





# Environmental Update Board Workshop

August 18, 2021

# Topics

## Air

- Mercury and Air Toxics Standards (MATS)
- 1-hr SO<sub>2</sub>
- Regional Haze
- Green House Gas/CO<sub>2</sub>
- Cross State Air Pollution Rule
- Particulate Mater (PM<sub>2.5</sub> & PM<sub>10</sub>)

And,  
Environmental Justice

## Non-air

- Clean Water Act (CWA) & Waters of the United States (WOTUS)
- Steam Electric Effluent Limitation Guidelines Rule (ELGs)
- Winter Storm Uri and Environmental Impacts



President Joe Biden published 54 Executive Orders (from EO 13985-14038) and of these included an ***EO on Protecting Public Health & Environment & Restoring Science to Tackle the Climate Crisis***

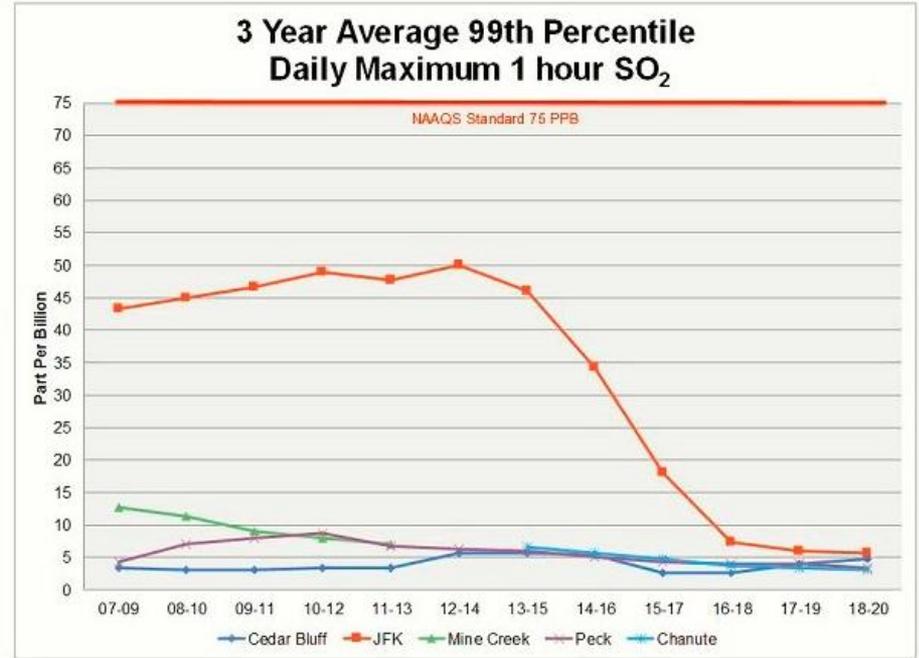
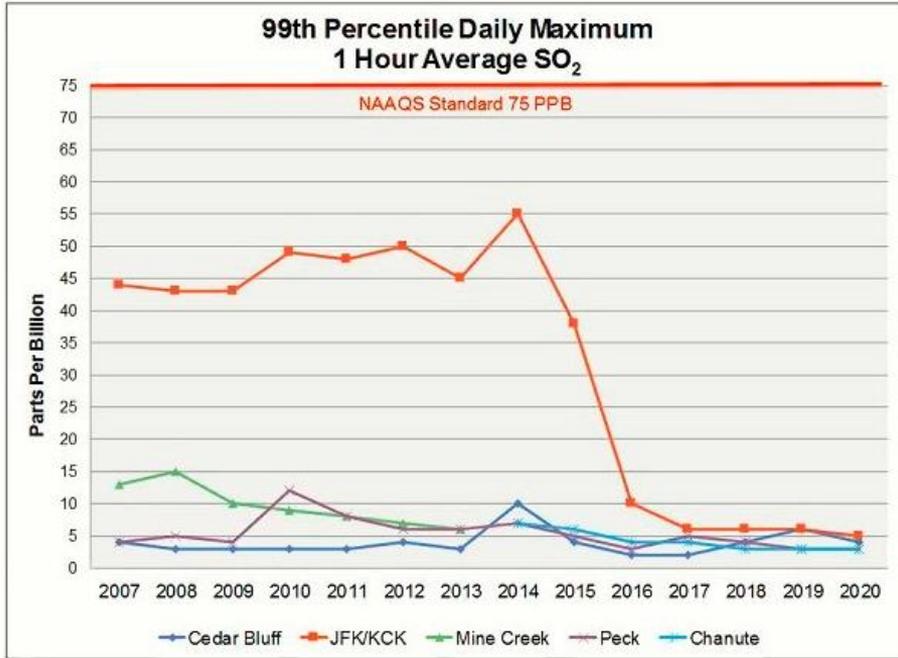
## ✓ **Mercury and Air Toxics Standards (MATS)**

- EPA sent proposal to revise MATS for power plants for White House Office regulatory review, likely to scrap Trump-era finding that it is not “appropriate and necessary” to regulate the plants
- EPA looking to tighten emission limits under the technology review process
- EPA assessing whether they have enough information on costs and technology that would merit “tightening the technology standards”
- EPA also reconsidering the Trump administrations conclusion that there are no “residual” risks from air toxics emitted by power plants
- If EPA finds remaining health risks, or new control technologies, the rule can be more stringent

## ✓ 1-hr SO<sub>2</sub>

- On April 15, 2020 Wyandotte County was redesignated as Attainment/Unclassifiable
- As such, per the Data Requirements Rule, BPU submitted its first annual report via KDHE, as Nearman Power Station is the only modeled area subject to the Annual Ongoing Data Requirements Report
- The report assess 1-hr SO<sub>2</sub> data and documents the annual SO<sub>2</sub> of any emissions increase from the previous year
- KDHE is required to make a recommendation regarding whether additional modeling is needed to characterize air quality in any area to determine whether the area meets or does not meet the 2010 SO<sub>2</sub> National Ambient Air Quality Standard (NAAQS)
- EPA may require BPU to perform additional or updated air quality modeling for the area and would be due within 12 months

