

Cogeneration at the Capitol Power Plant

Air Permitting Frequently Asked Questions

January 2013



The Capitol Power Plant (CPP) was built in 1910 and today provides steam and chilled water to heat and cool 23 facilities on Capitol Hill including the Capitol Building, Capitol Visitor Center, House and Senate Office Buildings, the Supreme Court, Library of Congress buildings, Union Station, and Folger Library.

The CPP plays a critical role in the Architect of the Capitol's (AOC's) long-term energy conservation strategy and, after more than 100 years in operation, significant investment is needed to replace aging infrastructure and to install new, energy-efficient equipment. As part of the AOC's Strategic Long-Term Energy Plan for the CPP, cogeneration technology was identified as an energy efficient and cost effective means to meet future energy requirements by generating on-site power. The AOC has applied to the District Department of the Environment (DDOE) and the Environmental Protection Agency (EPA) for Plant-wide Applicability Limit (PAL) permits and Chapter 2 construction permits. These permits are required to start construction of the cogeneration project.

What are baseline actual emissions and how are they used in the PAL process?

PAL permitting rules use a facility's past emissions to establish limits for the facility under the PAL permit. The EPA permitting program allows the applicant to use the highest annual emissions from any two-year period in the past 10 years to establish the baseline actual emissions. The DDOE program is more restrictive in requiring an applicant to calculate baseline actual emissions using the two years prior to the permit application. However, the DDOE regulations allow the applicant to select another two-year period in the past five years if that period is more representative of normal operations. The use of another period is subject to review and acceptance by DDOE.

Why would the last two years not be representative of normal operations?

There are many factors, including demand on the facility, which is impacted significantly by weather and equipment availability. The impact of these factors affects actual emissions levels at the CPP. EPA has long recognized that only looking at the past two-year period can create an imprecise picture of the actual emissions that occur during normal operation. As a result, EPA allows calculation of any two-year period in the past 10 years. DDOE recognizes this same issue by allowing consideration of a two-year period in the past five years if the two-year period is not representative of normal operations.

Did the CPP operate normally during the baseline emissions period it proposed in the PAL permits?

Yes, demand at the CPP was normal during this period considering the more representative winters that occurred during the proposed baseline period.

Why does CPP believe that emissions from the past two years are not representative of normal operations?

The CPP has provided detailed documentation showing that emissions over the most recent two-year period were lower than historical levels in part due to historically mild winters. CPP heating demands and fuel use are a function of how warm or cold a winter is. The colder the winter, the more fuel the CPP is forced to use and, as a result, the more emissions are generated. DDOE has tentatively agreed with CPP on this fact.

If this winter were colder than the prior two years, would more coal be burned than during the most recent two-year period?

Yes, while the AOC's long-term goal is to eliminate coal use at the CPP, there is nothing that prohibits more coal from being burned this winter if conditions necessitated it. After the cogeneration plant is constructed, the AOC will stop using coal unless catastrophic events dictate no other alternative. Instead, the CPP would generate steam and electricity in an environmentally friendly and highly efficient manner using natural gas.

If the PAL permits are not issued as proposed, could more coal be burned during this and future winters and could actual emissions exceed the proposed PAL limits?

Yes. Without the proposed PAL permit, the CPP will not be able to construct the new cogeneration plant. If the cogeneration plant is not built, then the CPP will continue to rely on 60-year-old, less efficient coal boilers to generate steam in the winter. Receiving the EPA and DDOE permits for the cogeneration plant is necessary in achieving the AOC's long-term goal of discontinuing coal use at the CPP.

For more information, visit www.aoc.gov/capitol-buildings/capitol-power-plant.