UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 22 2007

OFFICE OF
AIR AND RADIATION

James McCoy
Chairman, Management Committee
Nelson Industrial Steam Company
P.O. Box 4689
Houston, TX 77210-4689

Re: CAIR Applicability Determination for the Nelson Industrial Steam Company's Roy S. Nelson Station at Westlake, Louisiana (Facility ID (ORISPL) 1393)

Dear Mr. McCoy:

This letter is EPA's determination of applicability, under the EPA-administered trading programs under the Clean Air Interstate Rule (CAIR) and the CAIR Federal Implementation Plans (FIPs), for Nelson Industrial Steam Company's (NISCO) facility located at the Roy S. Nelson Station in Westlake, Louisiana.[1] This determination is made in response to your letter of March 13, 2006 requesting a determination by EPA under CAIR and the CAIR FIPs and to the additional information provided in separate letters on June 23, 2006 and November 15, 2006, in certain e-mails, and at a meeting on March 19, 2007. In its November 15, 2006 letter, NISCO requested that, if the units are not considered cogeneration units exempt from the requirements of the EPA-administered-CAIR trading programs, EPA interpret the phrase "producing electricity for sale" in the applicability provisions of the CAIR trading programs so as to exclude facilities selling small amounts of electricity to a utility distribution system or, alternatively, that EPA amend the CAIR FIPs, or allow Louisiana in its State Implementation Plan (SIP), to create new *de minimis* exemptions from the CAIR requirements based on the units' low level of electricity sales.

1. When NISCO submitted this applicability determination request, EPA's CAIR FIPs for NOx annual, SO_2, and NOx ozone season were in effect in Louisiana. EPA recently approved (with regard to SO_2) and proposed to approve (with regard to annual and ozone season NOx) Louisiana's CAIR State Implementation Plan (SIP) revisions providing for participation in the relevant EPA-administered CAIR trading program and incorporating by reference most of the provisions of EPA's CAIR model trading rules. The CAIR and CAIR FIP trading programs are virtually identical and operate as three integrated trading programs, one for NOx annual emissions, one for NOx ozone season emissions, and one for SO_2 emissions. NISCO and Louisiana have continued to indicate a strong interest in EPA responding to the applicability determination request. Under these circumstances, EPA is responding to the request and referencing both the relevant provisions in the CAIR FIPs and the comparable provisions in the CAIR model rules (which are essentially identical to the cited CAIR FIP provisions).

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Background

The NISCO facility is owned by CITGO Petroleum Corporation, Sasol North America, Inc., and ConocoPhillips Company (participants). Entergy Gulf States, Inc. (Entergy) also owns a 1% share of NISCO and operates the facility. NISCO received an authorization from the Louisiana Department of Environmental Quality (LDEQ) to construct and operate two circulating fluidized bed (CFB) boilers in Westlake, Louisiana pursuant to the Prevention of Significant Deterioration regulations in the Louisiana Environmental Quality Act, LAC 33:111.509 on May 29, 1990 and received a revised Part 70 operating permit on February 2, 2006. Both units were built in 1991 and commenced operation in May, 1992. The main purpose of the units is to provide steam for two turbine generators that produce electricity and steam, which is supplied to the participants. A relatively small amount of electricity is sold to Entergy, which is a utility, for delivery to its customers.

NISCO's two CFB boilers provide steam for two 130 megawatt (MWe) generators and have a combined electric gross output capacity of about 260 megawatt hours (MWh) and a combined steam capacity of about 1.95 MMlbs/hr. The boilers burn natural gas for start-up and then switch to petroleum coke for normal operation, using natural gas only as a back-up fuel. Both of these fuels are "fossil fuel", as defined under 40 CFR 96.102, 96.202, and 96.302 and 40 CFR 97.102, 97.202, and 97.302, because the first fuel is natural gas and the second fuel is derived from petroleum.[2] Limestone is added to the boilers as a sorbent material and to reduce SO_2, and sand is added to support the expansion of the bed. Steam produced by the boilers drives the two turbine generators, producing about 200 MWe of electricity primarily for use by the participants. Up to 80,000 pounds per hour of produced steam from the turbine generators are supplied for use by the participants through an 18,000 foot above ground pipeline. The ash from the boilers is disposed on site.[3]

The CFB boilers are subject to New Source Performance Standards (NSPS), 40 CFR 60, Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. As part of the initial 1990 permitting action, a top-down best available control technology (BACT) analysis was performed. A determination was made indicating that the BACT selected for the units, injecting lime into the combustion bed to control SO_2 emissions and minimizing NO_x emissions by proper combustion techniques, also met NSPS standards. No additional controls were required for these pollutants.

