

## MEC 32<sup>nd</sup> Annual Sustainability & EHS Symposium

Session EE – 53<sup>rd</sup> Anniversary of the Clean Air Act of 1970 and 32<sup>nd</sup> Anniversary of the Clean Air Act Amendments of 1990 ... What's on the Horizon for Business in America's Heartland?

March 29, 2023



Kirk Lowery, Trinity Managing Director (Moderator)  
Matt Stuckey, IDEM Asst. Commissioner of Air Quality  
Michael Kennedy, Director of the Division for Air Quality, KYDEP  
Bob Hodanbosi, Ohio EPA Div. of Air Pollution Control Chief




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## Workshop Overview

- ▶ Format
  - Short introduction to each topic
  - Questions and answers
- ▶ Planned Topics
  - Proposed revision to PM<sub>2.5</sub> NAAQS
  - Good neighbor provisions for 2015 Ozone NAAQS
  - Proposed oil & gas methane rule



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## Proposed Revision to PM<sub>2.5</sub> NAAQS

- ▶ National Ambient Air Quality Standards (NAAQS) established to protect most sensitive individuals
  - Reviewed every 5 years
- ▶ Current PM<sub>2.5</sub> NAAQS
  - 12 µg/m<sup>3</sup> annual avg
  - 35 µg/m<sup>3</sup> 24-hr avg
- ▶ 01/27/2023 proposed revision (88 FR 5558)
  - Reconsideration of 2020 decision to maintain current standards
  - Maintain 24-hr standard (but accepting comments on lowering to 25 µg/m<sup>3</sup>)
  - Revise annual standard to 9-10 µg/m<sup>3</sup> range (but accepting comments on 8-11 µg/m<sup>3</sup> range)

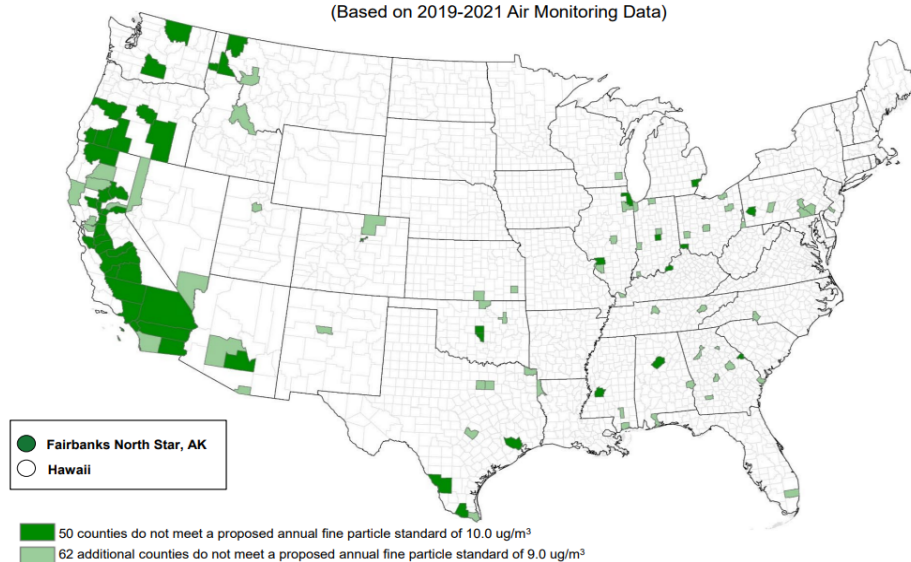


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## Projected PM<sub>2.5</sub> Nonattainment Areas Under Revised NAAQS

(from <https://www.epa.gov/system/files/documents/2023-01/PM%20Maps%20-%202022%20proposal%20%28%29.pdf>)

(Based on 2019-2021 Air Monitoring Data)



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## Good Neighbor/Interstate Transport Provisions

