

APPENDIX F

RESPONSE TO COMMENTS RECEIVED REGARDING THE
CLEAN AIR MERCURY RULE (CAMR)
STATE PLAN REVISION

The commission conducted public hearings on the proposed rules on April 11, 2006, in Austin; April 12, 2006, in Fort Worth; and April 13, 2006, in Houston. During the public comment period, which closed at 5:00 p.m., April 17, 2006, the commission received comments from Association of Electric Companies of Texas, Inc. (AECT); Austin Physicians for Social Responsibility (APSR); Clean Water Action (CWA); Downwinders at Risk Education Fund; Entergy Services Inc. (Entergy); Environment Texas; FPL Group (FPL); Greater Houston Area Smog Prevention (GHASP); Gulf Coast Lignite Coalition (GCLC); League of Women Voters of Texas (LWV); NRG Texas (NRG); Public Citizen; Representative Dennis Bonnen, District 25; Senator Ken Armbrister, District 18; Sierra Club of Dallas-Fort Worth (DFW Sierra Club); Sierra Club - Houston Regional Group (Houston Sierra Club); Southwestern Public Services (SPS); Suez Energy Generation NA, Inc. (SEGNA); Texas Association of Business (TAB); Texas Impact; Texas Mining and Reclamation Association (TMRA); Texas Campaign for the Environment (TCE); The Sustainable Energy and Economic Development Coalition (SEED); TXU Power (TXU); Working Effectively for Clean Air Now (WECAN); and 140 individuals.

NRG supported comments submitted by GCLC; TMRA supported comments submitted by AECT and GCLC; GCLC supported comments submitted by TMRA and AECT; and Entergy and TXU supported comments submitted by AECT.

TXU, Entergy, AECT, and SPS concurred with Representative Bonnen's comments.

RESPONSE TO COMMENTS *MORE STRINGENT CONTROLS*

SEED, Public Citizen, TCE, Downwinders at Risk, WECAN, Environment Texas, LWV, APSR, CWA, Texas Impact, GHASP, and 56 individuals requested that the commission adopt rules more stringent than the federal rules by requiring a 90% reduction in mercury emissions from coal-fired power plants by the year 2010. In addition, the commenters stated that the goal of the commission should be a total phase-out of mercury emissions from utilities. Texas Impact commented that toxic emissions threaten to stifle growth and development in Texas.

The rules have not been revised in response to this comment. Under House Bill 2481, 79th Legislature, 2005, the commission was directed to adopt and incorporate by reference 40 CFR Part 60, Subpart HHHH, thus requiring the commission to allocate the mercury budget as provided under the federal CAMR model trading rule. Therefore, the commission does not have the authority to require additional mercury reductions from coal-fired EGUs in conjunction with implementing CAMR.

Representative Dennis Bonnen and Senator Armbrister commented that the legislature did not intend Section 2 of HB 2481 to be interpreted to allow more stringent emission control requirements in the TCEQ rules adopting the federal CAMR.

The commission appreciates the information provided by Representative Bonnen and Senator Armbrister.

SEED, Public Citizen, TCE, Downwinders at Risk, WECAN, Environment Texas, CWA, and 127 individuals requested that the timeline for mercury reductions be accelerated to require reductions from EGUs to be met by 2010. GCLC and TMRA commented that the commission should reject any request

to accelerate the timeline for complying with the proposed mercury reductions due to the technical and logistical constraints with retrofitting the appropriate control equipment on existing lignite-fired units.

The rules have not been revised in response to this comment. Under House Bill 2481, 79th Legislature, 2005, the commission was provided specific direction to adopt and incorporate by reference 40 CFR Part 60, Subpart HHHH. Based on this legislative directive, the commission must adhere to the timelines established by EPA under the federal CAMR model trading rule for mercury. Under the federal CAMR model trading rule, Phase I mercury reductions will result from NO_x and SO₂ controls initially implemented in 2009 and 2010 under the CAIR. The commission does not have the authority to accelerate the timelines for coal-fired EGUs to comply with these emission reduction requirements.

