

# Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

**To:** Commissioners **Date:** August 21, 2009

**Thru:** LaDonna Castañuela, Chief Clerk  
Mark R. Vickery, P.G., Executive Director

**From:** Susana M. Hildebrand, P.E., Chief Engineer SH 7.14.09  
Chief Engineer's Office

**Docket No.:** 2008-0335-SIP

**Subject:** Commission Approval for the Proposed Clean Air Interstate Rule (CAIR) State Implementation Plan (SIP) Revision  
Project No. 2007-051-SIP-NR

## Reasons for the SIP revision package:

To meet the requirements established by the United States Environmental Protection Agency (EPA) for the CAIR Phase II (2015 and thereafter) nitrogen oxides (NO<sub>x</sub>) allocation submittal, Texas must submit a CAIR SIP revision to the EPA in early 2010. This revision will allow the EPA adequate time to review and approve CAIR Phase II for Texas to use the NO<sub>x</sub> allocation methodology specified in Senate Bill (SB) 1672<sup>1</sup>, 80<sup>th</sup> Texas Legislature, Regular Session. In addition to the allocation issues relating to CAIR, the EPA has also revised the federal CAIR program five times since Texas adopted its initial CAIR SIP revision on July 12, 2006. This proposed CAIR SIP revision will also address proposed revisions to 30 Texas Administrative Code (TAC) Chapter 101 from the legislation.

For Texas to submit an approvable CAIR SIP revision, the state and federal requirements need to be consistent with each other. If Texas does not submit a CAIR SIP revision that incorporates the federal revisions, the EPA would require Texas to use the EPA's model CAIR rule NO<sub>x</sub> allocation methodology. The model CAIR rule's NO<sub>x</sub> allocation methodology is substantially different than the methodology prescribed in SB 1672. Texas' NO<sub>x</sub> allocation methodology for Phase I was approved by the EPA and published in the *Federal Register* on July 30, 2007 (72 FR 145).

In 2007, the 80<sup>th</sup> Texas Legislature passed SB 1672, requiring the TCEQ to incorporate revisions to the federal CAIR that the EPA finalized since the initial adoption of the CAIR SIP revision on July 12, 2006, as well as revisions to the NO<sub>x</sub> allocation methodology. SB 1672 contains provisions relating to correcting the number of minimum periods specified for NO<sub>x</sub> allowance adjustments that were directed by House Bill (HB) 2481<sup>2</sup>. HB 2481 revised the baseline of existing units every five years by using the three highest years heat input data from the previous seven years. However, this seven-year period did not provide adequate time to accommodate the EPA's requirement of providing allocations to them approximately four years in advance of each control period. Therefore, SB 1672 changed the number of control periods from seven to nine and shifted the allocation update from 2016 to 2018.

<sup>1</sup> Act of May 10, 2007, 80<sup>th</sup> Leg., R.S., SB 1672, § 2 (codified at Tex. Health & Safety Code §382.0173, concerning Adoption of Rules Regarding Certain SIP Requirements and Standards of Performance for Certain Sources).

<sup>2</sup> Act of June 18, 2005, 79<sup>th</sup> Leg., R.S., HB. 2481, § 2 (codified at Tex. Health & Safety Code §382.0173, concerning Adoption of Rules Regarding Certain SIP Requirements and Standards of Performance for Certain Sources).

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Because of this legislative change in SB 1672, new<sup>3</sup> electric generating units (EGU) in the years 2016 and 2017 with five or more consecutive years of operation will roll into the existing<sup>4</sup> EGU allocation pool. This is consistent with how new units are handled for the 2015 control period under the federal CAIR program. However, beginning in 2018 each existing unit's baseline heat input will be revised based on the average of the highest three years from control periods one through five of the preceding nine control periods. In accordance with SB 1672, this baseline readjustment will happen every five years. During this five-year baseline readjustment, new units with five or more years of operation will be reclassified from a new unit to an existing unit. Therefore, the number of NO<sub>x</sub> allowances will not fluctuate and will remain consistent for five years at a time.

SB 1672 also omits the reference date of the federal CAIR program that was specified in HB 2481 from the 79<sup>th</sup> Texas legislative session. This change will enable the commission to make subsequent changes as dictated by federal rule change for CAIR.