- ▶ Emissions of SO<sub>2</sub>, NO<sub>x</sub>, & PM<sub>2.5</sub> can travel long distances thereby affecting air quality in downwind states
- ▶ Clean Air Act (CAA) Section 110(a)(2) “good neighbor” provision requires EPA and states to address interstate transport that affects downwind states’ ability to comply with the NAAQS
  - Federal rules enacted under provision include NO<sub>x</sub> Budget Trading Program and CAIR/CSAPR
  - States can file CAA Section 126(b) petition for EPA to enact additional rules to meet good neighbor provision



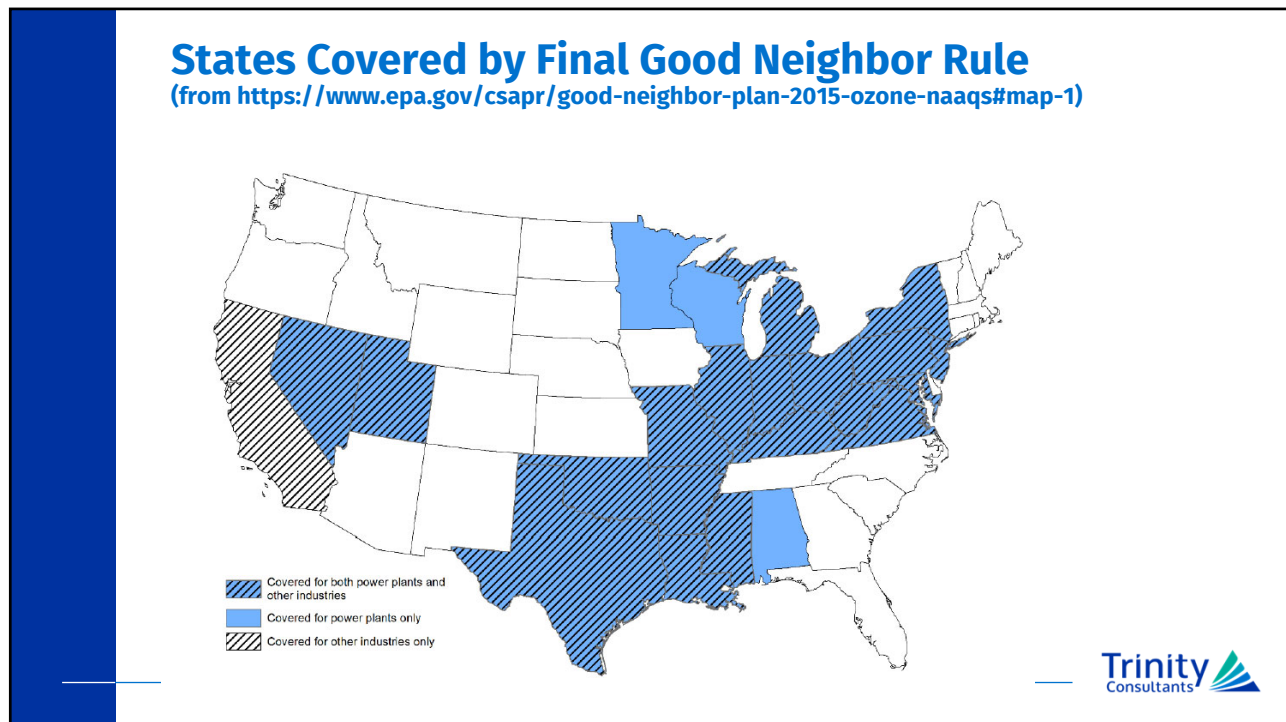
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## Good Neighbor Provisions for the 2015 Ozone NAAQS

- ▶ EPA has found that NO<sub>x</sub> emissions from 23 upwind states is significantly contributing to downwind nonattainment or interfering with maintenance of 2015 ozone NAAQS (70 ppb, 8-hr avg.)
  - Includes KY, IN, and OH
- ▶ Final rule signed by EPA Administrator Regan on 3/15/2023 (not yet published in Federal Register)
- ▶ Will amend CSAPR rules in 40 CFR 97
- ▶ Federal implementation plan (FIP) includes:
  - Reduced ozone season NO<sub>x</sub> budgets for electric generating units (EGUs) in 22 states beginning in 2023 – adds MN, NV, & UT to CSAPR
  - **NO<sub>x</sub> emission limits for certain non-EGUs in 20 states beginning in 2026**
  - States can submit their own SIPs