SEED, Public Citizen, TCE, Downwinders at Risk, WECAN, Environment Texas, LWV, CWA, DFW Sierra Club, and 43 individuals commented that the commission was provided the authority under HB 2481 to implement more stringent mercury controls than those required under the federal rules. SEED commented, and provided information to support its comment, that other states are implementing more stringent mercury standards than is Texas. AECT, Entergy, GCLC, NRG, SPS, TMRA, and TXU commented that HB 2481 does not provide the commission with the authority in implementing the federal CAMR program to impose more stringent mercury control requirements than those required under the federal rule.

The commission has made no changes in response to these comments. The Texas Legislature, during the 79th Legislative Regular Session, 2005, enacted House Bill 2481, which requires the commission to participate in the EPA-administered cap and trade program for mercury by incorporating the federal CAMR by reference. HB 2481 also provided that its provisions applied only while the federal rules were enforceable and that its provisions did not limit the authority of the commission to implement more stringent emissions control requirements. As indicated in the proposal preamble, the commission interprets these requirements together in order to provide effect to the expressed intent of the legislature. Specifically, the commission continues to interpret the language of new THSC, §382.0173(d) as not restricting existing authority to require further emission control requirements, but not to interfere with, or change, the requirements of the CAMR mercury trading program.

The legislature expressed clear intent that the commission implement the CAMR model trading program by requiring the incorporation by reference of the CAMR program rules as promulgated by EPA. Those rules include a mercury allowance allocation methodology in 40 CFR §60.4142 that the commission is adopting as part of the trading program, requiring the use of EPA-specified allocation methodology. Requiring more stringent mercury reductions than required by the federal CAMR would not be in accord with the statutory requirement to incorporate the CAMR by reference, which specifies the emission budget for mercury in 40 CFR §60.4140 in two phases, 2010 - 2017 and 2018 and thereafter. By requiring the commission to incorporate the federal rule by reference, the commission must also incorporate the allocation methodology and the emission budget contained in the federal CAMR in 40 CFR Part 60.

AECT, Entergy, FPL, GCLC, NRG, SPS, TAB, TMRA, and TXU commented in support of the proposed rule and opposed any revisions to the rule imposing more stringent mercury emission requirements than those required under the federal rule. GCLC and TMRA commented that the

legislative directive provided to the commission under HB 2481 is grounded in sound science and based on available control technologies. Lignite coals contain high amounts of elemental mercury which is the hardest form of mercury to capture and control. The adoption of mercury reductions that cannot be met through technologically feasible and commercially available controls threatens the viability of lignite as an electric generation fuel. TAB commented that regulatory certainty afforded by adoption of the federal rule in Texas will increase economic development.

The commission appreciates the support. As discussed elsewhere in this preamble, House Bill 2481, 79th Legislature, 2005, specifically directed the commission to adopt and incorporate by reference 40 CFR Part 60, Subpart HHHH, thus requiring the commission to allocate the mercury budget as provided under the federal CAMR rule. Therefore, the commission does not have the authority to require additional mercury reduction requirements for coal-fired EGUs in conjunction with implementing CAMR.

Houston Sierra Club commented that CAMR should be implemented in Texas as specified by the legislature via an incorporation by reference of the federal CAMR model trading rule. However, through the commission's authority to protect public health, welfare, safety, and the environment, the commission should require through future rulemaking further reductions in mercury emissions that result in an 80% to 90% total mercury reduction, with the overall goal being a total phase-out of mercury emissions.

The commission has made no changes in response to this comment. Decisions regarding future rulemaking activities must be properly made in those future actions, after public notice and comment.

HEALTH IMPACTS

SEED, Public Citizen, TCE, Downwinders at Risk, WECAN, Environment Texas, APSR, DFW Sierra Club, Texas Impact, and 124 individuals commented that the federal CAMR rule is insufficient to protect human health. SEED provided information regarding studies about health effects of mercury. These groups and individuals are specifically concerned about autism and brain development in prenatally exposed children, in addition to other health impacts. One individual noted that it is possible that lower levels of mercury exposure could be toxic, and that, more likely than not, there is no safe blood level of mercury. Stronger protections are recommended.

