



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
AIR AND RADIATION

July 29, 2011

John McManus
Vice-President
Environmental Services Division
American Electric Power
1 Riverside Plaza
Columbus, Ohio 43215

Re: Submission in support of an exemption from 40 CFR Part 98, Subpart RR as a research and development project for American Electric Power's (AEP) Mountaineer Plant

Dear Mr. McManus:

The United States Environmental Protection Agency (EPA) has reviewed the May 23, 2011 submission (received on May 31, 2011) requesting an exemption for the project at the American Electric Power (AEP) Mountaineer Plant from 40 CFR Part 98, Subpart RR as a research and development project. EPA approves the exemption of the project at the AEP Mountaineer Plant from 40 CFR Part 98, Subpart RR, as discussed below.

EPA has determined that the project meets the definition of "research and development project" at 40 CFR 98.449. In making this determination, EPA considered the submitted information, including the purpose of the project, the planned duration of the project, and the planned amount of CO₂ injected. The submission states that the project initially planned to inject 100,000 tons per year, but as of March 2011 had injected 30,118 metric tons in total. EPA concluded that the duration of the project (21 months - injection ceased in June 2011 according to AEP's submission) and injected volume (30,118 metric tons from September 2009 to March 2011) is consistent with the research purpose of the project which is to determine the storage capability of two local geologic structures, the Rose Run and Copper Ridge "B" zones.

Based on the information provided by AEP in the submission, EPA approves the request for exemption of the project at AEP's Mountaineer Plant from 40 CFR Part 98, Subpart RR requirements. The project is exempted from 40 CFR Part 98, Subpart RR through June 30, 2011, which is the end date of the R&D project that is stated in the submission request.

EPA's determination relies on the accuracy and completeness of the information provided in your May 23, 2011 submission. If any of the information provided by AEP in the May 23, 2011 submission significantly changes, you must re-submit request for a research and development project exemption from 40 CFR Part 98, Subpart RR for this project. This decision is

If you have any questions regarding this determination, please write to gsreporting@epa.gov and a member of the Greenhouse Gas Reporting Program will respond.

Sincerely,

A handwritten signature in black ink that reads "Lisa Grogan-McCulloch". The signature is written in a cursive style with a large initial "L".

Lisa Grogan-McCulloch, Acting Chief
Greenhouse Gas Reporting Branch

Attachment: 1 – American Electric Power’s Mountaineer Plant Research and Development
Project Exemption Request



MAY 31 REC'D

American Electric Power
1 Riverside Plaza
Columbus, OH 43215-2373
AEP.com

May 23, 2011

U.S. Environmental Protection Agency
Director, Climate Change Division
1200 Pennsylvania Ave., NW.
Mail Code: 6207J
Washington, DC 20460

RE: American Electric Power, Mountaineer Plant
Request for Exemption for Research and Development Projects
Reporting for Geologic Sequestration of Carbon Dioxide

Dear Director:

This letter confers our request for an exemption from the Green House Gas regulatory requirements for research and development projects under 40 CFR 98.440(d). The project is located at American Electric Power's (AEP) Mountaineer Plant. AEP is working to further the process development of removing carbon dioxide from the combustion gases of a coal-fired electric steam generator. The process being evaluated is Alstom's chilled ammonia capture system. The study underway at our Mountaineer Plant takes the equivalent of 20 MWe flue gas and processes the gas to remove up to 90% of the carbon dioxide. The removed carbon dioxide is compressed and injected for sequestration into one or two on-site experimental wells into either the Rose Run or Copper Ridge "B" zone between 7800 and 8300 feet below grade level. Additional monitoring wells are positioned to monitor and verify that the storage of carbon dioxide is properly maintained.

In accordance with the requirements of 40 CFR 98.440(d)(2), the specific answers are provided for items (i) through (v) below:

40 CFR 98.440(d)(2)(i): The planned duration of CO₂ injection for the project.

The operational phase was recently extended to 6/30/2011. The capture facility started in September 2009, so the total operational duration is expected to be about 21-months. The original plan was to operate the verification facility for at least 1-year and up to maximum of 5-years.

40 CFR 98.440(d)(2)(ii): The planned annual CO₂ injection volumes during this time period.

The planned annual injection rate was 100,000 metric tonnes per year. Through March 2011, AEP had injected 30,118 metric tonnes in 18-months of injection.

40 CFR 98.440(d)(2)(iii): The research purposes of the project.

The purpose of the facility is to demonstrate Alstom's chilled ammonia capture CO₂ capture technology at the pilot scale, on a coal-fired power plant. Further, the capture technology was integrated with CO₂ transportation and storage system to store 100,000 metric tonnes per year. Geologic storage was to determine the capability of two local geologic structures, the Rose Run and Copper Ridge "B" zones.

40 CFR 98.440(d)(2)(iv): The source and type of funding for the project.

The project was primarily funded jointly by AEP and Alstom, but the project also received funding from Electric Power Research Institute (EPRI) and RWE. The capture portion construction was jointly funded by Alstom and AEP. The storage portion was funded by AEP. RWE joined the project toward the end of construction timeframe and supplied funding for both capture and storage. EPRI joined the project after start up. Details of how the monies were allocated are currently confidential.

40 CFR 98.440(d)(2)(v): The class and duration of Underground Injection Control permit or, for an offshore facility not subject to the Safe Drinking Water Act, a description of the legal instrument authorizing geologic sequestration.

Class V experimental - The initial permit for injection is 5-years. Well close-out requires monitoring per West Virginia Department of Environmental Protection (WVDEP) for up to an additional 20-years unless it can be established that the CO₂ plume has stabilized and then the Director of WVDEP has to accept those findings.

Should you have any questions regarding this exemption request, please call Jeff Novotny at (614) 716-1294.

I am authorized to make this submission on behalf of the owners and operators of the facility or supplier, as applicable, for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Sincerely,



John M. McManus, Vice-President
Environmental Services Division
American Electric Power

Cc: J.J. Henry
C.A. Powell
J.C. Hendricks