

## Notes from the 1<sup>st</sup> meeting of the DOE Fugitive Emissions Working Group (9/9/10)

Forty representatives from sixteen DOE sites and programs were welcomed to the Fugitive Emissions Working Group by Glenn Podonsky, DOE Chief Officer for Health, Safety, and Security. Mr. Podonsky shared highlights from his discussions with Secretary Chu and other DOE leaders earlier that morning, stating that fugitive gas emissions like SF<sub>6</sub> comprise 14% of DOE's total GHG releases. Fugitive emissions are "a major issue" and key to attaining and surpassing our "modest" agency goal of 28% GHG reduction by 2010.

Early questions included:

- How do DOE's 14% fugitive emissions compare to other agencies' scope 1 and 2 GHG emissions breakdown? Is there any information sharing taking place between agencies?
  - We don't know the proportion of reported fugitive emissions for other agencies exactly, but CEQ states that DOE reported a much higher number than other agencies. Air Force has reached out to DOE to discuss SF<sub>6</sub> since they have a large number of high tech applications that use SF<sub>6</sub>. The rest of Defense dwarfs Air Force fugitive emissions, so the agency as a whole did not report a large percentage of fugitive emissions. We are also reaching out to the EPA voluntary SF<sub>6</sub> reduction program to see what we can learn from them. We actively seek collaboration with other agencies.
- What sort of funds are going to be available in FY2011 for purchasing leak-reducing equipment?
  - FEMP has included funding for fugitive emission reduction strategies in its 2011 proposed budget. This part of the overall DOE budget was largely approved by the Senate and reduced by the House. We expect the reconciliation process will not be concluded until the end of the year.
- Will the 2008 fugitive emissions baseline be recalculated?
  - We do not intend to recalculate the fugitive emissions baseline inventory. If any site is interested in recalculating their FY2008 inventory using their FY10 inventory methodology, please contact Josh Silverman to make arrangements.

Key notes from Josh Silverman, *Fugitive Emissions at the Department of Energy: An Overview* are below:

- Is the current assumption that "most SF<sub>6</sub> emissions result from intentional venting" a valid assumption and if so, what can be done about it?
  - One function of FEWG is to verify and validate this statement, including defining "intentional venting," and identifying goals for reducing
- Who should be involved in FEWG?
  - DOE sites are asked to self-determine who should be involved in FEWG – engineers, facilities personnel, environmental personnel, etc.
- The goal of the FEWG communications plan is to facilitate communication between sites.
  - We plan to convert FEWG meetings to a webinar format similar to the FEMP format for their 1<sup>st</sup> Thursday series.

- Contact Josh and Jeff if you want to present or share something or suggest topics for future discussions.
- The FEWG hopes to facilitate communication and learning between engineers and environmental folks, especially in terms of evaluating specs for new systems/equipment

Site Presentations:

Steve Lowder presented slides for SF<sub>6</sub> emissions reduction strategies at Bonneville Power Administration (BPA) and Kirk Stoddard presented slides for SLAC National Accelerator Laboratory's reduction program: Bonneville: *SF<sub>6</sub> Emission Reduction* and SLAC: *Reducing Fugitive Emissions of SF<sub>6</sub> at SLAC National Accelerator Laboratory*. Presentation highlights and questions are below.

- First challenge is to identify all of the SF<sub>6</sub>-containing equipment on site
- Some leaks can be fixed by simply tightening fittings and/or making sure valves and seals are installed properly.
- The SLAC efforts to reduce SF<sub>6</sub> emissions were mostly a grassroots effort. The new SLAC Chemical Management System (CMS) made it easier to know and show where and how much SF<sub>6</sub> was being used. Environmental staff attended SF<sub>6</sub> conferences and educated both lab folks and management about the need for SF<sub>6</sub> reduction. Researchers redesigned experiments to use less SF<sub>6</sub>.
- Are you able to remotely monitor SF<sub>6</sub> pressure?
  - SLAC (Kirk) – Yes, for three of the breakers in the main substation; No for the rest
  - Bonneville (Steve) – The switches have alarms built in – the first alarm notifies that the equipment is losing gas (regardless of quantity or rate), the second alarm signals that the equipment has frozen in whichever position it was in.

Corey Buffo updated the FEWG about FY2010 fugitive emissions reporting, reminding sites that draft PPTRS worksheets and guidance can be voluntarily tested by the sites in advance of the official data call, helping work out all the kinks ahead of time. Let Corey know if you are willing to test the worksheets.

Jennifer MacDonald wrapped up the meeting by leading the FEWG in a discussion about the Working Group's path forward, focused on the "Near Term Action Plan" bullets on slide 12 of Josh's Fugitive Emissions Overview presentation. Discussion highlights follow:

- DOE Headquarters can provide assistance with PPTRS reporting and Site Sustainability Plans
  - SSP: Helping sites gather the necessary information to complete their SSP according to previous guidance. For example, HQ can help sites struggling to meet the SSP guidance requirement to identify steps to control emissions by helping the sites determine which methods to use when evaluating emissions control equipment.
  - Assist with cost benefit analysis of engineering solutions – What systems, access to data, information do sites need to evaluate solutions?

- Distribute information about engineering solutions such as the SF<sub>6</sub>-free electron gun and breakers that may use less or no SF<sub>6</sub>
- Set near and mid-term reduction goals and/or performance objectives
  - These objectives are more like targets than goals – what we will try to do, not what we will achieve
  - Sharing best practices – one of the primary objectives of the FEWG is to facilitate communication between sites to share best practices and learn from each other what works and what has not previously worked. It is the goal of the FEWG to have a couple presentations each meeting that share best practices.
  - A program representative questioned whether it might be premature to set goals when sites are still determining their emissions and equipment inventories – Silverman responded that we need to start thinking about goals as we move forward and schedule our next meetings
  - One field representative commented that the starting place for setting goals/targets should be with new equipment – including SF<sub>6</sub> use/leak rate in procurement specs/evaluation
  - Another program staffer stated that goals/targets as well as SF<sub>6</sub> emissions control solutions will be very site specific in response to individual equipment needs. Silverman agreed but noted some overlap and cross-site technology solutions for which FEWG can facilitate knowledge transfers. Discussions with other agencies, private labs, private industry facilities, etc. can help identify research needs and available technologies or substitutes (see definition of substitutes below)
- Identify substitution path forward
  - “Substitution path forward” has several meanings: substitution for SF<sub>6</sub>, equipment substitution; and/or changes in operating procedures that eliminate or reduce the need for SF<sub>6</sub> without having to search for an SF<sub>6</sub>-substitute.
  - The price of SF<sub>6</sub> is expected to rise drastically, creating budgetary incentives for further research, possibly stimulating public/private partnerships.

A few final remarks:

- While staying sensitive to people’s busyness with the data calls, we will keep to a regular monthly schedule during this data harvesting season.
- Next meeting is October 14, 2010 at 11am ET (same time, same 2<sup>nd</sup> Thursday) – contact Jeff if keeping this time/date schedule causes problems.
- Contact Josh and CC: Jeff if you want to present or have a topic for discussion on the next call.

Presenters’ contact information:

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