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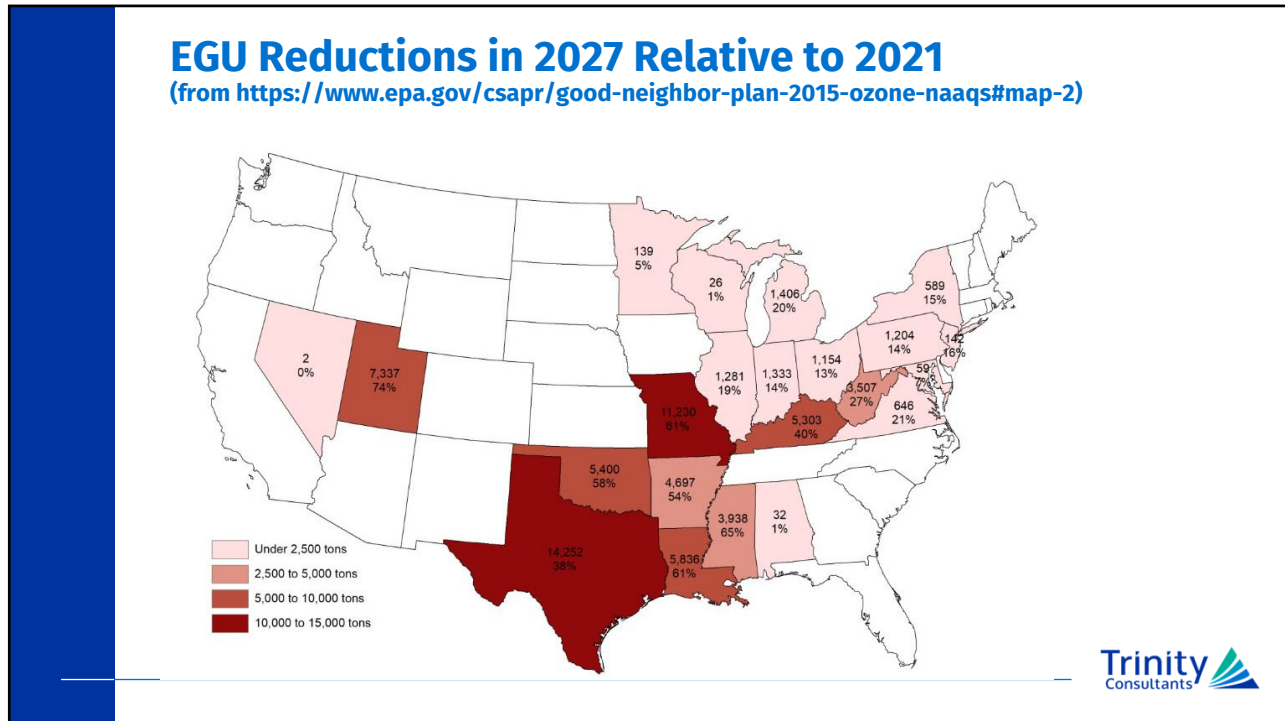


