**MEMORANDUM**

**To:** Carbon Power Plan for Existing Power Plants; Docket id: OAR-2013-0602

**From:** Region 5, EPA

**Summary**: The following questions were submitted to EPA by IL EPA, WI DNR and OH EPA prior to a 7/16/14 conference call between EPA and R5 states about the proposed carbon power plan for existing power plants.

**Meeting Agenda:**

1. Welcome and introductions: U.S. EPA Region 5
2. Opening remarks: Joe Goffman, Associate Assistant Administrator, U.S. EPA Office of Air and Radiation
3. Questions from states: Office of Air and Radiation staff

**Illinois EPA Questions**

**Concerning U.S. EPA Clean Power Plan Proposed Rule**

July 10, 2014

Rate-Based/Mass-Based Goal Computations:

1. In order to fully understand U.S. EPA’s rate-based goal determinations, can the agency provide the state with the detailed calculations used to establish Illinois’ rate-based goals?
2. Illinois EPA is interested in converting the rate-based goals to their equivalent mass-based goals ASAP.  Would it be possible for U.S. EPA to provide the state with the presumptive equivalent mass-based goals - with detailed calculations and assumptions used?  If not, what assistance can U.S. EPA provide the state to help calculate the mass emissions and by when?
3. Can U. S. EPA provide an example of how Illinois/states take credit for retirement of high CO2 emitting units in a rate-based approach - either through subtracting reduced CO2 from numerator or adding lost generation to denominator or by some means of calculating - such as assuming lost generation is made up for by zero, low or lower emitting units?
4. Illinois EPA would like to better understand how being a net exporter of electricity impacts its goals.  In the goal calculation (e.g., building block 4 goal calculation), how does Illinois being a net exporter of electricity factor into the goal?  Please provide the related calculations.
5. Are all renewable energy sources allowed under the “Net power generated”?  Or only ones built prior to January 8, 2014?  Is this date only for fossil fuel fired plants?
6. Can new EGUs subject to NSPS, like Future Gen, be part of the “net power generation” for 2020 through 2030 and beyond?
7. Can the state receive emissions reduction credit for new natural gas combined cycle capacity that comes online after 2012?   If yes, how would that factor into the goal calculation?

At-Risk Nuclear Power Capacity:

1. U.S. EPA reduced Illinois’ baseline and subsequent goals by accounting for 5.8% of at-risk nuclear.  The 5.8% was derived by USEPA using a national average and not on a state-specific basis.  In compliance calculations by states, is there (or will there be in the final rule) a mechanism for states to show that greater than 5.8% of nuclear was at risk and due to actions taken by the state greater than 5.8% was preserved – and therefore states can take greater than 5.8% credit in their compliance, or back-end, calculations?
2. Can U.S. EPA provide a sample calculation of how preserved nuclear generation is accounted for in back-end compliance calculations?

Renewable Energy/Energy Efficiency Measures:

1. Do all entities have to be 25 MW and provide 1/3 power to the grid, for example, can we use landfill gas-to-energy plants as part of our RE?

Definitions**:**

1. In the definition of “Affected entity” under 40 CFR 60.5820, does the phrase “or another entity with obligations under this subpart for the purpose of meeting the emission performance goal requirements in these emission guidelines” include the renewable energy and energy efficiency projects?
2. Can an “affected entity” be more than one unit or source?
3. Can an “entity” be more than one plant or unit?
4. One clarification:  in the definition of “net energy”- recommend changing the word “facility” to “entity” for consistency purposes.

Miscellaneous:

1. Is there a mechanism for states to take credit for actions by sources that are not affected units?  For example, if a non-affected industrial source removes coal-fired boilers and replaces them with lower CO2 emitting natural gas fired boilers?  If yes, please provide an explanation with an example of how this can be done.