# Air



Compliments of KDHE

## ✓ **Regional Haze** - *Under the EPA Regional Haze Program the goal is to restore national parks and wilderness areas to pristine conditions by preventing future or remedying any existing visibility impairment*

- PM, SO<sub>2</sub> and NO<sub>x</sub> from fossil fuel combustion contribute to regional haze
- States, federal land managers and other groups work together
- States required to submit State Implementation Plans (SIPs) that cover 10-year planning periods and 5-year progress reports to EPA
- June 2021 KDHE 10-yr SIP on public notice (2<sup>nd</sup> 10-year period SIP since program began)
  - Theme: “KS Sources are not contributors – No changes needed”
  - KDHE provided high-level modeling, showed a max visibility impact of 0.84% combined NO<sub>x</sub> & SO<sub>2</sub> from KS sources, among other information
- June 28, 2021 EPA commented on draft
  - Theme: “4-Factor Analysis is needed for at least 2 facilities. High-level modeling not good enough. KDHE should look at NO<sub>x</sub> & SO<sub>2</sub> contributions individually. Need more proof KS is Good.”
- Prior to EPA submitting comments, BPU heard from KDHE of EPA’s stance. BPU (along with Sunflower) conducted more refined modeling that EPA advocates. This modeling showed Nearman’s max visibility impacts in were 0.15% (NO<sub>x</sub>) & 0.24% (SO<sub>2</sub>)
- BPU provided comments in support of KDHE SIP and included modeling results
- KDHE submitted comments back to EPA basically stating that sources in Kansas need no further mitigation, holding true to their initial SIP report

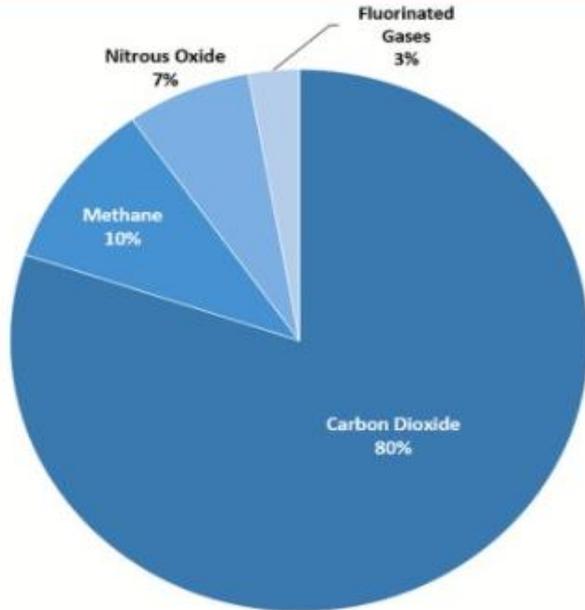
## ✓ **Greenhouse Gas (GHG) Rule**

*[primary sources of GHGs include carbon dioxide, methane, nitrous oxide]*

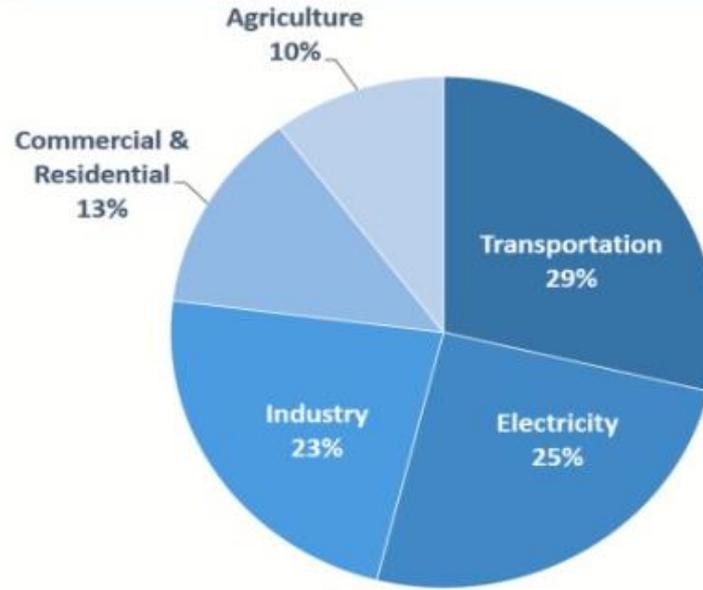
- What happened to the 2019 Affordable Clean Energy Plan (ACE) that replaced the Clean Power Plan?
  - On January 19, 2021, the D.C. Circuit vacated the ACE rule and remanded to the EPA for further proceedings
- Republican-led states urging the Supreme Court to review the EPA's Clean Air Act (CAA) authority to limit greenhouse gases from power plants, under section 111(d) – same argument with the Clean Power Plan
- Still debate regarding “beyond the fence” and if EPA has authority to “reshape the utility sector and other industries”
- Biden EPA will issue a new section 111(d) GHG rule for power plants that will account for changes that have already occurred to the electricity sector over the last several years and will take into account all “relevant considerations”

