Four Corners Air Quality Task Force
Power Plant Work Group
May 9, 2006
Farmington, NM

Welcome and introductions

Mark Jones, NMED; Susan Johnson, NPS; Kathy Van Dame, Wasatch Clean Air Coalition; Mike Farley, PNM; Richard Grimes, APS; Mark McMillan, CDPHE; David Ruger, Honeywell; Maureen Gannon, PNM; Carla Sontag, NMUSA; Ted Orf, Orf and Orf; Dianna Orf, Orf & Orf; Wally White, La Plata County; Jack Schuenemeyer, Southwest Statistical Consulting; Kelly Palmer, FS; Sug McNall, private citizen, Aztec; Marilyn Brown, LWV, LaPlata County; Leona Conger, LWV, La Plata County; Sarah Jane White, Dooda Desert Rock Committee/Dine CARE; Lori Goodman, Dine CARE

Review of Background Documents

Documents are excellent—authors deserve gold star. Need data table for 3 power plants: MW, present control technologies, monitoring, emissions data, planned upgrades, coal source, greenhouse gas info, ICR data, BART-eligibility. Proposed team to develop table: Mark Jones, Susan Johnson, Mark McMillan, and David Ruger. Will discuss at next monthly call; **let Mark know if there are other categories needed**.

Presentation: Mike Farley, San Juan Generating Station: Emissions Controls—Current and Future

Presentation will be posted on Power Plant Work Group website. The San Juan Generating Station has 4 units, built between 1973-1982. The plant produces 1800 mw of power and uses 6.6 million tons coal annually, from BHP's Billiton San Juan Mine.

PM controls: electrostatic precipitators (ESP) 99.7% removal. Performance exceeds federal and state requirements.

NOx controls: Units 1, 3, 4 designed with LNBs and over-fired air ports (to "starve flame" to reduce temperature, producing less NOx). Unit 2 has OFA and combustion controls. Federal and state standards are met.

SO2 controls: originally Wellman-Lord removal system. 1999: converted to limestone-based SO2 removal system. Better performance, less expensive. Meets federal and state emissions requirements.

In 2002, the Grand Canyon Trust and Sierra Club filed suit based on 60,000 opacity violations over 5 years (less than 10% of operating time). NMED joined lawsuit. Scrubbing adds moisture into flue gas, causing water vapor, which caused half of opacity violations. Settled in 2004 via a consent decree: improvements on PM, SO2, NOx and

mercury. Construction scheduled to start in June; Unit 4 in Fall of 2007; Unit 2 in Spring, 2009.

Planned SO2 improvements: Current removal is 80-84%, goal is 90%. Increased scrubbing of flue gas, addition of dibasic acid increases efficiency of limestone. 40,000 tons emitted in 1988; 16,500 last year; should be 9000 by 2010.

Planned NOx improvements: state of the art LNB, advanced OFA (requires modifications to boiler structure), improve combustion controls (air-coal mix); install neural net (to "remember" most efficient scenarios).

PM/mercury control: full-sized baghouse for particulate control (0.015 lbs/mmbtu). Activated carbon injection system for Mercury—into flue gas stream before baghouse. Will test system on Units 3&4 for 1.5 years. Don't know what resulting limit will be. Bituminous coal with high chlorides gets good removal, this coal different—uncertainties because of coal characteristic (sub-bituminous with bituminous qualities). New limit will be written into operating permit. Installation of mercury monitors in 2007. Removal technology will be on 1, 2. Expected removal 70-90%. Oxidized mercury removed by scrubbers but not elemental mercury.

Mercury emissions: 740 lbs per year currently would go to 275 by 2010 at 70% removal.

Questions:
How do you measure tons? Measure flue gas, heat input

What do you do with pollutants removed? SO2 could be made into gypsum; but goes back into mine. Mercury—activated carbon mixed into fly ash, some of which is sold for roads, etc. Otherwise, back to mine. Activated carbon fly ash not marketable.