The commission has made no changes in response to this comment. As discussed elsewhere in this preamble, the adopted rules are designed to implement the federal CAMR program. Exhaustive health effects analyses were conducted as part of the federal rulemaking process that resulted in the CAMR. (See the discussions regarding studies conducted and reviewed by EPA in the proposed and adopted federal rules, links to which may be found at <http://www.epa.gov/air/mercuryrule/rule.htm>.) These analyses focused on health effects in fetuses, children, and adults. EPA also prepared an analysis of the final rule entitled "Regulatory Impact Analysis of the Final Clean Air Mercury Rule" in which the results of these health effects studies are discussed. Links to this document and to many others containing EPA's public health analyses may be found at <http://www.epa.gov/ttn/atw/utility/utiltoxpg.html>.

The commission agrees that mercury is a toxin that can lead to neurological deficits in children and adults. However, the levels at which these toxicities occur is significantly above blood

mercury levels in the United States. EPA updated the Reference Dose (RfD) for methylmercury in 2001. The RfD is set at a concentration to protect the most sensitive population (developing fetuses) from the most sensitive health effect (neurological deficit) over a lifetime of exposure. To develop the RfD, EPA used an extensive epidemiological study conducted in the Faroe Islands on a group of natives who consume large amounts of fish and whale blubber over a lifetime. The benchmark dose lower limit or BMDL was derived by first identifying a measurable (5%) adverse change that correlated to cord blood mercury levels and then determining the lower 95% limit of this concentration. The National Research Council recommended a BMDL of 58 parts per billion (ppb) mercury in cord blood based on significant effects measured on the Boston Naming Test. The dose was then converted from cord blood levels to ingested maternal levels. Assuming a 1:1 ratio between cord and maternal blood concentrations, this value was calculated to be 1.081 micrograms (μg) mercury/kilogram (kg) body weight/day. This value was then divided by an uncertainty value of 10 to account for variability, including potential differences between cord blood and maternal blood mercury levels and interindividual variability in mercury metabolism, as well as potential long-term effects not yet measured by this study. Ultimately, a value of 0.1 μg mercury/kg body weight/day (5.8 ppb) was set as the RfD to protect against neurological effects over a lifetime. According to the 1999 - 2000 National Health and Nutrition Examination Survey, the average mercury concentration in women of childbearing age (16 - 49 years) is 1.02 ppb, well below the conservative RfD value of 5.8 ppb. Approximately 5 - 8% of women in the United States have blood mercury levels greater than 5.8 ppb. However, very few, if any, women have blood mercury levels above the BMDL of 58 ppb. In addition, no studies to date have shown a causal relationship between mercury exposure and autism incidence. In fact, the only case-control study published in the peer-reviewed literature by Ip, *et al.* in 2004 indicated no causal relationship between mercury and autism. Therefore, the commission agrees that control of mercury from coal-burning power plants is beneficial, but disagrees that the federal CAMR rule is insufficient to protect human health.

An individual commented that no specific and appropriate public health measures currently exist to evaluate health effects resulting from coal-fired power plants. SEED commented that regional routine testing of fish should be required as part of permitting.

The commission has made no change in response to this comment. The commission agrees that no public health measures are currently underway in Texas to evaluate the health effects of mercury from coal-fired power plants. However, the commission is not authorized to require state hospitals and/or doctors to report specific symptoms or health effects that are potentially related to environmental contaminants. In addition, although correlations may occur between reported symptoms and environmental exposure, no direct causal relationship can be identified.

Compliance with CAMR will be determined according to the monitoring, reporting, recording, and testing requirements of the Acid Rain program, which are outlined and described in both the CAIR and CAMR.

LWV and GHASP commented that ESLs should be set at enforceable levels based on what is in the airshed now and what might be added in the future in order to protect public health.

The commission has made no change in response to this comment. As discussed elsewhere in this preamble, the adopted rules are designed to implement the federal CAMR program and not to

develop effects screening levels (ESLs). There is currently an ESL for mercury. The methodology for developing ESLs recently underwent a peer-review process and public comment period. When the methodology is finalized, the current mercury ESL will be reviewed accordingly and will be available for public comment.

TRADING

SEED, Public Citizen, TCE, Downwinders at Risk, WECAN, Environment Texas, CWA, DFW Sierra Club, Texas Impact, and 45 individuals commented that trading of mercury should be prohibited under the adopted rules, and that the trading of toxics has never before been allowed and should not be allowed with mercury. However, if trading must be allowed, it should be limited to within set regions of the state. Additionally, all parties of such trading should be jointly and severably liable for all emissions violations with financial penalties levied against all facilities of the companies involved in the trade.