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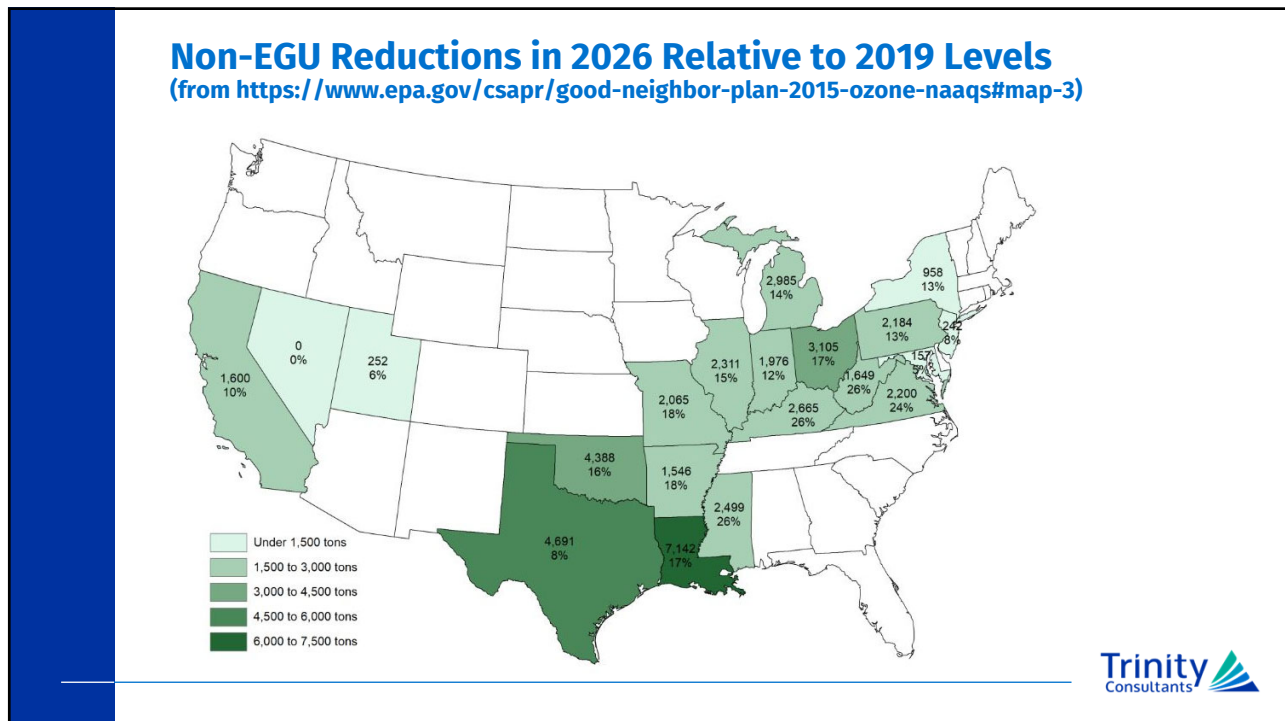
### What Non-EGUs are Covered & What are Limits?

Source Type/Applicability	NO <sub>x</sub> Limits
Gas-fired IC Engines ≥ 1,000 hp used for pipeline transportation of natural gas	1.0-3.0 g/hp-hr (30-day rolling avg) depending on engine type; exempts emergency engines and adds facility-wide emissions averaging alternative
Cement kilns with potential NO <sub>x</sub> emissions ≥ 100 tpy	2.3-4.0 lb/ton clinker (30-day rolling avg) depending on kiln type (removed equation based daily cap for all kilns at single source/plant)
Iron/Steel/Ferroalloy reheat furnaces with potential NO <sub>x</sub> emissions ≥ 100 tpy (eliminated limits for other unit types)	Install low-NO <sub>x</sub> burners designed to reduce emissions by 40% and test to set 30-day rolling avg limit
Glass furnaces with potential NO <sub>x</sub> emissions ≥ 100 tpy	4.0 or 7.0 lb/ton glass produced depending on furnace type
Industrial boilers ≥ 100 MMBtu/hr at source within chemical, petroleum/coal products, pulp & paper, metal ore mining, & iron/steel/ferroalloy sectors	0.08-0.20 lb/MMBtu based on fuel type Adds low-use exemption (operate <10%/yr on hourly basis in past 3 years and no more than 20% in any single year)
Municipal solid waste combustors (MWCs) combusting ≥ 250 tpd	110 ppmvd 24-hr block avg & 105 ppmvd 30-day rolling avg (corrected to 7% O <sub>2</sub> )

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## Proposed Methane Rules for the Oil & Gas Industry

- ▶ New Source Performance Standards (NSPS)
  - Section 111 of the Clean Air Act
  - Promulgated within 40 CFR 60
  - Typically cover new, modified, and reconstructed affected facilities, but can also cover existing sources under Emission Guidelines
- ▶ NSPS 0000 – 1<sup>st</sup> finalized in 8/2012
  - VOC and methane (CH<sub>4</sub>)
  - New/modified/reconstructed between 8/23/2011 and 9/18/2015
- ▶ NSPS 0000a – updated in 6/2016
  - New/modified/reconstructed between 9/19/2015 and 11/15/2021