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2. Because the relevant provisions in the CAIR model rules (in Part 96) and in the CAIR FIPs (in Part 97) are essentially identical, only the CAIR FIP provisions will be cited in the remainder of this applicability determination. However, whenever the CAIR FIP provisions are cited below, the comparable provisions in the CAIR model rule are also applicable, and the citation should be treated as also referencing the comparable CAIR model rule provisions.

3. All ash generated must be properly managed and disposed of in accordance with State and local laws, rules, and regulations.

Under the EPA-administered CAIR trading programs for NOx annual, SO_2, and NOx ozone season emissions, a unit that is a stationary fossil-fuel-fired boiler serving at any time, since November 15, 1990, a generator with nameplate capacity of more than 25 MWe producing electricity for sale is generally a CAIR NOx, CAIR SO_2, and CAIR NOx Ozone Season unit subject to the requirements of the trading programs. 40 CFR 97.104(a)(1), 97.204(a)(1), and 97.304(a)(1). Each of the CFB boilers at the NISCO facility meets these criteria. However, under the trading program applicability provisions, certain units meeting these criteria are exempt from being CAIR NOx, CAIR SO_2, or CAIR NOx Ozone Season units. For example, any unit meeting the following criteria is exempt from the CAIR trading programs:

> (A) Qualifying as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a cogeneration unit; and
>
> (B) Not serving at any time, since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe supplying in any calendar year more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale.

40 CFR 97.104(b)(1)(i), 97.204(b)(1)(i), and 97.304(b)(1)(i). (These provisions are generally referred to as the "cogeneration unit" exemption.)

Under CAIR, a cogeneration unit is defined as:

> a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine:
>
> (1) Having equipment used to produce electricity and useful thermal energy for industrial or commercial, heating, or cooling purposes through the sequential use of energy; and
>
> (2) Producing during the 12-month period starting on the date the unit first produces electricity and during any calendar year after the calendar year in which the unit first produces electricity –
>
> (i) For a topping-cycle cogeneration unit,
>
> (A) Useful thermal energy not less than 5 percent of total energy output; and
>
> (B) Useful power that, when added to one-half of useful thermal energy produced, is 15 percent or more of total energy output, or not less than 45 percent of total energy output, if useful thermal energy produced is less than 15 percent of total energy output.
>
> (ii) For a bottoming-cycle cogeneration unit, useful power not less than 45 percent of total energy input.

40 CFR 97.102, 97.202, and 97.302.

Each of the CFB boilers at the NISCO facility produces electricity and useful thermal energy for industrial purposes through sequential use of energy. Moreover, each is a topping-cycle unit in that the boiler first produces steam used to generate electricity and then some of the

reject heat is used to provide steam for industrial use. See 40 CFR 97.102, 97.202, and 97.302 (definitions of "cogeneration unit" and "topping cycle cogeneration unit"). Information provided by NISCO indicates that the company sold power to a utility power distribution system -- i.e., a portion of an electricity grid owned or operated by a utility (here, Entergy and its predecessor company Gulf States Utilities Company) and dedicated to delivering electricity to utility customers -- during 1992 through 2005. See 40 CFR 97.102, 97.202, and 97.302 (definition of "utility power distribution system"). The amounts sold were generally below 1% of the total generation, including several years where there were no sales at all. The exception year is 2005, when sales were 2.58%, due to events following Hurricane Rita.

NISCO is requesting a determination that the NISCO units are cogeneration units that are exempt from being CAIR units under 40 CFR 97.104, 97.204, and 97.304 of the EPA-administered CAIR trading programs.[4] NISCO states that the units are exempt from Acid Rain Program requirements. NISCO also argues that EPA should interpret the definition of "producing electricity for sale" in the applicability provisions of the CAIR trading programs so as to exclude facilities that sell small amounts of electricity to a utility distribution system or, alternatively, that EPA should amend the CAIR FIPs, or allow Louisiana in its SIP, to create *de minimis* exemptions from the CAIR requirements.

