

Follow-up to January 5, 2011 FCPC Consultation with EPA Regarding EGU MACT Rulemaking

I. Importance of EGU MACT rule making to Tribe. FCPC is very concerned about mercury and other HAP emissions from EGUs for several reasons:

- FCPC Tribal members face substantially increased health risks from mercury. As EPA has noted, Native Americans face heightened exposure to mercury contamination-related health impacts because of their high consumption of fish compared to the general population. *See* 69 Fed. Reg. 4709. FCPC members are even more exposed to mercury than Native Americans in general because their reservation contains and is surrounded by numerous lakes and streams, many of which have been identified as having special mercury concerns.
- Pure water is critical to the Tribe's culture. Pure water is needed for FCPC ceremonies and rituals, and is essential to the preparation of certain medicines and foods. Unless pure water is used, the spiritual and therapeutic force of the ceremony or medicine is lost.
- Significant methyl mercury contamination of critical FCPC cultural resource. Devils Lake, which is located on the FCPC reservation, has critical cultural and spiritual significance to FCPC and its members. Because of its importance, an entire 10-mile diameter resource catchment area around the lake has been found eligible for the National Register of Historic Places. Unfortunately, despite its relatively pristine setting, Devils Lake has been very significantly impacted with methyl mercury contamination, caused by air emissions.
- The Tribe relies heavily on Forest County's recreational economy. Forest County's economy relies heavily on tourism associated with recreational hunting and fishing. Several water bodies in Forest County have been identified as having unacceptably high concentrations of mercury, which has resulted in even more stringent advisories than the general state-wide advisory.
- The Tribe has devoted significant resources to address its water pollution and mercury-related concerns.
 - The Tribe has funded significant research on mercury contamination in Northern Wisconsin. FCPC has funded significant research by Dr. Carl Watras, one of the world's leading methyl mercury researchers, on the causes of methyl mercury formation in Devils Lake.
 - The Tribe successfully fought for Class I status for its reservation. In large part because of the Tribe's significant concerns regarding mercury contamination, the Tribe endured a 13-year battle to obtain Class I status. The first AQRVs identified by the Tribe are water quality and aquatic systems, which have been established to help protect against methyl mercury contamination.
 - The Tribe led a 3-decade battle to stop the Crandon Mine. If built, the Crandon mine would have resulted in significant ground and surface water contamination, as well as the loss of hundreds of acres of wetlands.
 - The Tribe has significantly reduced its energy usage. To lower its own contributions to mercury, SO₂ (which contributes to methyl mercury formation), and other

emissions from EGUs, the Tribe has implemented a tribal-wide energy efficiency and renewable energy program entitled “Project GreenFire,” which has already resulted in a reduction of carbon emissions per square foot of approximately 20%.

II. Calculating the Maximum Achievable Control Technology (MACT) floor.

- EPA should employ output-based numerical emission limits for mercury (e.g., emissions per mWh). Output-based limits provide an incentive for EGUs to increase boiler efficiency as an air pollution control measure to comply with emission limits. As EPA has recognized, traditional input-based limits (i.e., emissions per heat input) rely solely “on the application of pollution control devices to reduce emissions and [do] not explicitly recognize the efficiency of the process in converting fuel input into a useful output.” EPA, *Output-Based Regulations*, <http://www.epa.gov/chp/state-policy/output.html> (last visited Jan. 11, 2010). Furthermore, EPA has noted that unlike input-based limits, output-based limits directly correlate to actual emission impacts, resulting in greater mercury emission reductions. *Id.*; see also U.S. GAO, *Mercury Control Technologies at Coal-Fired Power Plants Have Achieved Substantial Emissions Reductions*, 23 (2009).
- EPA must promulgate MACT standards for all EGUs. EPA does not have the authority to promulgate separate generally available control technology (“GACT”) regulations for HAP emissions from EGUs that are area sources. CAA 112(d)(5) allows EPA to “elect to promulgate standards or requirements applicable to sources in such categories or subcategories which provide for the use of [GACT] or management practices” for “categories and subcategories of area sources listed pursuant to subsection [CAA 112(c)].” (emphasis added). However, EGUs have never been listed as a category pursuant to CAA 112(c); therefore, CAA 112(d)(5) does not apply. See 64 Fed. Reg. 6302. Instead, HAPs from coal- and oil-fired EGUs must be regulated under CAA 112(n)(1), which makes no reference to alternative standards for area sources.
- If EPA decides to promulgate separate regulations for EGUs that are area sources, it should reduce the threshold quantity that defines a major source for mercury. Under 112(a)(1), EPA “may establish a lesser quantity...for a major source than that specified...on the basis of the potency of the air pollutant, persistence, potential for bioaccumulation, other characteristics of the air pollutant or other relevant factors.” CAA 112(a)(1). EPA has acknowledged that “mercury is the HAP of greatest concern” from EGU emissions because it is “highly toxic, persistent, and bioaccumulates in food chains.” 65 Fed. Reg. 79827. Furthermore, Mercury is incredibly potent and no EGUs emit a quantity anywhere near CAA 112(a)(1)’s current threshold of 10 tons per year per HAP. Considering mercury’s potency, toxicity, and bioaccumulation factor, EPA should dramatically lower the quantity of mercury emissions that qualifies an EGU as a major source.
- EPA should not subcategorize coal-fired EGUs for mercury emissions. CAA 112(d) allows but does not require EPA to “distinguish among classes, types, and sizes of sources within a category or subcategory in establishing [MACT] standards.” CAA 112(d)(1). EPA has noted that subcategorization is appropriate where “different types” of units have different emission characteristics which may influence the feasibility of effectiveness of emission control. 75 Fed Reg 32017. However, during FCPC’s consultation, EPA indicated that mercury emissions data

from different types of coal-fired EGUs do not show significant differences in emission levels or speciation. Therefore, subcategorization is not appropriate.