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## Proposed Methane Rules for the Oil & Gas Industry

- ▶ November 2021 proposals:
  - NSPS 0000b: Affected facilities after 11/15/2021
  - NSPS 0000c: Affected facilities on or before 11/15/2021
- ▶ NSPS 0000c – emission guidelines for state rule development
  - Emission limits/standards for methane
  - Generally the same requirements as NSPS 0000b
- ▶ November 2022 supplemental proposal for both NSPS 0000b/c
  - Additional items for comment
  - Comment period ended 2/13/2023
- ▶ Timing of final rule – expected summer/fall 2023



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## Proposed Methane Rules for the Oil & Gas Industry

- ▶ Expands scope of well operations affected by rules
  - OH & KY – 50,000-60,000 new sources could be subject in each state
  - If subject, would need to be permitted
- ▶ Proposed Super-Emitter Response Program
  - New program developed for both OOOOb/c
  - Parameters include:
    - ◆ 100 kg/hr threshold
    - ◆ EPA-approved entity or regulatory authority can notify operator
    - ◆ If notified, operator will need to do Root Cause Analysis and if an affected facility is involved, then a report must be submitted to EPA
    - ◆ Remote sensing only (aircraft, mobile, satellite)
    - ◆ Third-party verifiers will be pre-approved by EPA



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## Questions & Discussion

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## Biographical Information

**Kirk P. Lowery, P.E., Managing Director, East Region**  
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Kirk serves as Managing Director for Trinity's East Region and has over 27 years of environmental experience with a focus in the air quality regulatory arena. Kirk's regulatory expertise includes air permitting (NSR/PSD/Title V), NSPS/NESHAP/MACT compliance, emission inventories, enforcement/litigation support, compliance/due diligence auditing, and state/local air quality regulations. With an in-depth understanding of air regulations and air permitting processes, Kirk helps industrial clients develop and execute strategies for addressing their air permitting requirements associated with capital projects, while optimizing the client's business objectives against regulatory requirements.

As Managing Director, he oversees and has P&L responsibilities for Trinity's East Region consulting operations, which spans from Kentucky through New England. Kirk also leads Trinity's refrigerant and ozone depleting substance (ODS) compliance services team through the execution of compliance audits and the development of compliance management programs driven by 40 CFR 82 and state-specific regulations. Kirk is the primary author for Trinity's refrigerant and ODS regulatory training workshop that is provided across the nation. During his five plus years managing the air quality program for The Boeing Company's Wichita, Kansas facility, Kirk also oversaw the implementation of the ODS compliance program for the facility.

Kirk earned both his MS degree in Environmental Engineering and BS degree in Aeronautical & Aerospace Engineering from Purdue University.

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**Matthew Stuckey, Assistant Commissioner, Indiana Department of Environmental Management**  
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Matthew started at IDEM in 1993 in the Office of Management and Budget as a Stores Clerk. He was hired by IDEM's Office of Enforcement in 1994 as a case manager where he handled air cases and represented enforcement on OAQ work groups. In 2005, Matt transferred to OAQ as a senior environmental manager in the New Source Review Section of the Permits Branch. He became section chief of that section in 2006. In 2007, Matt became the deputy chief of the Permits Branch and not long after was promoted to the chief of the Permits Branch. Matt has a Bachelor of Science degree in Criminal Justice from Indiana University – School of Public and Environmental Affairs

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**Michael Kennedy, PE, Director, Kentucky Division for Air Quality**  
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Michael Kennedy is the Director for Kentucky's Division for Air Quality. He has been with the Kentucky Energy and Environment Cabinet since 2009. He started his EEC career with DAQ in source sampling then moved to Permit Review Branch. Michael also had a stretch as Assistant Director for Kentucky's Office of Energy Policy. Prior to working for EEC, he worked in the private sector as an engineer for a small but diverse manufacturing company located in his hometown of Manchester, Kentucky. He graduated from the University of Kentucky with a bachelor's degree in Bio-systems and Agricultural Engineering. He holds a PE in environmental engineering. He lives in Lexington with his wife, Heather, three daughters, and a son.