EPA's Determination

EPA has determined that NISCO's Roy S. Nelson Units 1 and 2 are CAIR NOx, SO_2, and NOx Ozone Season units because they meet the criteria for being such CAIR units under 40 CFR 97.104, 97.204, and 97.304 of the EPA-administered CAIR trading programs. Specifically, NISCO's units meet the applicability criteria in 40 CFR 97.104(a), 97.204(a), and 97.304(a) and do not qualify for the exemptions under 40 CFR 97.104(b), 97.204(b), and 97.304(b).

Exclusion of "Small Amounts of Sales"

EPA rejects NISCO's request that EPA interpret the term "producing electricity for sale" in 40 CFR 97.104(a), 97.204(a), and 97.304(a) so as to exclude small amounts of electricity sold.

EPA maintains that the applicability provisions in 40 CFR 97.104(a), 97.204(a), and 97.304(a), on their face, cover a unit serving a generator producing any amount of electricity for sale. Nowhere in the rule text or preamble accompanying the rules is there any suggestion that the language means anything other than its clear meaning and that somehow a generator producing a small amount (unspecified in the rules) of electricity for sale would be considered not to be producing any electricity for sale. In short, the record of the rulemaking proceedings that resulted in promulgation of the rules for the EPA-administered trading programs contains no

4. NISCO also references the definition of "electric generating unit" in 40 CFR 51.123(cc) and 51.124(q). However, for purposes of the CAIR trading programs under Louisiana's CAIR SIP, the relevant applicability provisions are those in 40 CFR 96.104, 96.204, and 96.304.

basis for interpreting the applicability provisions to exclude consideration of some amount of electricity sales. On the contrary, where EPA intended to create an exemption based on the amount of electricity sales, the Agency expressly limited such an exemption to cogeneration units, i.e., the exemption for cogeneration units with annual sales not exceeding one-third of potential electrical output capacity or 219,000 MWhr. 40 CFR 97.104(b)(1), 97.204(b)(1), and 97.304(b)(1). Moreover, EPA rejected comments submitted in the CAIR rulemaking supporting an exemption for non-cogeneration units based on their small amounts of sales and noted that there was no such exemption for non-cogeneration units in the Acid Rain Program.[5] 70 FR 25162, 25276 (2005). EPA adopted essentially the same trading program rules (including the applicability provisions that lacked such an exemption for non-cogeneration units) for the CAIR FIPs. 71 FR 25328, 25343, and 25348 (2006).

For these reasons, EPA interprets the phrase "producing electricity for sale" to mean producing any amount of electricity for sale. As discussed above, the NISCO boilers have served, since commencing operation in 1992, generators that produced some electricity for sale. EPA concludes that the boilers meet the applicability criteria in 40 CFR 97.104(a), 97.204(a), and 97.304(a).

Qualification for Cogeneration Unit Exemption

As discussed above, the CAIR trading program rules provide that certain units that otherwise meet the criteria being CAIR units, but that also meet the definition of a "cogeneration unit", are exempt from the requirements of the trading programs if the units meet certain limitations concerning annual electricity sales.

Consistent with the cogeneration unit definition in 40 CFR 97.102, 97.202, and 97.302, the NISCO units produce electricity and useful thermal energy through sequential use of energy. However, the cogeneration definition also requires that topping-cycle units, such as the NISCO units, meet a minimum efficiency requirement. The efficiency standard is applied to all useful thermal energy input to the unit regardless of the type of fuel that is combusted. See 40 CFR 97.102, 97.202, and 97.302 (definition of "useful thermal energy").[6] This means that a unit does not qualify as a cogeneration unit under the CAIR trading programs unless the unit meets the applicable efficiency standard, here, the efficiency standard for topping-cycle units requiring that

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5. EPA also considered, and rejected in the CAIR rulemaking comments that CFB boilers should not be covered by the EPA-administered trading programs because of such boilers' relatively low emissions. See Corrected Response to Significant Public Comments on the Proposed Clean Air Interstate Rule at 274-75 and 878-80 (April 2005).

6. EPA has proposed to exclude, for boilers, the heat input from non-fossil fuel, such as biomass, from the definition of "total energy input." 72 FR 20471 (2007). However, EPA's proposed rulemaking is not relevant here because all the fuel combusted at the NISCO units is fossil fuel.

the useful power plus one-half of useful thermal energy output of the unit must equal no less than a certain percentage of the total energy input of the unit.[7] If a unit meets the definition of cogeneration unit (including the efficiency standard), then the unit may qualify for the cogeneration unit exemption under the CAIR trading programs in these rules depending on whether the unit meets the additional criteria concerning the amount of annual electricity sales from the unit.

