

CCS REGULATION

NEWSLETTER

Welcome to the CCS Regulation newsletter. This is produced by the **MIT Carbon Capture and Sequestration Technologies Program**. It is a quarterly report designed to keep the reader up to date with the current regulatory news and issues surrounding Carbon Capture and Storage (CCS).

For more information about the program please see <http://sequestration.mit.edu/>

Interview with AEP's Gary Spitznogle

We asked Gary Spitznogle, the Manager of IGCC and CO₂ Capture and Storage Engineering for American Electric Power (AEP), a few questions about the permitting and regulatory process that AEP needed in the lead up to the CCS pilot test at its Mountaineer plant starting in November 2009.

In addition to the permits for a regular power plant, what additional permits did you require for the CCS?

The main permit we required was an Underground Injection Control (UIC) Permit issued by the State of West Virginia's Department of Environmental Protection. This is the first UIC permit that WV has issued. The UIC is primarily concerned with protecting and isolating US drinking water. This is achieved by providing a robust injection well and monitoring it to prove that no CO₂ enters the drinking water. Well work permits for the drilling and construction of the monitoring well were easier to obtain.

How actively involved was AEP in the wording of the UIC permit?

The Government of WV issued a draft UIC permit to AEP and the public to review. Some of the comments made by

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Federal CCS Regulation

Bill Updates:

American Power Act

May 12, 2010. Sens. John Kerry and Joe Lieberman released The American Power Act, or the Kerry-Lieberman Bill as a discussion draft. The American Power Act calls for energy independence and a pollution reduction goals of 17% in 2020 and 80% in 2050.

Greater energy independence is to be achieved by investing in domestic energy supplies and clean energy research and infrastructure.

Emission reductions are to be achieved by way of a new method: The act outlines that the 3 major emitters: power plants, heavy industry and transportation, are each to have a different pollution reduction plan which is designed for their industry.

Regarding CCS, the American Power act outlines an investment of \$2 billion a year for CCS technology research and development of effective methods and deployment; it also provides incentives for the commercial deployment of 72 GW of carbon capture and sequestration projects.

<http://kerry.senate.gov/work/issues/issue/?id=7f6b4d4a-da4a-409e-a5e7-15567cc9e95c>

S.1134: The responsible use of Coal Act of 2009.

Introduced in May 2009 by Sen Casey (PA), to ensure US energy independence by promoting use of coal through CCS. This bill was heard in front of a committee on Energy and National Resources April 20, 2010.

<http://www.govtrack.us/congress/bill.xpd?bill=s111-1134>

News:

Bi-Partisan Language on CCS Proposed

Senators J. Rickerfeller (VW) and G. Voinovich (OH), March 22, 2010, have proposed a federal program to support the development and deployment of CCS technologies. There are 5 programs outlined in the bill which are designed to “promote research and create incentives to develop and deploy full scale CCS technologies for a strong energy future”. These include a CCS innovation program would authorize \$850 million over 15 years for cost-shared industry-government research and development; an incentive program for CCS deployment up to 20 GW; and a program to establish a stable regulatory and legal framework for the long-term deployment of CCS.

[http://voinovich.senate.gov/public/index.cfm?](http://voinovich.senate.gov/public/index.cfm?FuseAction=NewsCenter.PressReleases&ContentRecord_id=87247e2a-f623-4188-64a3-8c0035c7440e)

[FuseAction=NewsCenter.PressReleases&ContentRecord_id=87247e2a-f623-4188-64a3-8c0035c7440e](http://voinovich.senate.gov/public/index.cfm?FuseAction=NewsCenter.PressReleases&ContentRecord_id=87247e2a-f623-4188-64a3-8c0035c7440e)



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State CCS Regulation News and Updates

Indiana

Rep. Bill Davis announced on March 16, 2010, that Indiana State Representatives are planning to discuss legislation for Carbon Capture and Sequestration, in some form, during their next session. The Indiana Geological Survey is providing the information on storage capacity etc. Rep. Davis wants to have a bill in place before possible legislation arrives from the Federal Senate.

<http://www.winchesternewsgazette.com/articles/2010/03/16/news/doc4b9f7a520de78922909119.txt>

Kentucky

HB 588 was introduced on March 2, 2010. This bill is to create a new section on Subchapter 27 of Chapter 15 of Kentucky Revised Statutes (KRS). This section aims to authorize tax incentives under the Incentives for Energy Independence Act to be awarded to certain CCS projects that have already received incentives from the US Department of Energy.