# Air

## Overview of U.S. Greenhouse Gas Emissions in 2019



## Sources of U.S. Greenhouse Gas Emissions in 2019



# Air

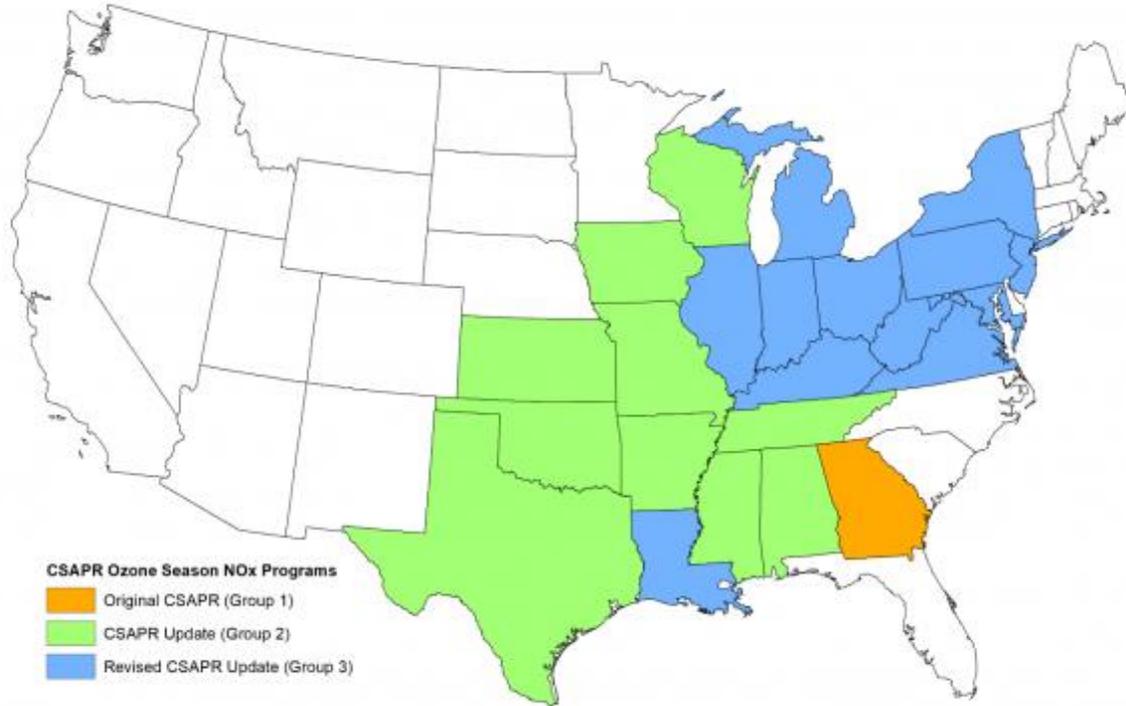
- ✓ *EPA Region 7 recently emphasized that with respect to Climate Change and Enforcement the following is in effect:*
- EPA is targeting cases that address Greenhouse Gas (GHG) related requirements
  - EPA is incorporating climate-focused mitigation and resilience conditions in settlements and especially in long-term decrees

## ✓ **Cross-State Air Pollution Rule (CSAPR)**

*Goal to reduce power plant SO<sub>2</sub> and NO<sub>x</sub> emissions that contribute to PM<sub>2.5</sub> and Ozone levels in other states (NAAQS)*

- EPA Basis → modeling → determines which states and at what level to limit state (i.e. power plants) emissions
- Each time NAAQS standards lowered - EPA remodels and may tighten CSAPR limits
- Limits = Allowance budget issued = some flexibility with an allowance market. Pool keeps getting smaller, can cause increase in market prices
- Recent revision for Ozone NAAQS (for the 2008 Standard) – March 15, 2021
  - 12 States had allowance levels reduced (Not KS)
  - EPA separated the 12 states from the original 22 state NO<sub>x</sub> OS trading pool
  - Kansas allowance could get reduced in next rule making
- BPU current allowance budget will lose Q1 & Q2 allowances in 2024
- Resulting in BPU budget reduced by 40-42%

# CSAPR NO<sub>x</sub> Ozone



## ✓ **National Ambient Air Quality Standards (NAAQS) - PM<sub>2.5</sub> & PM<sub>10</sub>**

*The Clean Air Act requires EPA to establish National Ambient Air Quality Standards (NAAQS) for certain pollutants (include: Ozone, PM<sub>2.5</sub> and PM<sub>10</sub>, Carbon Monoxide, Sulfur Dioxide, Lead, Nitrogen Dioxide)*

- NAAQS monitors strategically located across the US
- EPA reviews the NAAQS every 5 years and determines which counties meet the standards
- Based on health effects, cost not considered
- States required to develop State Implementation Plans (SIPs) that describe how they will attain/maintain the NAAQS
- December 7, 2020 EPA reviewed the PM NAAQS and retained current standards under the Trump administration
- On June 10, 2021 Biden EPA announced it will reconsider that decision
- If PM NAAQS lowered, KDHE will have to assess the Kansas PM emissions
- Among all KC Area PM<sub>2.5</sub> & Ozone monitors – JFK (Wyandotte County) is trending higher

# Air

## 2021 Kansas Air Monitoring Sites



# Air

## Air Quality Exceedances

1 Ozone Exceedance  
17 PM<sub>2.5</sub> Exceedances

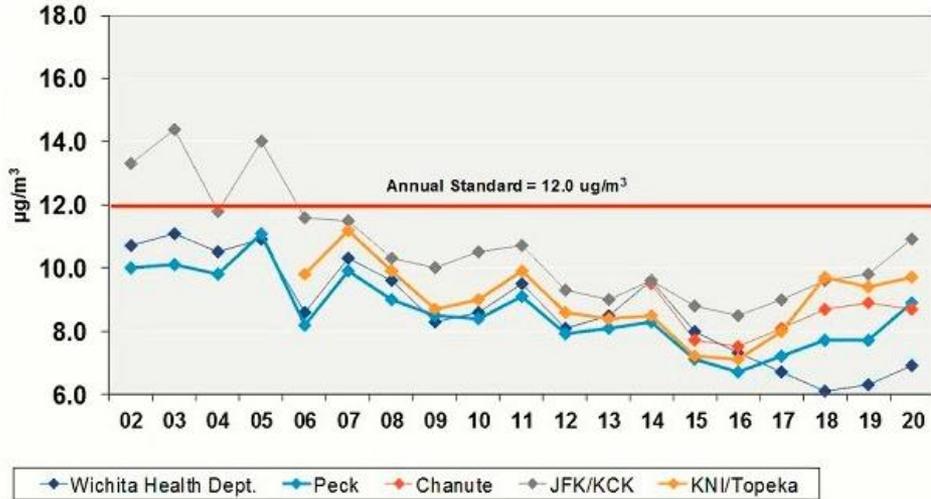
Impacts from local/nearby prescribed fires, regional prescribed fires, and regional wildfires.