As discussed above, for the purpose of applying the efficiency standard in the cogeneration unit definition, the heat input from all fuel must be included in the efficiency calculation. NISCO stated in a letter dated June 23, 2006 that neither of the NISCO boilers meets the efficiency requirements when the heat input from petroleum coke, as well as the heat input from natural gas, is included in the efficiency calculations. Therefore, EPA concludes that neither of the boilers qualifies as a cogeneration unit and so neither qualifies for the cogeneration unit exemption under 40 CFR 97.104(b)(1), 97.204(b)(1), and 97.304(b)(1). EPA notes that NISCO does not claim, and could not reasonably argue, that either of the units qualifies for a second exemption under 40 CFR 97.104(b)(2), 97.204(b)(2), and 97.304(b)(2) for certain solid waste incineration units.

Creation of *De Minimis* Exemptions

Finally, EPA rejects NISCO's request that the Agency amend the CAIR FIPs, or allow Louisiana in its SIP, to create new *de minimis* exemptions from the CAIR requirements based on the NISCO units' low level of electricity sales. First, EPA promulgated the CAIR FIPs, after providing a public hearing and opportunity for submission of public comments, as a final rule on April 28, 2006. EPA cannot, in the context of applying the applicability provisions of the EPA-administered trading programs, amend the applicability provisions of the CAIR FIPs to create new exemptions. The time for parties to request new exemptions, such as the new *de minimis* exemptions sought by NISCO under the CAIR FIPs, would be in a rulemaking (e.g., the rulemaking establishing the CAIR FIPs), where parties requesting or opposing new exemptions would have the opportunity to comment.[8] In fact, as discussed above, EPA considered in the CAIR rulemaking the creation of exemptions for units not meeting the cogeneration unit

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7. According to NISCO, both boilers are exempt from the Acid Rain Program because they meet the requirements for an exemption for cogeneration units in 40 CFR 72.6(b). However, the Acid Rain Program's definition of a cogeneration unit in 40 CFR 72.2 differs from the cogeneration unit definition in the EPA-administered CAIR trading programs. Unlike the Acid Rain Program definition, the CAIR definition requires that a unit meet certain efficiency criteria in order to qualify as a cogeneration unit.

8. NISCO states that EPA has the authority to establish *de minimis* exemptions and cites Alabama Power v. Costle, 636 F.2d 323 (D.C. Cir. 1979) and its progeny. However, these cases are not relevant inasmuch as they deal with exemptions created in a rulemaking; that is not the context here.

definition based on their electricity sales, as well as the exclusion of CFB boilers, under the EPA-administered trading programs.[9]

Second, under CAIR, a State that wants to participate in the EPA-administered trading programs must adopt rules that -- except for a few, allowed differences -- are substantively identical to the CAIR model rules, which include the applicability provisions (in 40 CFR 96.104, 96.204, and 96.304) that lack an exemption for non-cogeneration units based on electricity sales. See 40 CFR 51.123(o)(2) and (aa)(2) and 51.124(o)(2). The differences that States participating in the EPA-administered trading programs are allowed to adopt in CAIR SIPs do not include the creation of *de minimis* exemptions from the applicability provisions. See id. . Therefore, under CAIR, Louisiana cannot create new *de minimis* exemptions through a CAIR SIP revision and still participate in the EPA-administered trading programs.

EPA's applicability determination in this letter relies on the accuracy and completeness of the information provided by NISCO in the March 13, 2006, June 23, 2006, and November 15, 2006 letters, in certain e-mails, and at the March 19, 2007 meeting and is appealable under 40 CFR Part 78. If you have any questions regarding this determination, please contact Ruben Deza at (202) 343-9364. Thank you for your continued cooperation.

Sincerely,

Sam Napolitano, Director
Clean Air Markets Division

cc: Adina Wiley, EPA Region VI
Joyce Johnson, EPA Region VI

9. Not only is it inappropriate to consider amending the CAIR FIPs (or, for that matter, the CAIR requirements discussed below concerning State participation in the EPA-administered trading programs) in the context of applying the existing applicability provisions, but also NISCO's claim that inclusion of its CFB units in the CAIR trading programs is an "absurd result" is unsupported. See, e.g., n. 5.