Revisions to the CAIR SIP and rule to implement SB 1672 were proposed to the commissioners on May 21, 2008. On July 11, 2008, the United States Court of Appeals District of Columbia Circuit (Court) (No. 05-1244) vacated CAIR and the CAIR Federal Implementation Plan (FIP). Because of the Court's ruling, the TCEQ withdrew the CAIR SIP and rule revision adoption packages from the November 19, 2008, agenda to await further direction from the EPA.

On December 23, 2008, the Court issued a revised opinion to remand, without vacating, CAIR to the EPA. Therefore, CAIR will remain in effect while the EPA analyzes data and conducts rulemaking to modify the program to comply with the Court's July 2008 opinion. The Court declined to impose a schedule by which the EPA must complete the rulemaking, but reminded the EPA that the Court does "... not intend to grant an indefinite stay of the effectiveness of this Court's decision." Therefore, with CAIR in place, staff is proceeding with the CAIR program as directed by the Texas legislature.

This proposed CAIR SIP revision contains:

- Federal changes to the CAIR program, as specified below (specifics regarding these changes can be found in Chapter 1 – General);
- Methodology for allocation of CAIR NO<sub>x</sub> allowances as specified in SB 1672; and
- Non-substantive administrative changes.

**Under what authority are we proposing these changes?**

The authority to propose and adopt the SIP is derived from Texas Health and Safety Code, Texas Clean Air Act (TCAA), §382.002, which provides that the policy and purpose of the TCAA is to safeguard the state's air resources from pollution; TCAA, §382.011, which authorizes the commission to control the quality of the state's air; §382.012, which authorizes the commission to prepare and develop a general, comprehensive plan for the control of the state's air; and §382.0173, which authorizes the commission to adopt SIP and rule requirements relating to CAIR.

**Is this SIP revision required by federal rule or state statute? Which ones?**

Yes – The CAIR SIP revision is required by both federal rule and state statute.

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<sup>3</sup> New EGU - Units commencing operation on or after January 1, 2001.

<sup>4</sup> Existing EGU - Units commencing operation before January 1, 2001.

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**Federal changes to the CAIR program:**

Following are the federal changes to the CAIR program since May 12, 2005, that are being proposed for incorporation in this SIP revision. A brief description of each change is given from the most recent change as well as the *Federal Register* citation to provide additional information.

**Federal Implementation Plans (FIP) for the Clean Air Interstate Rule: Automatic Withdrawal Provisions – 40 CFR Part 52 – Direct Final Rule**

**November 2, 2007, *Federal Register***

The EPA took a direct final action to amend the FIP for CAIR to provide for an automatic withdrawal of CAIR FIPs in a state upon the effective date of the EPA's approval of a full SIP revision meeting the CAIR requirements. All CAIR states are required to revise their SIPs to include control measures to reduce the emission of NO<sub>x</sub> and/or sulfur dioxide (SO<sub>2</sub>). In this FIP rulemaking, the EPA stated it would withdraw the FIP in a state in coordination with the full approval of the state's CAIR SIP. In this action, the EPA makes the FIP withdrawal for the state automatic upon approval of the full CAIR SIP revision. Note that the EPA has said that it will give partial approval if the SIP is approved after the EPA makes allowances under the FIP for the year; the SIP approval would be fully valid for the next year. The EPA believes that this will correct the deficiency that provided the basis for the EPA's promulgation of the FIPs. The direct final rule was effective on January 16, 2008.

**Revisions to Definition of Cogeneration Unit (CAIR); CAIR Federal Implementation Plans (FIP); Clean Air Mercury Rule (CAMR); and Technical Corrections to CAIR, CAIR FIPs, CAMR, and the Acid Rain Program Rules – 40 CFR Parts 51, 60, 72, 78, 96, and 97**

**October 19, 2007, *Federal Register***

The CAIR, CAIR FIP, and CAMR rule each include an exemption for cogeneration units that meet certain criteria. In light of information concerning biomass-fired cogeneration units that may not qualify for the exemption due to their particular combination of fuel and technical design characteristics, the EPA changed the cogeneration unit definition in CAIR, the CAIR model cap and trade rules, the CAIR FIPs, CAMR, and the CAMR model cap and trade rule. Specifically, the EPA revised the calculation methodology for the efficiency standard in the cogeneration unit to exclude energy input from biomass making it more likely for units co-firing biomass to be able to meet the efficiency standard and qualify for an exemption. Because the EPA predicts that this change will only affect a small number of relatively low-emitting units, the revision will have little effect on the projected emissions reductions and the environmental benefits of these rules. This action also clarifies the term "total energy input" used in the efficiency calculation and makes minor technical corrections to CAIR, the CAIR FIPs, CAMR, and the Acid Rain Program rules. This rule revision was effective on November 19, 2007.