*All exceedances are preliminary and may not appear in final EPA AQS Data.*

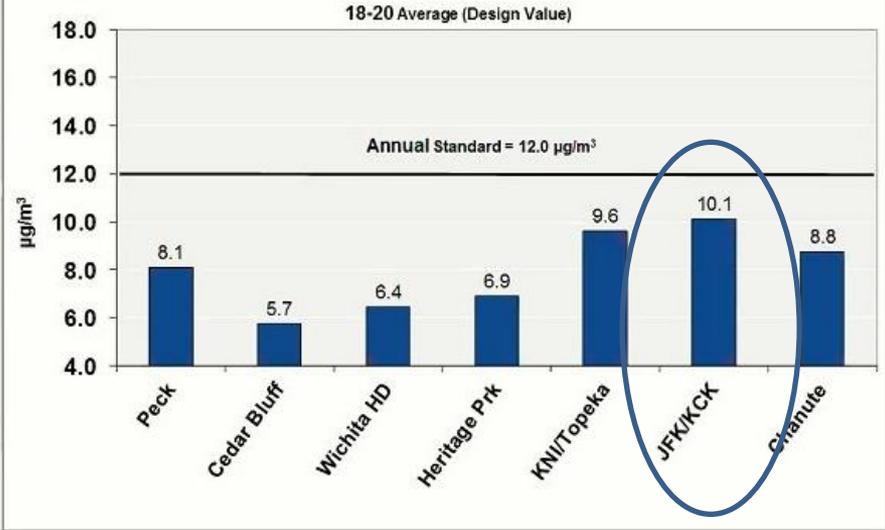
Date	Monitor	Pollutant	NAAQS Value
March 4, 2021	Kansas City, KS	PM <sub>2.5</sub>	36.1
March 5, 2021	Copan, OK	PM <sub>2.5</sub>	40.7
March 8, 2021	Copan, OK	PM <sub>2.5</sub>	35.8
March 8, 2021	Tulsa, OK	PM <sub>2.5</sub>	48.0
March 8, 2021	Glenpool, OK	PM <sub>2.5</sub>	79.6
March 9, 2021	Miami, OK	PM <sub>2.5</sub>	59.1
March 9, 2021	Olathe, KS	PM <sub>2.5</sub>	39.9
March 9, 2021	Kansas City, KS	PM <sub>2.5</sub>	36.5
March 9, 2021	Glenpool, OK	PM <sub>2.5</sub>	35.9
April 2, 2021	Copan, OK	PM <sub>2.5</sub>	35.7
April 2, 2021	Ponca City, OK	PM <sub>2.5</sub>	37.7
April 3, 2021	Cedar Rapids, IA	PM <sub>2.5</sub>	39.2
April 3, 2021	Copan, OK	Ozone	71
April 4, 2021	Cedar Rapids, IA	PM <sub>2.5</sub>	38.3
April 4, 2021	Iowa City, IA	PM <sub>2.5</sub>	35.9
April 9, 2021	Ponca City, OK	PM <sub>2.5</sub>	37.5
April 13, 2021	Ponca City, OK	PM <sub>2.5</sub>	51.3
April 14, 2021	Ponca City, OK	PM <sub>2.5</sub>	45.6