The rules have not been revised in response to this comment. As discussed elsewhere in this preamble, the commission was provided specific direction by the legislature under HB 2481 to adopt and incorporate by reference the federal CAMR model trading rules, thus requiring EGUs in Texas to participate in the EPA-administered cap and trade program for mercury. In incorporating by reference the federal trading rules, EPA does not provide states with the flexibility to limit or prohibit interstate trading. Based on legislative direction and the federal rule requirements, the commission does not have the authority to prohibit or limit the trading of mercury allowances under the Mercury Budget Trading Program.

In addition, the federal CAMR model trading rule sets forth a specific penalty for sources that produce emissions in excess of the number of mercury allowances in their compliance account. The penalty provision under the federal CAMR model trading rule requires the deduction of mercury allowances to be allocated in the control period immediately following the exceedance equivalent to three times the number of ounces emitted in excess. This penalty does not preclude formal enforcement action by the commission or financial penalties resulting from such enforcement action. The commission disagrees with the commenter, however, that all parties involved in a trade should be held jointly liable. It is unreasonable to hold the seller of allowances responsible for the actions of another party over which the seller has no operational control.

SEED, Public Citizen, TCE, Downwinders at Risk, WECAN, Environment Texas, and 45 individuals commented that the proposed cap and trade program will allow utilities to buy their way out of making the required reductions, possibly resulting in no mercury reductions from utilities in Texas, and will result in mercury hot spots. SEED commented that Northeast Texas is a hot spot and that an Ohio study shows that mercury deposition occurs within 400 miles of coal-burning power plants. DFW Sierra Club commented that Texas leads the nation in both global warming and mercury emissions and that Northeast Texas is a hot spot. TCE commented that Texas is one of the worst states for all types of pollution and that the Trinity River is a virtual dead zone. CWA commented that the closer a waterway is to a power plant that discharges mercury, the more likely it is to be impaired with mercury. CWA and Environment Texas commented that numerous waterways in Texas are impaired as indicated by the quantity of mercury in fish tissue. GCLC and TMRA commented that the proposed rule will not result in utility attributable hot spots because the form of mercury found in the lignite coals in Texas, elemental mercury, does not deposit locally. GCLC and TMRA stated that the proposed

rules will decrease the mercury deposition in Texas.

The rules have not been revised in response to this comment. As discussed elsewhere in this preamble, the adopted rules are designed to implement the federal CAMR program, as required by statute. A cap and trade program, when properly implemented and enforced, is an effective means of achieving overall emission reductions by encouraging the most cost-effective reductions to be implemented first. In addition, in finalizing the CAMR, EPA has deemed that a cap and trade approach to limiting mercury emission is the most cost-effective way to achieve reductions from the power sector. The commission acknowledges that, under a cap and trade approach, some sources may purchase allowances to comply rather than install additional controls; however, the imposed cap is finite and will require mercury reductions to occur.

In addition, EPA has defined a “utility hot spot” as “a waterbody that is a source of consumable fish with Methylmercury tissue concentrations, attributable solely to utilities, greater than the EPA’s Methylmercury water quality criterion of 0.3 mg/kg.” Based on this definition, EPA conducted modeling of utility mercury deposition before and after the implementation of both CAIR and CAMR, and concluded that there was no evidence of utility hot spots resulting from implementation of these rules. Concerns about global warming emissions are outside the scope of this rulemaking.

MISCELLANEOUS

SEED, Public Citizen, TCE, Downwinders at Risk, WECAN, and Environment Texas commented that affordable control technologies are already available and have been proven effective at reducing mercury emissions, even for lignite-fired utilities. SEED, Public Citizen, TCE, Downwinders at Risk, WECAN, Environment Texas, and 44 individuals commented that all new proposed coal-fired power plants should be required to use the latest mercury control technology, including integrated gasification combined cycle (IGCC) technology. Additionally, no new coal-fired power plants should be permitted until rules to require cleaner coal-fired utilities are implemented. SEED commented that mercury controls and continuous emissions monitors should be required from startup for new coal-burning power plants.