**Clean Air Interstate Rule (CAIR) and CAIR Federal Implementation Plans (FIP); Corrections – 40 CFR Parts 51 and 97**

**October 1, 2007, *Federal Register***

The EPA made minor corrections to CAIR to restore a phrase of regulatory text related to state annual emissions reporting requirements that was inadvertently deleted when the rule was amended in 2006. This rule also corrects typographical errors in the spellings of three states in the CAIR regulatory text and corrects a typographical error in a section citation in the CAIR FIP regulatory text. This rule revision was effective on October 1, 2007.

**Clean Air Interstate Rule (CAIR) and Federal Implementation Plans for CAIR; Corrections – 40 CFR Parts 51, 96, and 97**

**December 13, 2006, *Federal Register***

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The EPA made minor corrections to the CAIR and the FIPs for CAIR to clarify text that may potentially be misleading. This rule does not change any of CAIR or CAIR FIPs rule requirements or substantively change the rules in any way. This rule revision was effective on December 13, 2006.

**Rulemaking on Section 126 Petition From North Carolina to Reduce Interstate Transport of Fine Particulate Matter and Ozone; Federal Implementation Plans to Reduce Interstate Transport of Fine Particulate Matter and Ozone; Revisions to the Clean Air Interstate Rule; Revisions to the Acid Rain Program – CFR Parts 51, 52, 72, 73, 74, 78, 96, and 97**

**April 28, 2006, *Federal Register***

The EPA took action to address the interstate transport of emissions of NO<sub>x</sub> and SO<sub>2</sub> that contribute significantly to nonattainment and maintenance problems with respect to the National Ambient Air Quality Standards (NAAQS) for PM<sub>2.5</sub> and eight-hour ozone. As one part of this action, the EPA provided its final response to a petition submitted to the EPA by the State of North Carolina under Section 126 of the FCAA. The petitioner requested that the EPA find that SO<sub>2</sub> and/or NO<sub>x</sub> emissions from EGUs in 13 states were significantly contributing to PM<sub>2.5</sub> and/or eight-hour ozone nonattainment and maintenance problems in North Carolina and requested that the EPA establish control requirements to prohibit such significant contribution. The EPA denied the petition because, in this action, the EPA promulgated FIPs for all jurisdictions covered by the CAIR to address interstate transport.

The FIPs will regulate EGUs in the affected states and achieve the emissions reductions requirements established by the CAIR states that do not have approved SIPs to achieve the reductions. As the control requirements for the FIPs, the EPA adopted the model trading rules that the EPA provided in CAIR as a control option for states, with minor changes to account for federal rather than state implementation.

This action also revised the CAIR SIP model trading rules in order to address the interaction between the EPA-administered CAIR FIP trading programs being promulgated and the EPA-administered CAIR state trading programs that will be created by any state that elects to submit a SIP establishing such a trading program to meet the requirements of the CAIR. In addition, the EPA took final action on its reconsideration of the definition of EGU as it relates to solid waste incinerators.

This action also made revisions to the Title IV Acid Rain Program in order to make the administrative appeals procedures, which currently apply to final determinations by the Administrator under the EPA-administered CAIR state trading programs, also apply to the EPA-administered CAIR state trading programs and to the EPA-administered trading program under the FIP action. In addition, the EPA made certain minor revisions to the Acid Rain Program that will apply to all affected units.

The definition of CAIR EGU applicability has also been revised. CAIR applies to any EGU that is a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, since the later of November 15, 1990, or the startup of the unit's combustion chamber, a generator with nameplate capacity of more than 25 megawatt electrical (MWe) producing electricity for sale. For a unit that qualifies as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and continues to qualify as a cogeneration unit, a cogeneration unit is a CAIR unit that serves at any time a generator with nameplate capacity of more than 25 MWe and supplies in any calendar year more than one-third of the unit's potential electric output capacity or 219,000 megawatt hour (MWh), whichever is greater, to any utility power distribution system for sale. If a unit qualifies as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity but subsequently no longer qualifies as a cogeneration unit, the unit shall be subject to CAIR starting on the day the unit first no longer qualifies as a cogeneration unit. This rule revision became effective on June 27, 2006.