# Air

## PM<sub>2.5</sub> Annual Means

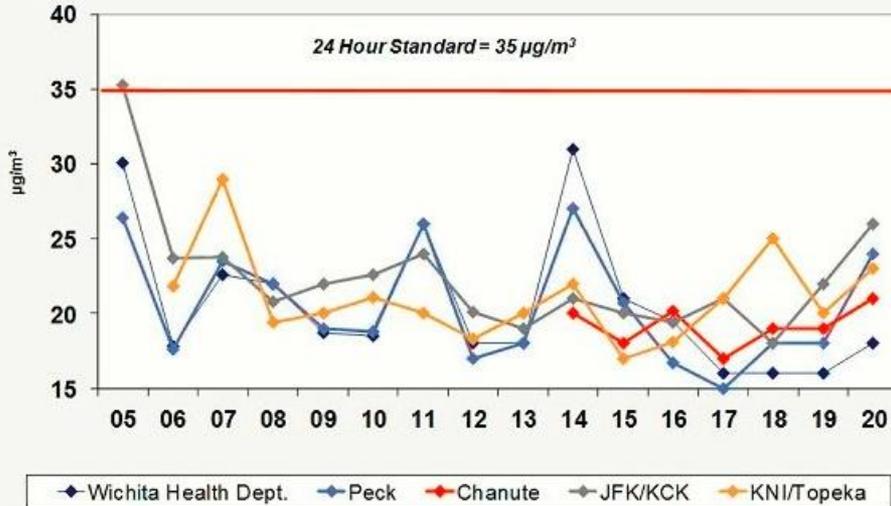


## PM<sub>2.5</sub> Annual Means



# Air

## PM<sub>2.5</sub> 98th Percentile Value



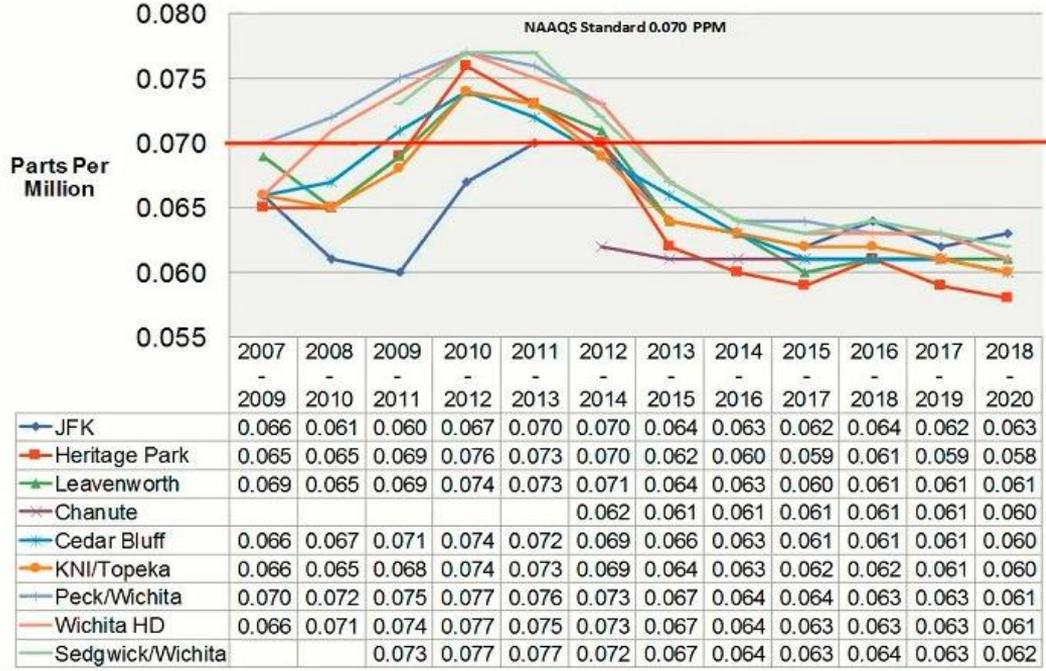
## PM<sub>2.5</sub> 24-hour Design Values



Source: KDHE

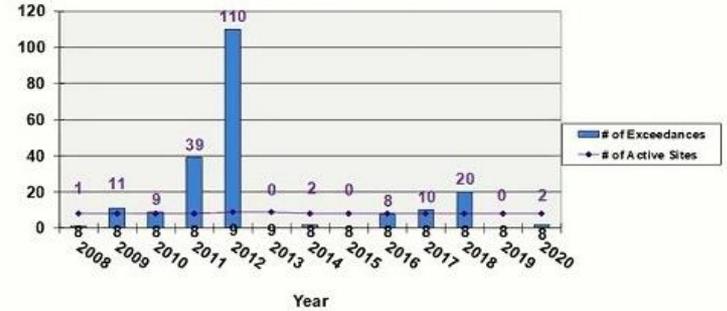
# Air

## 8 Hour Ozone Design Values

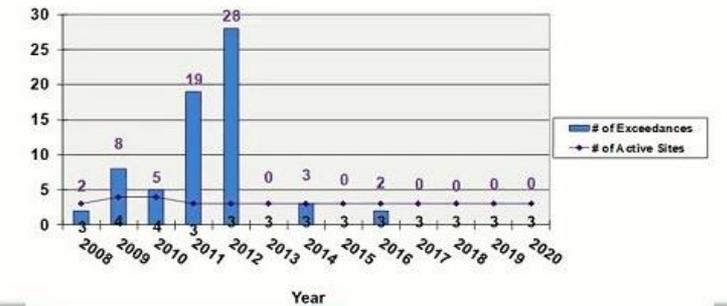


Source: KDHE

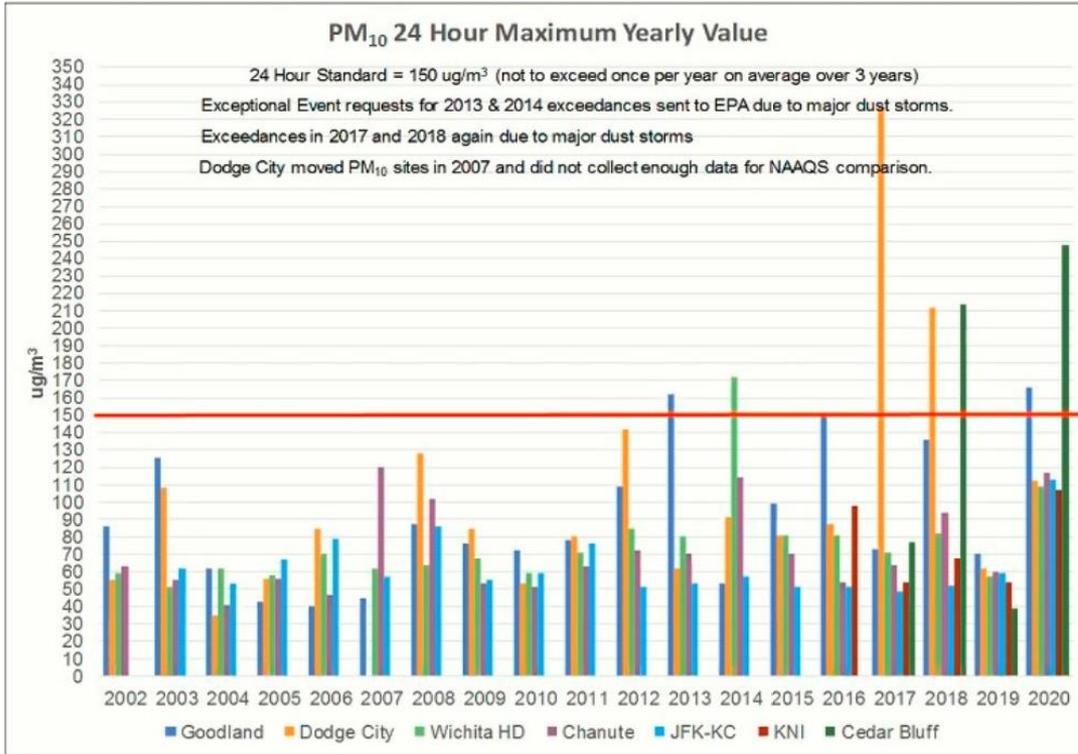
## Kansas City 8-Hour Ozone Exceedances



## Wichita 8-Hour Ozone Exceedances



# Air



# Non-Air

## ✓ **Clean Water Act (CWA)**

*In April 2020, the Supreme Court decided **County of Maui v. Hawaii Wildlife Fund**, finding that the CWA can apply to discharges of pollutants traveling through groundwater on their way to the ocean.*