**Ohio EPA - Questions for Hub Call**

**7/11/2014**

1. Can an inventory of units in other years besides 2012 be provided to Ohio in the same format and parsed in the same manner as used for the goal setting portion?
2. This would be the same format and have the same data as the TSD Excel spreadsheet *tsd-plant-level-data-unit-level-inventory\_App7.xlsx* and *tsd-egrid-methodology.xlsx.*
3. Can a spreadsheet detailing the determination of the RE goals be provided?
4. Can a state, in a state plan, take credit for all nuclear generation, or only 5.8%?
5. Can USEPA confirm that the shadow cost for Ohio in the IPM model was $11.30 in 2030?
6. How was EE represented/constrained in the IPM model?
7. Can a parsed, state specific file of *initial* IPM conditions be provided to Ohio?
8. Does IPM output net or gross generation at each unit?
9. Was any consideration given to base-load generation vs peaking generation in IPM?
10. Can USEPA confirm that no new NGCC generation was projected for Ohio by IPM in Option 1 – State scenario?
11. How will shutdowns from the MATS rule be counted in the conversion to a mass based plan?
12. If shutdowns must be accounted for in determining a mass based goal, why are these shutdowns not accounted for in the rate determination?
13. Was “remaining useful life” accounted for in the IPM model?  How can states account for remaining useful life in examining their state goal and in developing their state plans?
14. How were renewables/RE accounted for in IPM in the Option 1 – State scenario?
15. Can USEPA confirm that no new biomass was projected by IPM under scenario Option 1 – State.
16. Can updated capacity factor data for eGrid-2010 (2007 data) be provided? Capacity factor data is largely absent in this data set.
17. There is a ~10% difference between heat rates in IPM and those derived following USEPA’s methodology in the goal setting TSD.  What is the cause of this difference?
18. Can parsed data for the IPM runs be provided for 2030?
19. Can USEPA confirm that the capacity factors projected by IPM case Option – 1 State are around 80 to 85% for coal?

**Wisconsin DNR Questions/Issues for the Region 5 Hub Meeting re: Clean Power Plan Proposed Rule**

*July 11, 2014*

Related to trading programs:

1. Would EPA consider developing a national trading program?  This would be an enormous help to the states and would considerably ease compliance.
2. How does EPA envision using existing tracking systems for renewable energy certificates (RECs) such as M-RETS?  Could states use these existing programs, which track RECs and allow entities to purchase RECs (representing MWh of renewable electricity), as a way to demonstrate compliance with the renewable electricity parts of state goals?
3. If EPA allows use of M-RETS and other tracking systems for compliance, would it be possible to expand these systems to track and trade energy efficiency?  Would EPA allow such an approach?
4. Does EPA envision needing separate trading systems for pounds of CO2 and for megawatt hours of electricity avoided/generated?

Related to use of existing state programs for compliance:

1. Does EPA plan to allow states to use tried and tested state approaches for estimating energy efficiency and renewable electricity impacts, as long as such programs meet some minimum requirements?  For example, does EPA intend to let states who have developed rigorous ways to handle lifetime of EE measures to continue using their approach?
2. Similarly, is EPA planning to set criteria for what kinds of renewable electricity may count towards compliance or will EPA defer to decisions states have already made about this?  (This relates to decisions such as whether to count biomass-derived power, co-firing of renewables and fossil fuels, thresholds for hydro power, the shelf life of RECs, etc.)
3. Which entity will certify individual renewable facilities as eligible for 111(d)? (i.e. EPA, states, program administrators of tracking systems).
4. Will the EPA establish avoided CO2 per MWh of renewable energy, or let states’ propose?
5. Related to energy efficiency: does EPA plan to allow “gross” energy efficiency savings (i.e., all avoided generation/emissions) to count towards compliance or would compliance be limited to “net” savings (i.e., only those measures that are believed to have occurred as a direct effect of the program)?  Does EPA expect states to make an effort to exclude “free riders” from compliance?  Some states have methods to make these estimates, but it is a somewhat subjective distinction to make and would be hard to do so consistently between states.

Related to out-of-state RE:

1. How is EPA planning to credit existing renewable electricity that is either owned or contracted for by utilities in another state?  It sounds like EPA plans to credit this to the state that pays for the RE, an approach we agree with.  However, this RE counted towards the baseline of the state it is located in (and thus makes their target higher or pushes them above the 15% threshold) and thus could affect compliance for the state within with the generation capacity is located.
2. Can international trans-boundary renewables/hydro be used for compliance purposes? E.g., purchased hydro from Manitoba?

Related to permitting:

1. At a macro level, how does EPA envision the requirements for the GHG NSPS under 111(b) for new sources, the “modified and reconstructed” proposal under 111(b) and the 111(d) requirements playing together for permitting purposes?
2. Again, related to permitting, how will EPA address the potential triggering of NSR permitting requirements for criteria pollutants if/when a utility decides to undertake an efficiency improvement project under 111(d)?  We’re hearing concerns that taking measures to improve efficiency (reduce GHGs) can very well trigger NSR for pollutants like NOx causing sources to have to take more stringent criteria pollutant limits and/or install new (potentially expensive) controls for criteria pollutants.  This appears to be potentially a disincentive.

Alternative approaches:

1. EPA discusses (on pages 313-320 of the prepublication Preamble) an alternative approach based on application of building block 1 accompanied by reductions in coal generation (indirectly determined through building blocks 2-4).  Are there any supplemental materials available that describe this approach in more detail?  How does the overall goal determined by this approach differ from that proposed?