[Legislative Detail: KY House Bill 588 - 2010 Regular Session | eLobbyist](#)

Louisiana

SB 739: Louisiana Carbon Capture and Enhanced Oil Recovery Act. April 20, 2010. Sponsored by Sen. Morrish. This bill is in relation to the Carbon Capture and Enhanced Oil Recovery Act. It aims to provide: a framework to enhanced oil and gas recovery projects using CO₂; definitions, terms and conditions related to CO₂ EOR; to outline the role of the Secretary of Department of Natural Resources; and to establish a trust fund and provide monies for the use of this fund.

<http://www.legis.state.la.us/billdata/byinst.asp?sessionid=10RS&billid=SB739&doctype=ALL>

Pennsylvania

May 13, 2010. The Pennsylvanian Dept. of Conservation and Natural Resources has published 2 online reports which conclude that with the appropriate changes in laws, Pennsylvania's geology could store CO₂. However this cannot be accomplished without substantive changes to governing subsurface ownership rights and long-term liability issues.

<http://www.dcnr.state.pa.us/news/newsreleases/2010/0510-carbonsequestration.htm>



The EPA Proposes First National Reporting on Greenhouse Gas Emissions

March 10, 2010. The Environmental Protection Agency has proposed the first comprehensive national system for reporting emissions of CO₂ and other GHG's in the US. The EPA had previously completed its mandatory greenhouse gas reporting requirement in October 2009. That rule required 31 industry sectors, covering 85 percent of total US GHG emissions, to track and report their emissions.

About 13,000 facilities, accounting for about 85-90 % of greenhouse gases emitted in the US, would be covered under this proposal.

The first annual report would be submitted to the EPA in 2011 for the calendar year 2010, except for vehicle and engine manufacturers, which would begin reporting for model year 2011.

The EPA is developing this rule under the authority of the Clean Air Act.

<http://yosemite.epa.gov/opa/admpress.nsf/0/4BD0E6C514EC1075852575750053E7C0>

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AEP and the public were accepted and incorporated into the final permit.

Were there delays in obtaining of the permits?

There were a few delays: Obtaining the permit took a few months longer than was anticipated.

However the project's target start date was still able to be met.

Did the people at AEP who are involved with obtaining the permits have any previous experience with CCS?
No, they had no experience.

What public outreach did you undertake prior to the start of CCS at Mountaineer?

AEP did a lot of public outreach throughout the duration of the project. Before the start there were comprehensive town hall meetings in 3 or 4 surrounding communities. Battelle, the contractor for developing the geological sequestration part of the project, accompanied AEP on these meetings. Although there was a small public turnout, it was necessary and informative for the community leaders.

In addition to the town hall meetings, AEP had an information session at a local high school, which

was advertised and open to the public. There was a larger public turnout and people were able to ask questions one-on-one with experts on the CCS team. The 2 different methods made for a successful approach to reach a wider audience and answer their questions.



Carbon Capture Plant at AEP Mountaineer

Do you have any suggestions to improve the whole process?

The EPA needs to finalize the Class 6 well classification. WV's UIC was developed using an EPA Class 5 well classification as a framework and adopting some of the concepts from the proposed Class 6. There is too much uncertainty and

leeway with using only the Class 5. For example: Class 5 has no definition of the requirements for a well-integrity test and if downhole safety shut-off valves are needed.

How are things going at Mountaineer today?

To date, things are going well at Mountaineer. There has been no problem with the injection however modifications to the capture system have been needed at times, due to the developmental nature of the process. This causes the whole operation to be turned on and off frequently, but this is to be expected for a first of a kind project.

Images:

Page 1: Mountaineer Power plant by

Mcgiver1 www.panoramio.com/photo/16155538

Page 2: MIT Panoramic.

Photographer : John Kern '50

Page 2: <http://alumweb.mit.edu/classes/1950/>

Page 3: Norilsk, Russia. www.boattest.com

Page 4: Capture Plant at Mountaineer. Source:

Alstom on www.jouleblog.com/

This newsletter was constructed using information from internet searches. All the websites used have been cited.

Holly Javedan compiled this report. For more information, questions and comments please email javedan@mit.edu. Thank you.