- An NPDES permit is required "when there is a direct discharge from a point source into navigable waters or when there is the functional equivalent of a direct discharge." The functional equivalent, most importantly includes (1) time and (2) distance (3) the nature of the material through which the pollutant travels, (4) the extent to which the pollutant is diluted or chemically changed as it travels, (5) the amount of pollutant that leaves the point source, (6) the manner by or area in which the pollutant enters the navigable waters, and (7) the degree to which the pollution (at that point) has maintained its specific identify
- Litigation likely
- Potential impacts to NPDES permits, functional equivalent test(s) may be required

## ✓ **Waters of the United States (WOTUS)**

- Ongoing debate regarding the definition of WOTUS
- Army Corps of Engineers and EPA to re-write the Trump era definition and are in the process of a new rulemaking
- Revised definition will require review and analysis re any potential impacts

# Non-Air

- ✓ **Steam Electric Effluent Limitation Guidelines Rule (ELGs)**
- EPA proposing a supplemental rule addressing power plant effluent limitation guidelines to limit metals and other pollutants
- Trump-era rule revised the requirements in an Obama-era rule for “best available technology economically achievable” specifically to pretreatment standards for flue gas desulfurization (FGD) wastewater and bottom ash transport water

*“it is certain that the allowable limits of contaminants in discharged wastewater will be lowered below that of the current rules, with an almost certain focus on those compounds most closely associated with coal power generation and a good chance of substantially strengthened compliance reporting obligations”*



# Environmental Justice

## A message from the EPA Administrator to EPA Regional Offices

“I am directing my leadership team, including our Assistant Administrators, General Counsel, Associate Administrators, and Regional Administrators, to work with staff in their offices and the Office of Environmental Justice to identify ways to ensure that the country’s environmental laws—and the policies implemented under them—deliver benefits to all individuals and communities. *Specifically, I direct all EPA offices to do the following:*

- *1. Strengthen enforcement of violations of cornerstone environmental statutes and civil rights laws in communities overburdened by pollution. . . “*



