

December 8, 2021

Alpine Geophysics has been tasked by the Midwest Ozone Group (MOG) with collecting, compiling, and providing U.S. EPA and relevant state agencies with a list of issues identified by MOG members with respect to a review of the 2016v2 emissions modeling platform. This letter has been prepared and is being submitted to you with items for review and incorporation into any revisions made to this version of the U.S. EPA emission inventory and associated modeling platform.

Comments on this platform have been invited through three known references:

1. The Emission Inventory Collaborative Workgroup meeting¹ on September 21, 2021.
2. Presentation made by Chet Wayland to AAPCA² on September 30, 2021.
3. Notice on EPA's Air Emissions Modeling website³.

Alpine provided MOG members with summaries generated from the EGU files listed below:

1. egucems_epa620_2023_20210528_summer_07jul2021_v0.csv
2. egucems_epa620_2023_20210528_winter_07jul2021_v0.csv
3. egucems_epa620_2023_20210528_wintershld_07jul2021_v0.csv
4. egunoncems_epa620_2023_20210528_summer_09jul2021_v1.csv
5. egunoncems_epa620_2023_20210528_winter_09jul2021_v1.csv
6. egunoncems_epa620_2023_20210528_wintershld_09jul2021_v1.csv
7. needs-v6-summer-2021-reference-case.xlsx
8. table-3-32-state-settlements-in-epa-platform-v6-summer-2021-reference-case.pdf
9. table-3-31-new-source-review-nsr-settlements-in-epa-platform-v6-summer-2021-reference-case.pdf
10. table-3-30-state-power-sector-regulations-included-in-epa-platform-v6-summer-2021-refe.pdf
11. table-3-34-availability-assumptions-in-epa-platform-v6-summer-2021-reference-case_1.xlsx
12. table-3-29-turndown-assumptions-for-coal-steam-units-in-epa-platform-v6-summer-2021-reference-case.xlsx

¹ <http://views.cira.colostate.edu/wiki/wiki/11208#September-21-2021>

² https://cleanairact.org/wp-content/uploads/2021/10/Wayland_Monitoring-Modeling-and-Emission-Inventory-Updates_9-30-21-1.pdf

³ <https://www.epa.gov/air-emissions-modeling/2016v2-platform>

The following companies have provided comments which are included in this document:

1. NIPSCO
2. East Kentucky Power Cooperative, Inc.
3. Cleveland-Cliffs' Silver Bay Power
4. Cornell University
5. ADM
6. University of Cincinnati Central Utility Plant
7. University of Notre Dame
8. Utility Information Exchange of Kentucky
9. Citizens Energy Group

Comments as Submitted

1. The new model run essentially shows zero emissions from the NIPSCO R.M. Schahfer Generating Station in 2023. However, Schahfer Units 17 and 18 are not expected to retire until June 2023, and we project that the facility will emit approximately 1,200 tons of NOx in the first half of 2023.

Comment contact: Stephen Holcomb, Manager, Environmental Policy & Sustainability, NiSource, 801 E. 86th Ave., Merrillville, IN 46410, C: 219.741.6742, sholcomb@nisource.com

2. EPA does not indicate or include Cooper Unit 1, Unit 2 and our CFBs from Spurlock in their IPM. We have no plans to retire these viable generation assets at this time.

Comment contact: Jerry Purvis, Vice President, Environmental Affairs, East Kentucky Power Cooperative, Inc., 4775 Lexington Road, Winchester, KY 40392-0707, 859.745.9244, jerry.purvis@ekpc.coop

3. EPA lists Northshore Mining Co- Silver Bay's (ORISID 10849) emissions as 2,821 tpy NOx and 2,215 tpy NOx. However, the facility is not regulated or permitted as an EGU and has been idled since 2019.

Comment contact: Jason Aagenes, Director – Environmental Permitting and Regulatory, Mining, 218.744.6037, jason.aagenes@clevelandcliffs.com

4. A) The list shows that that Cornell's CT1 and CT2 and TG1 and TG2 units are in CSAPR, which they are NOT subject to. We are reporters only, but not in a trading system anymore. We used to have allowances in the NOx CAIR program for CT1 and CT2 (each at 15 MW which is below the threshold but exceeded NY's 250 mmBTU/hr threshold), but the CT units fell out of being subject once the CSAPR rule passed since the CSAPR

threshold was strictly 25 MW. TG1 and TG2 are steam turbines and burn no fuel so I'm not sure why they are listed.

