monthly Water Working Group (WWG) conference call held

Task 14 – RCSP Water Working Group Coordination (Charles D. Gorecki)

Highlights

- Attended the 9th Annual Conference on Carbon Capture and Sequestration (<http://carbonsq.com/>) and presented the following:
 - “Regional Carbon Sequestration Partnership: Water Working Group” presented May 11 in the technical concurrent session entitled Water Resources and CCS.
- Held the 2nd WWG annual meeting on May 13, 2010, following conclusion of the 9th Annual Conference on Carbon Capture and Sequestration at the Pittsburgh Hilton. Items discussed included:
 - Conducting a road-mapping exercise (to be translated into a WWG deliverable).
 - Development of a path forward for the group as a whole.
- On May 10, at the 9th Annual Conference on Carbon Capture and Sequestration, released the WWG fact sheet providing an overview of issues and opportunities associated with the nexus of water and CCS.

Travel/Meetings

- May 1–4, 2010/Attended and exhibited at 18th Williston Basin Petroleum Conference & Expo, Bismarck, North Dakota, May 2–4, 2010.
- May 4, 2010/Participated in PCOR Partnership educational materials development meeting with PPB, Fargo, North Dakota.
- May 5–6, 2010/Attended EPA and DOE First Public Meeting of Interagency Task Force on Carbon Capture and Storage, Washington, D.C., May 6, 2010.

- May 5–7, 2010/Presented at IEA Greenhouse Gas R&D Programme’s 6th Monitoring Network Meeting, Natchez, Mississippi, May 6–8, 2010.
- May 9–13, 2010/Presented at 9th Annual Conference on Carbon Capture and Sequestration, Pittsburgh, Pennsylvania, May 10–13, 2010.
- May 10, 2010/Attended 2010 U.S.–Canada Clean Energy Dialogue Bilateral National Conference, Pittsburgh, Pennsylvania.
- May 20–26, 2010/Participated in IOGCC Pipeline Transportation Task Force meeting, Lexington, Kentucky, May 20–21, 2010, and attended IOGCC 2010 Midyear Issues Summit, Lexington, Kentucky, May 23–25, 2010.
- May 25–27, 2010/Participated in meeting with DGLS regarding characterization of Forest City Basin, Rolla, Missouri, May 26, 2010.