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**State legislative changes:**

In 2007, the 80<sup>th</sup> Texas Legislature passed SB 1672, which directed the TCEQ to incorporate subsequent federal CAIR changes that the EPA finalized since the initial adoption of the CAIR SIP revision on July 12, 2006, as well as revisions to the NO<sub>x</sub> allocation methodology as prescribed by SB 1672. SB 1672 relates to correcting the number of minimum periods specified for NO<sub>x</sub> allowance adjustments that were directed by HB 2481. HB 2481 adjusted the baseline of existing units every five years by using the three highest years of heat input data from the previous seven years. However, the seven-year period did not provide adequate time to accommodate the EPA's requirement of providing allocations to them approximately four years in advance of each control period. Therefore, the number of control periods was changed from seven to nine in SB 1672. SB 1672 also shifted the allocation update from 2016 to 2018.

Because of the legislative change in SB 1672, new units in the years 2016 and 2017 with five or more consecutive years of operation will obtain allowances from the existing allocation pool. This revision is consistent with how new units are handled for the 2015 control period under the federal CAIR program. However, beginning in 2018 each existing unit's baseline heat input will be revised based on the average of the highest three years from control periods one through five of the preceding nine control periods. In accordance with SB 1672, this baseline readjustment will happen every five years. During this five-year baseline readjustment, new units with five or more years of operation will be reclassified from a new unit to an existing unit. Therefore, the number of NO<sub>x</sub> allowances would not fluctuate and would remain constant for five years.

**Are there any legal deadlines by which this SIP revision must be proposed, adopted, or effective?**

To meet the requirements established by the EPA for CAIR Phase II NO<sub>x</sub> allocation submittal, Texas must submit a CAIR SIP revision to the EPA by early 2010. This timeline will allow the EPA adequate time to review and approve the CAIR Phase II for Texas to use the NO<sub>x</sub> allocation methodology specified in SB 1672. The Phase II NO<sub>x</sub> allocations must be submitted to the EPA by October 31, 2011.

**What issue(s) or problem(s) are we trying to solve?**

This CAIR SIP revision incorporates federal rule changes and state statute changes that will allow Phase II of the CAIR program for Texas to be approved by the EPA.

**Why is it important that we do this SIP revision package?**

Texas must have an approved CAIR SIP revision to allow the TCEQ to distribute NO<sub>x</sub> allowances to EGUs for CAIR Phase II (2015 through thereafter), as directed by Texas Health and Safety Code (THSC), § 382.0173.

**Other important background or historical information:**

Texas' NO<sub>x</sub> allocation methodology for Phase I and allowance allocation methodology for the compliance supplemental pool was approved by the EPA on July 30, 2007 (72 FR 145). The remaining portion of the CAIR program for Texas is currently under the CAIR FIP.

**Scope of the SIP revision:**

This CAIR SIP revision contains:

- Federal changes to the CAIR program;
- Methodology for allocation CAIR NO<sub>x</sub> allowances as specified in SB 1672; and
- Non-substantive administrative changes.

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**Changes required by federal rule:**

The EPA had five revisions to the CAIR program since May 12, 2005, published in the *Federal Register*. A brief description of each change is included in the "Federal changes to the CAIR program" section of this executive summary.

**Changes required by state statute:**

The 80<sup>th</sup> Legislature, 2007, enacted SB 1672 promulgating THSC, § 382.0173(e)(3) that directs the commission to incorporate the EPA's final rulemaking action into state rules for both CAIR and CAMR.

**Staff recommendations that are not expressly required by federal rule or state statute:**

Because of the legislative change in SB 1672 that shifted the revision of the baseline from 2016 to 2018, staff is proposing that new units in the years 2016 and 2017 with five or more consecutive years of operation receive allowances from the existing allocation pool. This revision is consistent with how new units that become existing units with five or more consecutive years of operation are provided NO<sub>x</sub> allowance allocations for the 2015 control period under the federal CAIR program.