The commission has made no changes in response to this comment. The commission is aware of recent pilot tests of several mercury control technologies for lignite-fired utility boilers. In comparison to other coals, however, the mercury content of lignite is typically higher and more variable. Also, the control technologies evaluated had lower mercury removal efficiencies with lignite than with other coals. The commission is not aware of any testing that has shown 90% or higher mercury removal efficiency with lignite. The commission also notes that market-based cap and trade systems provide flexibility in the manner companies comply with emission budgets, instead of specifying particular control technology requirements.

IGCC is a production process designed to generate electric energy and usable thermal energy, not a specific control technology designed to reduce emissions. The commission does not dictate the choice of production processes. The existing permitting process requires a Best Available Control Technology (BACT) review to ensure the use of control technologies that result in cleaner electric generation. The commission does not have the discretion to withhold the issuance of pending permits to require a level of control based on the determination of future BACT. The Texas Clean Air Act requires the commission to issue permits upon a finding that the applicant has met

BACT requirements at the time of application. In addition to the emissions limitation imposed by the mercury emissions budget cap, standards of performance for mercury have been finalized in the CAMR. The federal CAIR and CAMR as adopted by Texas require continuous emissions monitoring and controls that reduce mercury emissions for all new coal-fired utilities.

SEED, Public Citizen, TCE, Downwinders at Risk, WECAN, Environment Texas, APSR, DFW Sierra Club, and 48 individuals commented that by the year 2010 the proposed rules would allow an increase in mercury emissions from 2003 levels.

The commission has made no changes in response to this comment. According to the commission's 2003 Emissions Inventory, the reported mercury emissions from the 36 existing coal-fired EGUs equal 4.9376 tons. The Phase I mercury budget for Texas under CAMR is 4.657 tons. This equates to a decrease of 0.2806 tons annually. Phase I mercury emission reductions will result from implementation of the federal CAIR. The CAMR does not require the implementation of new mercury-specific controls until Phase II begins in 2018.

SEED, Public Citizen, TCE, Downwinders at Risk, WECAN, and Environment Texas commented that the economic analysis for the proposed rule is incomplete and does not address the cost to school districts or the economic impacts on bays, estuaries, and the fishing industry. SEED attached to its written comments a copy of the opinion in *Reilly v. U.S. EPA*, decided April 13, 2006, by the United States District Court in Massachusetts. SEED does not explain how the case supports its comments. SEED submitted information about studies critical of the EPA's economic analysis supporting the CAMR.

The commission has made no changes in response to these comments. Because the *Reilly v. U.S. EPA* opinion deals with a Freedom of Information Act request for modeling runs performed by EPA in the process of promulgating the CAMR, and because the opinion discusses the EPA's attempt to withhold modeling run information relating to cost studies relevant to CAMR, the commission interprets SEED's comment to relate to inadequacy of the information about cost studies presented by EPA as part of the CAMR. The EPA provided public notice and opportunity for comment during the promulgation of CAMR. The federal CAMR has been adopted as a final rule and concerns about its promulgation are outside the scope of this rulemaking.

Extensive economic analyses were conducted as part of the federal rulemaking process that resulted in the CAMR. (See the discussion in the proposed and adopted federal rules, links to which may be found at <http://www.epa.gov/air/mercuryrule/rule.htm>.) These analyses focused on benefits and costs of the implementation of the CAMR on the regulated industry, government, business, and the public. EPA also prepared an economic analysis of the final rule entitled "Regulatory Impact Analysis of the Final Clean Air Mercury Rule." Links to this document and to many others containing EPA's economic analyses may be found at <http://www.epa.gov/air/mercuryrule/index.html>.

The commission also conducted analyses of the costs and benefits of the implementation of the federal rule through its incorporation by reference in Chapter 101. The commission's fiscal analysis indicates that the primary near-term effect of the CAMR will be the benefits of reduced mercury emissions and greater protection of human health and the environment. Generally, both the EPA and state analyses so far have found no significant adverse effects of the CAMR with the

exception of additional costs to utilities.

SEED, Public Citizen, TCE, Downwinders at Risk, WECAN, Environment Texas, and one individual commented that the commission has yet to complete its study on mercury, as required under HB 2481, and should do so prior to adopting any rules concerning mercury.

