

Data Center Permitting

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Introduction

- DOE estimates that power use of data centers could roughly triple from 2023 to 2030.
- This is going to be a jolt to the permitting system, depending on the source of the power.
- Unless on federal lands, solar and wind generally require state or local permits.
- Thermal power plants will require permitting for cooling water.
- Fossil fuel plants will need air pollution permits.

Projects with a Federal Nexus

- A federal nexus could involve federal funding or use of federal land for the data center itself or for an associated power generator.
- Those would bring into play the normal federal permitting process.
- This could require an environmental impact statement or at least an environmental assessment. There might also have to be a Biological Opinion from Fish & Wildlife to ensure Endangered Species Act compliance.
- Trump is trying to short-circuit this.

Dedicated Generation Sources

- A new nuclear plant would require licensing from the Nuclear Regulatory Commission (NRC).
- A new fossil fuel plant would fall under the Clean Air Act. If a major source, it would have to go through preconstruction review.
- Cooling water would also be subject to federal regulation under the Clean Water Act.
- In any event, it would need state approval for compliance with the State Implementation Plan for air pollution.

Data Centers: Water Pollution

- Poor data: Half of data centers don't even track their own water use. But indications are that it can be quite large.
- In 2021, for instance, Google data centers near one Oregon city used over 355 million gallons.
- Water goes through multiple cycles and concentrates certain pollutants such as total dissolved solids and chloride,
- May require pretreatment or a discharge permit with treatment requirements.
- Also may need state permit to withdraw from water body.

Data Centers: Air Pollution

- Emergency generators for backup power require permitting.
- In nonattainment area, the threshold for New Source review is lower (100 tons/yr). It may be necessary to purchase Pollution Reduction Credits.
- Staying below cap may require limiting runtime.
- Air dispersion modeling is needed to ensure compliance with a variety of air standards.

Power Plants – EPA Proposal

- EPA is proposing changes to speed up air permits for power plants used for data centers.
- EPA plans to allow everything up to actual groundbreaking to take place before the preconstruction review.
- EPA will address “the minimum requirements for public participation when it comes to minor emitters so the protest of a few does not unnecessarily thwart progress for all Americans.”

Musk in Memphis

- Musk's xAI installed 35 portable gas turbines without air permits to help power its supercomputer. Notably, this is in a black neighborhood with other industrial sources.
- xAI said that they were only using 15 and the others were just stored there. Thermal images showed more in use. NAACP threatened to sue.
- The local air authority then issued a permit to run 15 generators until 2027. Emission caps set a little below the 100 tpy threshold.

Conclusion

- Especially given Trump energy policy, much of the power for new plants could come from fossil fuels. Trump EPA will try to sidestep requirements and minimize public input.
- Cooling water will also require permitting both for withdrawal and at the discharge end.
- Finally, facilities using federal lands or funds will go through NEPA review, etc.
- **Bottom line:** This stuff is complicated and technical, but likely to become a battleground.