SO2 allowances could be used for trading. Mercury not, because proposed NM rule won't allow.

New environmental controls will probably reduce efficiency. Capital outlay required: 250 million. Operating costs: 1-5 million year for one (pollutant) system.

Were there plans to clean up absent lawsuit? If they built unit 5. Mercury rule and RHR would have required some reductions. Because of market, voluntary pollution control would cost customers more money.

Will California policy of not taking coal power affect SJGS? It could, they take 30% of one unit (and get 8% of power)

What is the life span of power plant? Don't know—coal contract through 2017. Estimated life of coal mine? Don't know.

Projection for quality of coal? Don't think it will change dramatically--20-22% ash;.7-.8% sulfur. Does coal seam produce CBM? Think they vent it. Thinking of mixing CBM into fuel stream.

Is CO2 on horizon politically? Could be with NM's climate challenge. IGCC captures CO2 more easily, could be put underground. 25-30K MW separation costs—would double price of electricity.

Any new unit would be state-of-the-art; but no plans for new unit.

Advice for workgroup in developing mitigation options? SJGS is already in the middle of millions of dollars worth of projects now, including controls to comply with the Mercury rule and the Regional Haze Rule. Certainty is needed because of high costs and the need to plan. Can support anything as long as it's industry-wide.

Reductions are coming to the Four Corners Power Plant, although they haven't committed to anything yet.

Work Plan Development

Mark reviewed charter and discussed need for development of work plan with major tasks scheduled. The big deliverable will be in May, 2007. Mark suggested breaking down into smaller "source categories" like specific power plants (2 existing power plants and 1 proposed). The group ultimately decided to delineate categories as existing power plants, proposed power plants, and other power sources (to include yet-unplanned future power plants and alternative energy sources).

We can tag options for CE and monitoring to look at.

May, 2006: Review background information. Develop work plan.

June 2006: Have data table available. Might make it easier to brainstorm options.

August 2006: Existing Power Plants (there was some discussion of doing proposed power plants first) options drafted

November 2006: Proposed Power Plants options drafted (are we including Mustang?)

February 2007: Other power sources options drafted

May 2007: Want all options drafted

August 2007: Task Force review web comments; WG discuss any revisions

November 2007: Task Force reviews final report

Mark proposes a matrix for developing options, and proposed starting with SJGS. Any pollutant or AQ issue can be addressed. Comment: there seem to be multiple, diverse standards applicable to these power plants. Are these standards mitigation options? Mitigation options not limited to control technologies; could look at management issues. Goal is to reduce emissions. Another possible arena for discussion is Public Utility commissions—can we identify how citizens can interact to counteract pollution controls leading to more costly electricity (i.e., rate recovery)? Options could call for more studies; can be broad or complex. Mark McMillan handed out mitigation options for a starting point. The group decided it makes sense for options to be more policy-oriented, rather than only technology options.

Should we deal with fugitive emissions? Extremely hard to quantify.

Is there a way to get a handle on costs/benefits? Mitigation options are to include a discussion of the feasibility of options.

How can we dovetail with other efforts (NM mercury task force, etc)? We can use some of the information they are producing. A big part of this effort is public education and outreach and a stakeholder process. **Anyone who knows of relevant efforts, please get information to Mark for inclusion in the background documents.**

Work Group Logistics

Next calls:

June 14, 4-5 pm: discuss data table, among other things.

July 12, 4-5 pm: discuss mitigation options for existing power plants.

Any additions for the web page should go to Mark. Should add link to AP42 guidance. Something to give better handle on retrofit, current and near future technology including implementation issues would be helpful. Mark will send out email to start developing mitigation option list (including Mark McMillan's options).

Can there be a 1 or 2-page fact sheet on the operation of the power plant group?

The next meeting is in Cortez, August 9. **Anyone willing to take notes there, please let Mark know.**