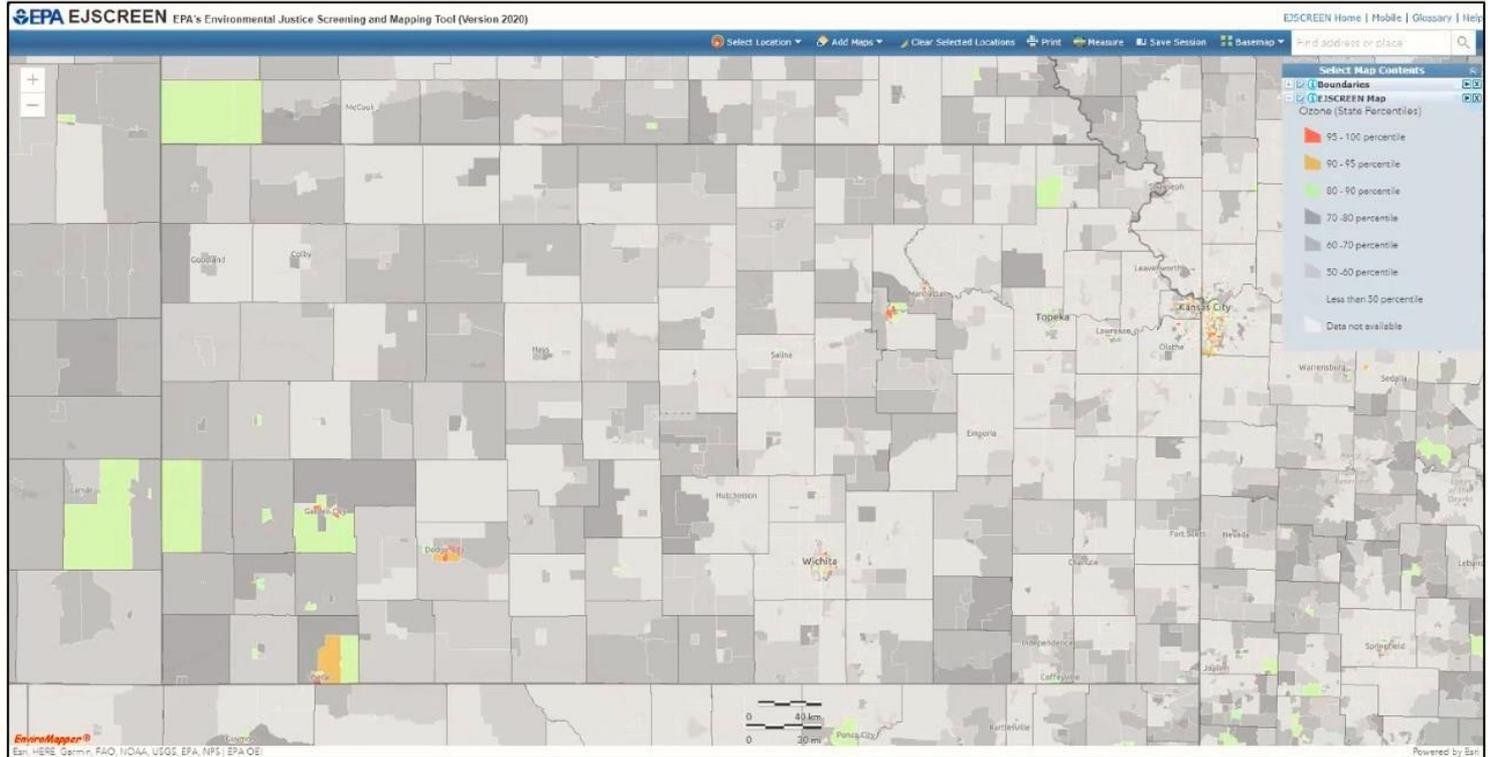
# Environmental Justice

✓ April 30, 2021, EPA Office of Enforcement & Compliance Assurance (OECA)  
Memo

*“Strengthening enforcement in communities with Environmental Justice Concerns”*

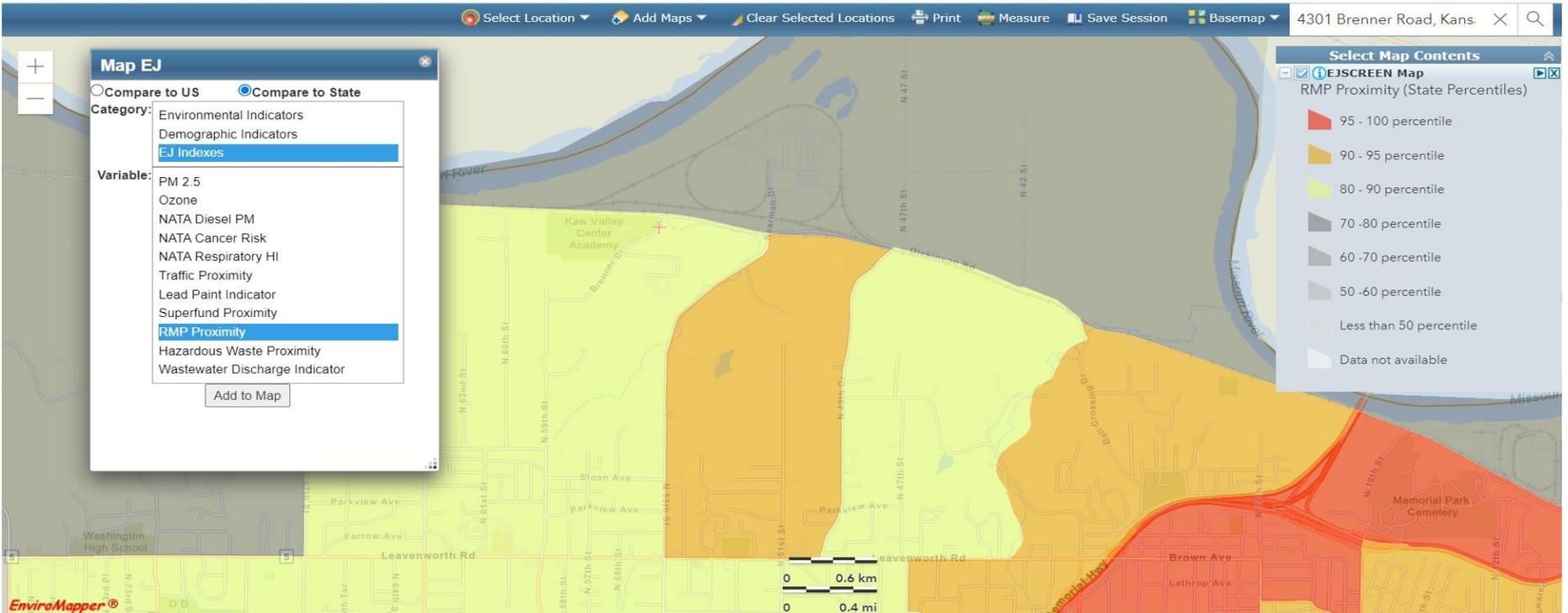
- Increase the number of inspections in overburdened communities
- Resolve noncompliance through remedies with tangible benefits for communities
- Increase engagement with communities about enforcement cases that most directly impact them

# Environmental Justice



# EPA Screening and Mapping Tools

## Environmental Justice



# Environmental Justice

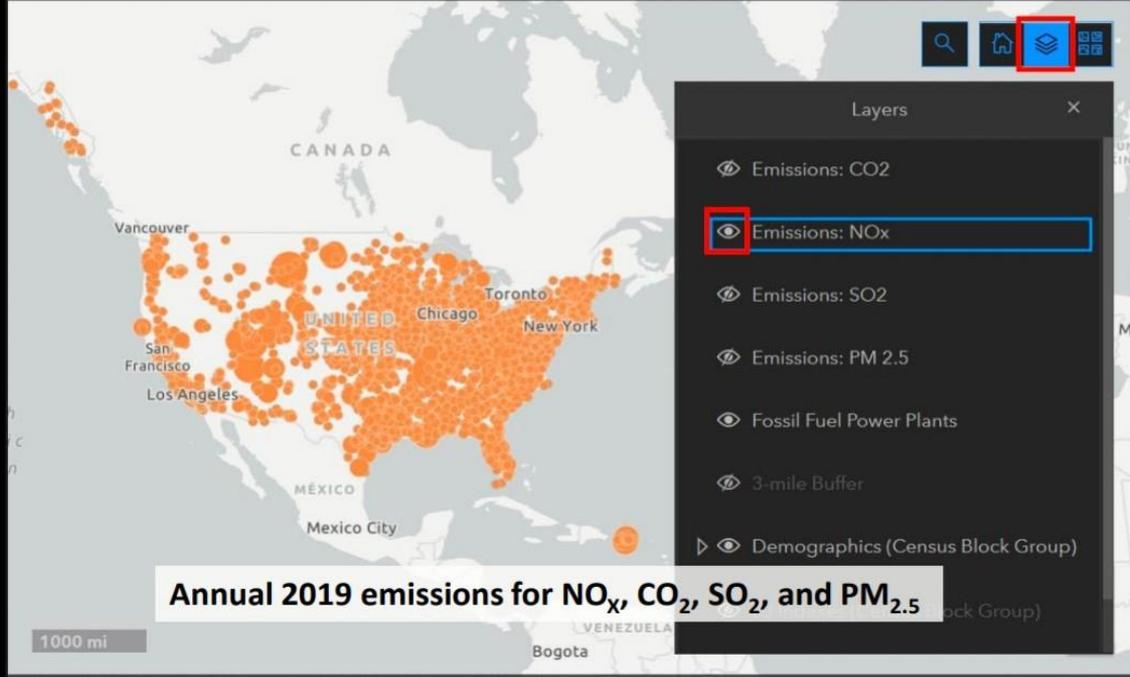
## Power Plants and Neighboring Communities Mapping Tool

### Filters

#### Fuel Type

- All
- Biomass
- Coal
- Gas
- Oil
- Other Fossil

- Demographic Index 0+
- Low-Income 0+
- People of Color 0+
- Less than High School Edu... 0+
- Linguistically Isolated 0+