## Biographical Information

**Robert F. Hodanbosi, Chief, Division of Air Pollution Control, Ohio EPA  
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Bob Hodanbosi became chief of the Division of Air Pollution Control (DAPC), Ohio Environmental Protection Agency (Ohio EPA) in September 1992. His current duties include being responsible for the air pollution control program for the state of Ohio and development of the programs needed to comply with the Clean Air Act Amendments. In 2004, Bob was selected to represent state permitting authorities on the Title V Permit Performance Task Force that was formed by the U.S. EPA's Clean Air Act Advisory Committee (CAAAC). Bob has also had the opportunity to testify at U.S. House and Senate committees on Clean Air Act impacts on facilities in Ohio. From May 1987 to September 1992, his position was assistant chief of DAPC and manager of the Air Quality Modeling and Planning Section, DAPC, Ohio EPA. From April 1978 to May 1987, as manager of the Air Quality Modeling and Planning Section, his main duties included: development of the technical support for air pollution control regulations for criteria air pollutants; atmospheric dispersion modeling; air quality designations under Section 107 of the Clean Air Act; development of new source review procedures; Since the 1980's, Bob has represented Ohio EPA on the Ohio Coal Development Office, Technical Advisory Committee. From January 1977 to April 1978, his position was supervisor of the Environmental Assessment Unit, DAPC, Ohio EPA. The main responsibilities of this position involved the supervising of all air quality evaluation and atmospheric dispersion modeling activities for DAPC. From June 1973 to December 1976, he held a position in the Northeast District Office/Engineering Services Section, DAPC, Ohio EPA. The main function of this position involved the engineering review of air pollution permit applications. Bob has lectured extensively on topics relating to the requirements under the Clean Air Act and the controls needed to meet air quality standards. Finally, Bob is a current member of CAAAC through August of 2021.

### **PROFESSIONAL ASSOCIATIONS**

Mr. Hodanbosi is a member of the American Institute of Chemical Engineers and Air & Waste Management Association, and is registered as a Professional Engineer in the states of Ohio and West Virginia. Bob is current President of the Association of Air Pollution Control Agencies.

### **EDUCATIONAL BACKGROUND**

Mr. Hodanbosi received his Master's of Science degree in Chemical Engineering at the Cleveland State University in 1977, and a Bachelor in Chemical Engineering at the Cleveland State University in 1973. In addition, he completed post-graduate courses in fluid mechanics and turbulence at the Ohio State University, 1978 to 1982.

### **PUBLICATIONS**

- Hodanbosi, R.F. and Peters, L.K., "Evaluation of RAM Model for Cleveland, Ohio," Journal of Air Pollution Control, March 1981
- Hodanbosi, R.F. and Bradley, R.L., "Evaluation of RAM Model for Cleveland, Ohio, Part II," Journal of Air Pollution Control, April 1984
- "Research Guidelines for Regional Modeling of Fine Particulates, Acid Deposition and Visibility", U.S. EPA, Office of Research and Development, June 1980, pp. 47-52
- Edgerton, S.A. Czvczwa J.M., Rewch, J.D., Egan, D.A. Koval, P.J., and Hodanbosi, R.F., "Determination of Polychlorination of Dibenzo-p-dioxins and dibenzofurans and Associated Health Risks in Ambient Air in Ohio," Presentation at 81st General Meeting of Air Pollution Control Association, June 1988
- Kelly, T.J., Czvczwa, J.M., Sticksel P.R., Sverdrup, G.M., Koval, P.J., and Hodanbosi, R.F., "Atmospheric and Tributary Inputs of Toxic Substance to Lake Erie," J. Great Lakes Res.17(4):504-516, International Association Great Lakes Research, 1991.
- Hays, K., Hodanbosi R., Sloan J., "The National Ambient Air Quality Standards at 50", em, The Magazine for Environmental Managers, A&WMA, December 2020.