



**Plains CO<sub>2</sub> Reduction (PCOR) Partnership Monthly Update  
December 1–31, 2007**

**PHASE II ACTIVITIES**

**Task 1 – Project Management and Reporting (Edward N. Steadman/John A. Harju)**

**Highlights**

- The PCOR Partnership private Web site now includes poster presentations from Phase II and III, in addition to the PowerPoint presentations that are currently located on the site.
- Phase II Task 6 CO<sub>2</sub> Enhanced Oil Recovery (EOR) Potential and Sequestration Capacity of the Denver–Julesburg Basin was sent to U.S. Department of Energy (DOE) for final approval on December 14, 2007.
- Task 3 2008 Q1 Milestone (Geomechanical Tests of Reservoir and Cap Rock Core Samples) was sent to DOE for approval on December 28, 2007.

**Task 2 – Field Validation Test at a Williston Basin Oil Field, North Dakota  
(James A. Sorensen)**

**Highlights**

- Continued evaluation of oil fields in Williston Basin that may be suitable candidates to host the Task 2 injection and monitoring, mitigation, and verification (MMV) activities. Efforts are focused on developing baseline characterization data for fields in the Cedar Creek Anticline area, the Billings Anticline–Dickinson area, and along the Nesson Anticline.

**Task 3 – Field Validation Test at Zama, Alberta, Canada (Steven A. Smith)**

**Highlights**

- Injection is ongoing.
- The Carbon Sequestration Leadership Forum was provided with an update on the Zama Field Validation Test on December 21, 2007.

**Task 4 – Field Validation Test of Lignite Coal in North Dakota (Lisa S. Botnen)**

**Highlights**

- Water-and-pressure level data in the five wells continue to be collected.
- Plans for additional field-scale experiments are under development and will be finalized as collected data are analyzed and interpreted.
- Core analysis by Terratek is complete, and Energy & Environmental Research Center (EERC) staff are in the process of analyzing the report.
- A meeting was held with Schlumberger in Denver to discuss log interpretation and next steps for the project.

- Model development and baseline characterization are continuing.
- The applicability of various MMV technologies (tiltmeter survey, gravity survey, tracer study, and seismic survey) to the lignite test continues to be researched and evaluated.
- Lithology descriptions from the mud log are being verified.
- CO<sub>2</sub> sources for injection continue to be contacted, and various delivery methods are being evaluated.
- Core plugs were sent from Terratek to DOE National Energy Technology Laboratory (NETL) for additional analysis.
- A presentation on the lignite test was given at the DOE review meeting in Pittsburgh, Pennsylvania.

### **Task 5 – Terrestrial Validation Test (Barry W. Botnen)**

#### Highlights

- Working on draft value-added topical reports:
  - “Market Development for Terrestrial Sequestration on Private Lands”
  - “The Value of Wetlands in the Prairie Pothole Region of North America”
- Evaluating other state and regional greenhouse gas or cap-and-trade program rules and policies and DOE Guidelines for Aggregators and Terrestrial Offset Providers.
- Continuing to update the Ducks Unlimited, Inc. (DU)–PCOR Partnership terrestrial project Web site.
- Working on characterization inputs and the terrestrial portion of the Decision Support System (DSS, © 2007 EERC Foundation).

### **Task 6 – Continued Characterization of Regional Sequestration Opportunities (Erin M. O’Leary)**

#### Highlights

- Characterization:
  - Schlumberger license agreement has been finalized.
  - Map layers have been extracted from Petrel and will be used to create the CO<sub>2</sub> storage potential map for the Broom Creek Formation in the greater Washburn study area.
  - Log-based formation tops in the Red River Formation and Inyan Kara Formation for the Washburn study area are being picked.
  - Meetings were held to outline specific tasks for the geologic group for Phase II.
- DSS:
  - The Dakota Gasification Pipeline has been digitized and added to the Penn Well data. The pipeline data have been moved to live.
  - The second draft of the Gas Analysis geographic information system site is completed and ready for review.
  - Monthly and site updates have been completed.

## **Task 7 – Research, Safety, Regulatory, and Permitting Issues (Lisa S. Botnen)**

### Highlights

- Completed development of permitting flowchart for PCOR Partnership Phase II field validation tests.
- Continue to follow the developments of various state and regional initiatives.
- Continued analysis of carbon market strategies.
- Continued to follow legislative actions occurring in Congress.
- Followed the activities that occurred at the United Nations (UN) conference in Bali.
- Reviewed a report on Canadian Carbon Capture and Separation (CCS) opportunities by the ICO<sub>2</sub>N group of companies.
- Began review of the new Energy Bill.
- Continued review of recent publications relating to regulating CO<sub>2</sub> sequestration and MMV issues.

## **Task 8 – Public Outreach and Education (Daniel J. Daly)**

### Highlights

- Initiated revisions for the Carbon Market video based on comments from NETL and EERC review comments.
- Initiated studio work on the Terrestrial Sequestration video. Activities included meetings to refine video concept based on film footage followed by review of video footage, identification of key segments, compilation of segments into readily available files, and initial editing on two of the four story segments.
- Interview with DU in Bismarck regarding its newly initiated carbon credit program. This may be used in both of the Carbon Market and Terrestrial videos.

## **Task 9 – Identification of Commercially Available Sequestration Techniques Ready for Large-Scale Deployment (Melanie D. Jensen/Michael L. Jones)**

### Highlights

- Attended Carbon Capture and Outlook conference in Washington, D.C.
- Attended Regional Carbon Sequestration Partnership Initiative Review Meeting in Pittsburgh, Pennsylvania.