The rules have not been revised in response to this comment. According to the requirements of HB 2481, the commission must report the findings of the mercury study to the Texas Legislature by September 1, 2006. Given the abbreviated amount of time between the effective date of the federal rule and the deadline for the state to complete its rulemaking and state plan for implementation of the CAMR, the study could not be completed prior to proposal and adoption of the state rule incorporating the CAMR by reference. Staff are currently in the process of conducting the study and developing this report.

Seventy-four individuals commented that the announcement of the public hearings for the proposed rule should have been broadcast on local news stations to increase public awareness.

The commission has made no changes in response to this comment. The commission has complied with the requirements for public hearings and notification under 40 Code of Federal Regulations §51.102 and §60.23; Texas Government Code, Subchapter B, Chapter 2001; and under Texas Health and Safety Code, Texas Clean Air Act, §382.017. The commission strives to give all citizens of Texas appropriate prior notification and opportunity to comment, including the ability to submit written comments. Hearing notices for these rules were published in the following newspapers: *Austin American-Statesman*, March 9, 2006; *Corpus Christi Caller-Times*, March 8, 2006; *El Paso Times*, March 8, 2006; *Fort Worth Star-Telegram*, March 8, 2006; *Houston Chronicle*, March 8, 2006; and the *Midland Reporter-Telegram*, March 8, 2006. In addition, on March 9, 2006, a media release was posted to the TCEQ Web site and faxed to radio and television stations and daily and weekly newspapers in the Austin, Dallas-Fort Worth, and Houston markets. The release was also delivered on March 9 via the media relations listserve, to which anyone may subscribe. (See “email alerts” under News Releases on the TCEQ Web site.) The commission has no control over the conditions under which media choose to publish or broadcast the content of these releases.

Two individuals commented that the CAIR and CAMR do not comply with “the rule between the states.” SEED commented that the promulgation of the CAIR and CAMR was not accomplished through a “just process.” Environment Texas commented that the EPA illegally delisted power plants from the list of sources requiring maximum controls and illegally set up the cap and trade program.

The commission is unsure what is meant by the comment asserting that the federal rules do not comply with the rule between the states; however, the ultimate result of the implementation of CAIR and CAMR will be reductions in mercury emissions from coal-fired utilities nationwide. CAIR and CAMR underwent public notice and comment and have been adopted by the EPA as final rules. Challenges to or concerns about their promulgation are outside the scope of this rulemaking.

One individual commented that the commission should require monitoring of and regulate mercury from gas streams.

The rules have not been revised in response to this comment. The adopted rules are designed to implement the federal CAMR program which applies specifically to coal-fired EGUs. Monitoring of mercury emissions from these sources is a requirement under these rules. Requirements to monitor or regulate mercury emissions from gas processing facilities are outside the scope of this rulemaking and would need to be addressed in a separate, future rulemaking.

Houston Sierra Club commented that the commission should calculate the specific mercury reduction for Texas based on the allocated Phase I and Phase II mercury budgets so that the public can easily understand its significance for the proposed rule.

Under the federal CAMR rule, Texas has been given an annual mercury budget of 4.657 tons for Phase I (2010 - 2017) and 1.838 tons for Phase II (2018 - and thereafter). Based on this budget, EPA predicted the mercury reductions associated with CAMR compliance. According to EPA's predictions, CAMR compliance in Texas will result in a mercury reduction of 7% or 0.4 tons by 2010 and a total of 63% or 3.2 tons by 2018. However, it is important to note that because Texas will be participating in the EPA-administered cap and trade program for CAMR, reductions could be higher if EGUs elect to over-control beyond their CAMR allocations or the reductions could be less if EGUs choose to purchase CAMR allowances to stay in compliance. Regardless of the number of new coal-fired EGUs in Texas, the state's mercury budget will not increase.

AECT recommended revising proposed §101.602(a) to remove the phrase "except as specified in this division" on the basis that the phrase is unnecessary and confusing since there is nothing specified elsewhere in the division that is contrary to the statement made in proposed §101.602(a).

The rule has been revised based on this comment to remove the phrase "except as specified in this division" from §101.602(a). The phrase is unnecessary because there is no language elsewhere in Division 8 that contradicts the language in §101.602(a).