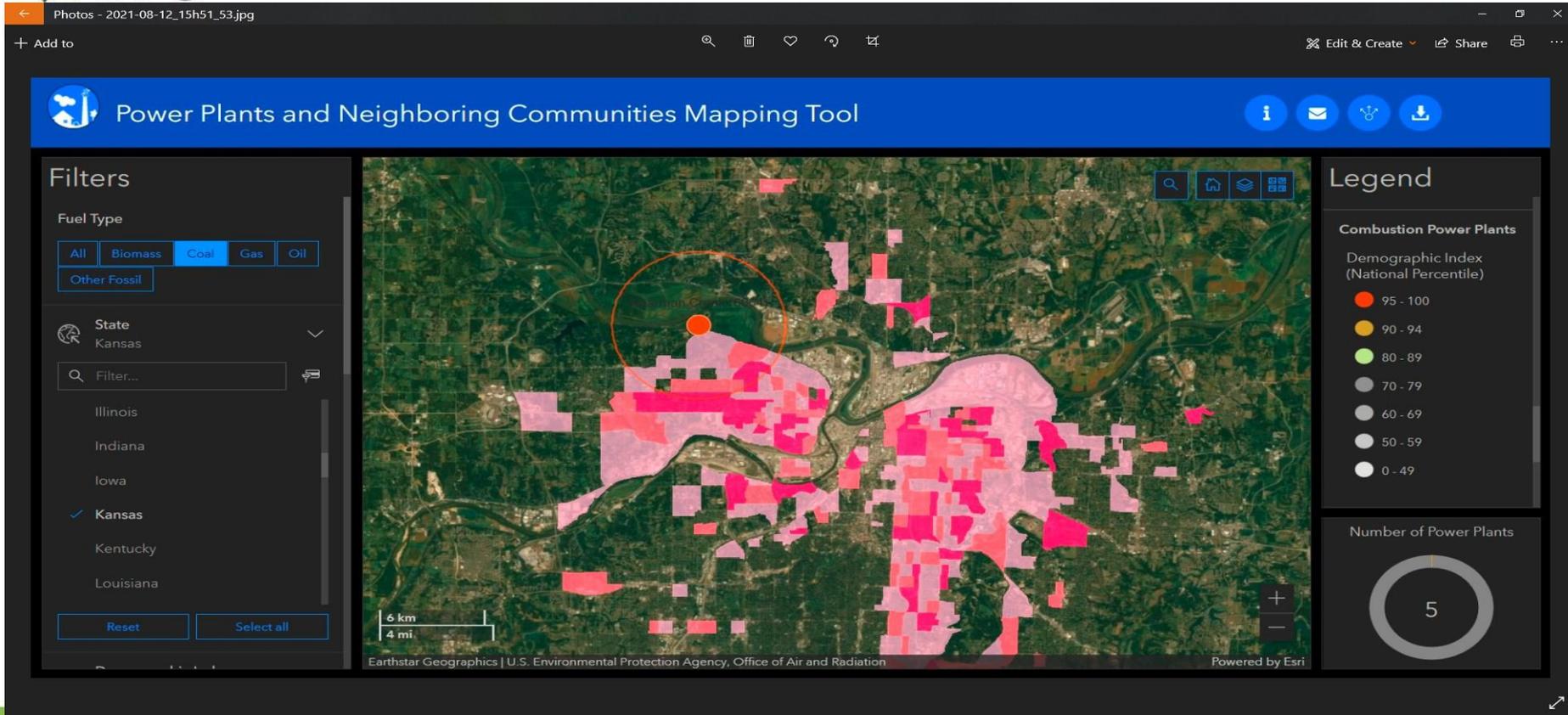
### Legend

- Plant unadjusted annual NO<sub>x</sub> emissions (tons)
- > 17,000
- 13,000
- 8,000
- 4,000
- < 0
- Other

#### Number of Power Plants



# Environmental Justice



# Environmental Justice

Photos - 2021-08-12\_15h52\_31.jpg

+ Add to

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🔗 Edit & Create 📄 Share 🖨️ ⋮

## Power Plants and Neighboring Communities Mapping Tool

📄 📧 🔄 📄

### Filters

Fuel Type

All Biomass **Coal** Gas Oil

Other Fossil

State

Kansas

Filter...

Illinois

Indiana

Iowa

✓ Kansas

Kentucky

Louisiana

Reset Select all



6 km  
4 mi

Earthstar Geographics | U.S. Environmental Protection Agency, Office of Air and Radiation

Powered by Esri

### Legend

Combustion Power Plants

Demographic Index (National Percentile)

- 95 - 100
- 90 - 94
- 80 - 89
- 70 - 79
- 60 - 69
- 50 - 59
- 0 - 49

Number of Power Plants

5

# Environmental Justice

Photos - 2021-08-12\_15h44\_55.jpg

+ Add to

Power Plants and Neighboring Communities Mapping Tool

### Filters

Fuel Type

All Biomass **Coal** Gas Oil

Other Fossil

---

State

Kansas

Filter...

Illinois

Indiana

Iowa

Kansas

Kentucky

Louisiana

Reset Select all

Zoom to Pan

**Plant: Nearman Creek (KS)**

Plant ID	6064
Data Year	2019
Plant nameplate capacity (MW)	671
Plant Utilization	18.2%
Fuels	Reported Primary fuel: Coal Primary combustion fuel: Coal
Total population within 3 miles (ACS2018)	30,735
Demographic Index	46% (70%ile)
Low-Income	40% (67%ile)

10 km  
6 mi

Layers

- Emissions: CO2
- Emissions: NOx
- Emissions: SO2
- Emissions: PM 2.5
- Fuel Types
- Combustion Power Plants
- 3-mile Buffer
- Demographics (Census Block Group)
- EJ Indexes (Census Block Group)
- Tribal Areas

### Legend

Combustion Power Plants

Demographic Index (National Percentile)

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Number of Power Plants

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*QUESTIONS?*