Beginning in 2018 each existing unit's baseline heat input will be revised based on the average of the highest three years from control periods one through five of the preceding nine control periods. In accordance with SB 1672, this baseline readjustment will happen every five years. Therefore, starting in 2018, new units during this five-year baseline readjustment, with five or more years of operation, will be reclassified from a new unit to an existing unit. Therefore, the number of NO<sub>x</sub> allowance allocations would not fluctuate and would remain constant for five years. This consistency will provide stability to EGUs as they plan operations.

**Impact on the regulated community:**

**Who will be affected?**

EGUs as defined by the EPA and the public will be affected by the rule revisions associated with this CAIR SIP revision. CAIR emission reductions are focused on new and existing EGUs statewide as defined by the EPA.

**Does this CAIR SIP revision create a group of affected persons who were not affected previously? How?**

No

**Will there be a fiscal impact? If so, estimate.**

There is no specific fiscal impact associated with the CAIR SIP revision. The fiscal impact, if any, will be tied to the proposed changes to Chapter 101.

**Impact on the public:**

**Who will be affected?**

The public would realize public health and environmental benefits based on the reductions in NO<sub>x</sub> and SO<sub>2</sub> emissions. The EPA expects regional electricity prices will not be significantly impacted by CAIR and are projected to be below 2000 levels.

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**Does it create a group of affected persons who were not affected previously? How?**

No – The CAIR SIP revision will not affect a new group of individuals from the previously adopted CAIR SIP revision in July 2006.

**Will there be a fiscal impact? If so, estimate.**

No

**Impact on agency programs:**

The CAIR SIP revision will affect the following agency offices: the Chief Engineer's Office; the Office of Permitting and Registration; the Office of Compliance and Enforcement; and the Office of Legal Services.

**Stakeholder meetings:**

**Have any stakeholder meetings been held?**

Stakeholder meetings were not necessary to support the rulemaking required by the proposed CAIR SIP revision. Revisions to the SIP and changes to the rule have both been directed by the 80<sup>th</sup> Texas Legislature in SB 1672, THSC §382.0173.

**With whom?**

N/A

**What were the general sentiments?**

N/A

**Were any changes made in response to stakeholder concerns?**

N/A

**Policy issues:**

**What policy issues are affected?**

The timing of moving new EGUs from new to existing EGUs in 2016, 2017, and every five years thereafter beginning in 2018 is an outstanding policy issue that is addressed in the CAIR SIP revision proposal. Additional information is provided in the next subsection.

**Are any policies that are not currently based on rule being made into a rule?**

Because of the legislative change in SB 1672, new units in the years 2016 and 2017 with five or more consecutive years of operation will receive allowances from the existing allocation pool. This policy would be consistent with how new units are handled for the 2015 control period under the federal CAIR program. However, beginning in 2018 each existing unit's baseline heat input would be revised based on the average of the highest three years from control periods one through five of the preceding nine control periods. In accordance with SB 1672, this baseline readjustment would happen every five years. During this five-year baseline readjustment, new units with five or more years of operation will be reclassified from a new unit to an existing unit. Therefore, the number of NO<sub>x</sub> allowance allocations would not fluctuate and would remain constant for five years.

**What are the consequences if this SIP revision is not approved to go forward?**

If the CAIR SIP revision does not proceed through to the adoption process, Texas will not have an approved CAIR SIP for Phase II of CAIR that begins in 2015 and therefore will not be able to

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allocate NO<sub>x</sub> allowances as directed by SB 1672. To meet the requirements established by the EPA for CAIR Phase II NO<sub>x</sub> allocation submittal, Texas must submit a CAIR SIP revision to the EPA by early 2010. This timeline will allow the EPA adequate time to review and approve the CAIR Phase II for Texas to use the NO<sub>x</sub> allocation methodology specified in SB 1672. The Phase II NO<sub>x</sub> allocations must be submitted to the EPA by October 31, 2011.

**Are there alternatives?**

No – The CAIR SIP revision is needed because of federal rule changes and state statute.

**Potentially controversial matters:**

There are no known controversial issues at this time.

**Key points in proposed SIP revision schedule:**

**Anticipated proposal date:** September 9, 2009

**Anticipated *Texas Register* hearing notice date:** September 25, 2009

**Public hearing date (if any):** October 20, 2009, Fort Worth; October 21, 2009, Austin; and October 22, 2009, Houston

**Public comment period:** September 25 – October 26, 2009

**Anticipated adoption date:** February 2010

**Agency contacts:**

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**Attachment**

cc: Chief Clerk, 5 copies  
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