## **Task 10 – Regional Partnership Program Integration (Edward N. Steadman)**

### Highlights

- The PCOR Partnership Phase II field validation test summaries have been revised and are now available on the private Web site.
- Presented two posters for the Regional Carbon Sequestration Review Meeting December 12–14, 2007. The first poster gave overviews on Phase II and III activities, and the second poster focused on the Zama Field Validation Test.

## **PHASE III ACTIVITIES**

### **Task 1 – Regional Characterization (Erin M. O’Leary)**

#### **Highlights**

- Several images were added to the PCOR Partnership SharePoint site. The SharePoint site is an image management tool for figures, tables, and other general PCOR Partnership information. CDs with PCOR Partnership images have been received from the EERC’s Office Services and Graphics Department. The contents will be reviewed, and a list of images will be compiled to go on the SharePoint site.
- A new software platform for the DSS is progressing.

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

#### **Highlights**

- Initiated preparation of a draft subcontract for Prairie Public Broadcast Phase III activities.
- Initiated discussions with local educators as a first step in providing materials to the regional educational community.

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

#### **Highlights**

- Research has been started to complete the NEPA compliance document for the Fort Nelson test.
- The developments of various state and regional initiatives are being tracked and analyzed.
- The analysis of carbon market strategies continues.
- Legislative actions occurring in Congress continue to be followed and reviewed for any implications relating to CCS.
- The outcomes from the UN conference in Bali are being reviewed.
- A report on Canadian CCS opportunities by the ICO<sub>2</sub>N group of companies is being analyzed.
- A review of the new Energy Bill has begun.
- Recent publications relating to regulating CO<sub>2</sub> sequestration and MMV issues continue to be reviewed.

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

#### **Highlights**

- Worked with Spectra Energy to develop a Baseline Geological Characterization Experimental Design Package for the Fort Nelson site.

### **Task 5 – Well Drilling and Completion (TBA)**

- This task has not begun (Quarter 1 – Budget Period 3; Year 2). Once activities are initiated, the information will be communicated and detailed in the monthly report.

## **Task 6 – Infrastructure Development (Melanie D. Jensen)**

### Highlights

- Nothing to note at this time.

## **Task 7 – CO<sub>2</sub> Procurement (John A. Harju)**

### Highlights

- Numerous discussions with potential CO<sub>2</sub> suppliers have taken place. Because of the sensitive nature of negotiations, specifics will not be shared at the present time.

## **Task 8 – Transportation and Injection Operations (TBA)**

- This task has not begun (Quarter 1 – Budget Period 4; Year 3). Once activities are initiated, the information will be communicated and detailed in the monthly report.

## **Task 9 – Operational Monitoring and Modeling (TBD)**

- This task has not begun (Quarter 1 – Budget Period 4; Year 3). Once activities are initiated, the information will be communicated and detailed in the monthly report.

## **Task 10 – Site Closure (TBD)**

- This task has not begun (Quarter 1 – Budget Period 5; Year 9). Once activities are initiated, the information will be communicated and detailed in the monthly report.

## **Task 11 – Postinjection Monitoring and Modeling (TBD)**

- This task has not begun (Quarter 1 – Budget Period 3; Year 2). Once activities are initiated, the information will be communicated and detailed in the monthly report.

## **Task 12 – Project Assessment (Stephanie L. Wolfe)**

### Highlights

- The Phase III proposal/subcontract from the Missouri Department of Natural Resources for inclusion in Phase III Task 1 (Regional Characterization) was sent to DOE December 27, 2007, for review. This was referred to as Unspecified Geological Survey No. 1 in the proposal.

## **Task 13 – Project Management (Edward N. Steadman)**

### Highlights

- Phase III Project Management Plan was sent to DOE December 28, 2007.
- Task 4 (D37) – Fort Nelson Site Geological Characterization Experimental Design Package was sent to DOE for approval on December 28, 2007.
- Task 4 (M17) – Fort Nelson Test Site Selection document was sent to DOE for approval on December 28, 2007.

### **Travel/Meetings for Phase II and III**

- January 2008: Grassland/wetland restoration update meeting in Bismarck, North Dakota
- January 2008: Field site to collect water level data and gas samples from wells in Kenmare, North Dakota
- January 23–31, 2008: Energy Generation Conference in Bismarck, North Dakota
- January 24–25, 2008: Platts Carbon Trading Conference in Houston, Texas
- January 27–30, 2008: 11th Annual Conference on Clean Air, Mercury, Global Warming, and Renewable Energy in Tucson, Arizona
- February 26–27, 2008: Environmental Protection Agency Public Workshop in Arlington, Virginia
- April 6–10, 2008: 235th American Chemical Society National Meeting (Advances in CO<sub>2</sub> Management: CO<sub>2</sub> Sequestration, Utilization, Capture, and EOR) in New Orleans, Louisiana
- April 13–17, 2008: Carbon Sequestration Leadership Forum in Cape Town, South Africa
- April 20–23, 2008: American Association of Petroleum Geologists in San Antonio, Texas
- April 30 – May 1, 2008: Carbon Capture and Storage in Houston, Texas
- May 5–8, 2008: 7th Annual Carbon Capture and Sequestration Conference in Pittsburgh, Pennsylvania
- August 13–15, 2007: Coal-Gen in Louisville, Kentucky
- September 29 – October 2, 2008: Pittsburgh Coal Conference in Pittsburgh, Pennsylvania
- November 16–20, 2008: Greenhouse Gas Technology Conference (GHGT-9) in Washington, D.C.