B) They have emissions listed for TG2 which is a steam turbine and combusts NO fuel (they have an estimate of 1 ton for TG2)

C) The list shows a drop in emissions for CT2 from 3 tons to 2 tons (comparing CSAPR 2023 to V2 2023), but I don't know why. If this is an estimated cut for the future, it would not happen under CSAPR since we are not subject. We are also exempt from the CO2 regulations in NY state because we are staying below the 10% electrical export threshold requirement for the exemption.

Comment contact: Cheryl Brown, Environmental Health & Safety, Cornell University, 395 Pine Tree Road, Suite 210, Ithaca, NY 14850, Phone: (607) 254-8687, cah65@cornell.edu

5. ADM's two cogeneration facilities below are incorrectly identified as EGU's. Neither of these have triggered or ever been permitted as EGU's. These are cogen facilities that support wet and dry corn mills.

Facility	NOx Emissions (Tons)	
	CSAPR 2023	2023v2
ADM Corn Processing (Columbus, NE)	224	42
ADM CORN PROCESSING - CEDAR RAPIDS (IA)	223	539

Comment contact: Dean Frommelt, Global Environmental Director, ADM, 4666 Faries Parkway, Decatur, Illinois 62526, (217) 451-6330, Dean.Frommelt@adm.com

6. The University of Cincinnati has 2 power plants on this list:
 1. Central Utility Plant ORIS 57908
 2. East Campus Utility Plant ORIS 57929

Neither plant is classified as an EGU. After review of previous summaries of the 2020 CSAPR Update Rule, it was my understanding that while non-EGUs were being evaluated, they were not going to be pulled into Group 3 until further information had been gathered. In addition, I was under the impression that the non-EGUs being considered were boilers > 250 MMBtu/hr, turbines > 25 MWe, and large ICE. Our units are all smaller than these thresholds.

As far as the listed allowances, the projected 2023 NOx emissions for our Central Utility Plant are less than our 2020 actual emissions (39 tons vs. 43.2 tons respectively). The projected 2023 NOx emissions for our East Campus Utility Plant are 1 ton while 2020 actual emissions were zero (the STG at that plant has been non-operational for many years).

Comment contact: Sheri Bussard, Environmental Engineer, Utilities and Technical Support | University of Cincinnati Central Utility Plant | 3000 Glendora Avenue, Cincinnati, OH 45221-0390, 513-556-2542, bussarsl@ucmail.uc.edu

7. I note that the University of Notre Dame is listed, the values for the revised (V2 2023) modeling are close to our 2020 emissions as reported (174 tons of NOX versus 184 tons of NOX reported). I also note that in both our cases we are not EGU's and would think we don't belong in this analysis, other Non-EGU's in IN (like our friends at Purdue) are not included.

Comment contact: Paul A. Kempf, P.E., Assistant Vice President of Utilities & Maintenance, University of Notre Dame, 100 Facilities Building, Notre Dame, IN 46556, 574-631-6594, pkempf@nd.edu

8. UIEK Comments on the 2016v6 Modeling Platform

Review of Kentucky utility data yielded a few discrepancies that are described below.

Several units were missing from the dataset. These units are in operation and do not have a set retirement date. One additional unit was listed in the dataset that retired in 2021.

For consideration in the EPA Integrated Planning Model

East Kentucky Power use its authorized emissions under title V for all its generating assets in Kentucky, coal and natural gas units included.

East Kentucky Power Company - John S. Cooper (ORIS 1384)

Unit 1 – Unit has no scheduled retirement date.

Unit 2 – Unit has no scheduled retirement date.

East Kentucky Power - Spurlock Station (ORIS 6041)

Station does not reside near an existing natural gas (NG) line. The NG line is nearly 39 miles from its location in Maysville, KY. EPA IPM reflects conversion of unit 2 to NG. This is unlikely to happen w/o a very large capital investment by a gas transmission company. Unit 2 is unlikely able to convert to NG.

