

21 West Church Street
Jacksonville, Florida 32202-3139

September 16, 2005

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BUREAU OF AIR REGULATION



Mr. Jeffrey F. Koerner, P.E.
Program Administrator
Permitting North
Bureau of Air Regulation
Division of Air Resource Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

ELECTRIC

WATER

SEWER

RE: Northside Generating Station
Project Nos. 0310045-015-AC/PSD-FL-265 and 0310045-016-AV

Dear Mr. Koerner:

JEA is planning on using a temporary cooling tower to provide additional cooling for the air compressors at the Northside Generating Station (NGS). The purpose of this request is to seek concurrence of our understanding that a construction permit is not required for this temporary cooling tower because the temporary emissions from the cooling tower will be exempt under both the temporary emissions exemption rule (F.A.C. 62-212.400(3)(c)) and the exemption for generic emissions unit (F.A.C. 62-210.300(3)(b)(1)).

At major prevention of significant deterioration (PSD) sources, the temporary emissions exemption under F.A.C. 62-212.400(3)(c) is applicable if the duration of emissions does not exceed two years, and if the net emissions increase of the modification would not cause or contribute to a violation of Ambient Air Quality Standards (AAQS) or have significant impact on any Class I area. Additionally, the generic emissions unit exemption rule under F.A.C. 62-210.300(3)(b)(1) is applicable if an emission unit emits less than 5 tons per year (tpy) of any regulated pollutant and the unit does not have a unit-specific applicable requirement.

NGS is an existing PSD major source. As discussed below, potential emissions from the proposed temporary cooling tower will be significantly less than the PSD significant emission rates and will also qualify as exempt temporary emissions under Florida's PSD rules. It should also be noted the temporary cooling tower will not result in any emission increases in other parts of NGS.

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Cooling Tower Emissions Calculations

The only pollutant of concern from the proposed temporary cooling tower is particulate matter (PM). PM calculations are based on the following cooling tower design data:

Water Circulation Rate: 1500 gallons per minute (gpm)

Design Drift Flow Rate: 0.027 gpm

Total Dissolved Solids (TDS) in Make-up Water = 600 ppm

Cycles of Concentration: 3

TDS in Circulating Water = 600 ppm x 3 cycles of concentration = 1,800 ppm

PM Calculation Formula

$PM \text{ (ton/yr)} = \text{Drift Flow Rate(gpm)} \times \text{TDS in Circulating Water (ppm)} / 10^6 \times 8.34 \text{ lb/gal} \times 60 \text{ min/hr} \times 8760 \text{ hr/yr} \times 2000 \text{ lb/ton}$

$PM = 0.027 \times 1800 / 10^6 \times 8.34 \times 60 \times 8760 \times 1 / 2000 = 0.11 \text{ ton/yr}$

Temporary Emissions Exemption

The temporary cooling tower will not be in operation for more than two years. JEA intends to replace the temporary cooling tower with a small permanent cooling tower within the next two years. (A minor source construction permit will be obtained for this permanent cooling tower installation.) As the emissions from the proposed temporary cooling tower are an order of magnitude less than the 5 tpy generic emissions unit exemption threshold, it can also be reasonably assured that the PM emissions from the cooling tower will not violate any AAQS, and will not have any significant impact on a Class I area.

Generic Emissions Unit Exemption

The temporary cooling tower does not have any unit specific applicable requirement such as the maximum achievable control technology (MACT) for cooling towers because JEA will not use any chromium based chemicals for cooling water treatment. Also, as shown above, potential PM emissions are significantly less than the 5 tpy generic emissions unit exemption threshold.

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Summary

Based on the information provided above, JEA believes that the proposed temporary cooling tower will meet both the temporary exemption and the generic emissions unit exemption requirements. Additionally, the temporary cooling tower will not result in any emission increases in other parts of NGS. We are requesting written concurrence that no permitting is required for this temporary cooling tower.

Sincerely,

A handwritten signature in black ink, appearing to read "N. Bert Gianazza", written in a cursive style.

N. Bert Gianazza, P.E.
Environmental Services

cc: Richard Robinson, P.E., EQD