East Kentucky Power Company – HL Spurlock (ORIS 6041)

Unit 3 – Unit has no scheduled retirement date, vintage 2005

Unit 4 – Unit has no scheduled retirement date, vintage 2009

Kentucky Utilities - EW Brown (ORIS 1355)

Unit 3 – Unit has no scheduled retirement date.

EPA IPM team should reach out to the bulk electric operators such as like PJM, MISO, SPP, and TVA in order to explore improvements to the model with regards to how transmission congestion may occur as fossil plants retire, idle or serve load.

Retired

Louisville Gas & Electric Company – Paddy’s Run (ORIS 1366)
Unit 11 retired on March 31, 2021.

In reviewing the emissions allocated for electric generating units, UIEK identified federally enforceable permit limits that were not accounted for in some modeled emissions. In addition, the model has attributed emissions with the steam turbine for combined cycle combustion turbines. The emissions should only be attributed with the actual combustion turbines since fuel is not combusted in the steam turbines.

Permit Limits

Louisville Gas & Electric Company – Paddy’s Run (ORIS 1366)
2016v2 modeling platform emissions for facility total 345 tons. The Title V permit (O-0125-18-V) sets a federally enforceable limit of plantwide NOx emissions of less than 100 tons during any 12-month consecutive period to avoid NOx RACT and PSD/Nonattainment NSR that was established in 1998.

Combined Cycle Combustion Turbines

Louisville Gas & Electric Company – Cane Run (ORIS 1363)
Stack 7S – An emission point with this nomenclature does not exist at Cane Run Station. All emissions should be contributed to the combustion turbines 7A and 7B.

TVA – Paradise Fossil Plant (ORIS 1378)
Stack STG1 – All emissions should be contributed to the combustion turbines PCC1, PCC2 and PCC3.

UIEK also identified anomalies in the emissions modeled in the ozone season. The units plan to operate year-round and not just in the non-ozone season months.

Duke Energy – East Bend (ORIS 6018)
Unit 2 emissions were reduced by > 81% from previous IPM model and there is no modeled operation in the ozone season.

Big Rivers – D B Wilson (ORIS 6823)
Unit W1 indicate no modeled operation in the ozone season.

Comment contact: Robin B. Thomerson, Partner, Dentons Bingham Greenebaum LLP,
300 West Vine Street, Suite 1200, Lexington, KY, 40507, 859 288 4646,
robin.thomerson@dentons.com

9. Citizens Energy Group

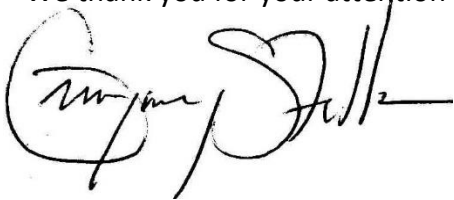
Citizens Energy Group's C.C. Perry K Steam Plant in Indianapolis seems to be identified in the EGU inventory, solely (perhaps) as a reporter to the Energy Information Administration. Perry K does not have >25 MW to the grid, nor do we do retail electric sales to end use customers. The boilers are non-EGU boilers under the framework of the CSAPR regulations.

Projected 2023 NOx emissions from the boilers at Perry K are projected to be (only) 54 tons in 2023. The 2020 annual emissions statement submitted to IDEM showed 389 tons emitted from the boilers. It appears that the boilers have been 'shifted' to a CSAPR inventory and that the model would anticipate an 85% reduction in NOx emissions from the boilers.

Citizens requests that the inventory be updated to move the boilers at Perry K to the non-EGU inventory.

Comment contact: Ann McIver, QEP, Director Environmental Stewardship, Citizens Energy Group, 2020 North Meridian Street, Indiana 46202, 317.927.4393,
amciver@citizensenergygroup.com

We thank you for your attention to these matters.

A handwritten signature in black ink, appearing to read "Gregory Stella". The signature is stylized and cursive, with a large initial "G" and "S".

Gregory Stella

Alpine Geophysics, LLC
387 Pollard Mine Road
Burnsville, NC 28714
(828) 675-9045
gms@alpinegeophysics.com