➤ EPA should set the MACT floor based on a long-term average and not account for variability. The MACT standard cannot be less stringent than “the average emission limitation achieved by the best performing 12% of the existing sources.” CAA 112(d)(3)(A). According to GAO, “EPA’s method for accounting for variability generally overestimates the average emissions of the top performers.” U.S. GAO, *Mercury Control Technologies at Coal-Fired Power Plants Have Achieved Substantial Emissions Reductions*, 23 (2009). This concern is shown in FCPC’s CAMR comments at page 32. Moreover, EPA does not need to statistically account for variability because available long-term data reflect the variability in mercury emissions from plants over the range of operating conditions. Many of the states with mercury regulations rely on long-term emission averaging to account for variability. *See id.*

➤ EPA should request CEMS from EGUs in states with data submission requirements and/or mercury standards. Identifying and obtaining data from the 12% of coal-fired EGUs with the lowest mercury emissions is a critical step for reasonably calculating the MACT floor. FCPC is surprised by the low quantity of CEMS data submitted under Part II of the ICR because many states already have CEMS reporting requirements for mercury. Respondents may have overlooked the footnote requesting CEMS data in EPA’s ICR. Obtaining all available CEMS data is imperative because EPA may have missed some top performers when it only targeted EGUs with PM controls and active carbon injection for mercury emission stack testing. While PM controls and active carbon injection have shown to be effective in reducing mercury emissions, there are additional control technologies and non-technology factors that EPA did not consider. Therefore, FCPC urges EPA to request CEMS data from EGUs in states with monitoring requirements and/or the states themselves. This is especially important for EGUs in states with existing mercury standards, since the EGUs in these states are likely among the best performers.

III. More stringent beyond the MACT floor standards:

➤ EPA must set standards more stringent than the MACT floor when achievable. HAP emissions standards promulgated under CAA 112(d), “shall require the maximum degree of reduction in emissions of the hazardous air pollutants subject to CAA 112(d)]...that the Administrator, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements determines is achievable for new or existing sources.” 42 U.S.C. 7412(d)(2) (emphasis added). EPA’s required analysis is not what emission limits are reasonable, but what limits are *achievable*. When Congress amended the CAA in 1990, its objective was to require EPA to set the most stringent standards achievable. *Sierra Club v. EPA*, 479 F.3d 875, 877 (2007). Congress only intended the MACT floor to be a minimum stringency requirement not a defacto emission standard. *See id.* Thus, if EPA chooses not to regulate beyond the MACT floor, it must support that decision with concrete evidence showing that a more stringent standard is not achievable.

➤ When considering what level is achievable for EGUs, EPA must employ a “portfolio approach.” CAA 112(d)(2) requires EPA to promulgate the “maximum degree of reduction...achievable for new or existing sources...through application of measures, processes,

methods systems or techniques *including but not limited to* measures, which (A) reduce the volume of, or eliminate emissions of, such pollutants through process changes, substitution of materials or other modifications, (B) enclose systems or processes to eliminate emissions, (C) collect, capture or treat such pollutants when released from a process, stack, storage or fugitive emissions point, (D) are design, equipment, work practice, or operational standards, or (E) are a *combination of the above.*” CAA 112(d)(2)(A-E) (emphasis added).

- EPA must consider fuel switching when determining what MACT standard is achievable. When determining achievability, CAA 112(d)(A) instructs EPA to consider measures which “reduce the volume of, or eliminate emissions of, such pollutants through process changes, *substitution of materials* or other modifications.” One measure available to coal-fired EGUs to reduce their mercury emissions is to switch over to fuels with little or no mercury content such as natural gas.
- EPA must consider emerging technology when determining what MACT standard is achievable. Emerging technologies and those deployed in other countries are not excluded from CAA 112(d)(2)(A). Therefore, EPA must fully consider emerging technologies shown to be effective at reducing EGU mercury emissions including oxidation catalysts, the installation of metal plates with sorbents in the exhaust gas and low-temperature mercury capture.

➤ When considering “the cost of achieving emission reductions,” EPA should:

- Recognize that environmental regulations “spark innovation” and create markets that lead to lower compliance costs. See Lisa P. Jackson statement in *The EPA Turns 40*, Wall St. J., December 2, 2010.
- Account for the cost savings achieved by multi-HAP pollution control technology. Available multipollutant control methods provide cost effective control for mercury and other HAPs including SO₂ and PM. EPA should acknowledge these cost savings and allocate only a small portion of the technology’s implementation cost to each affected HAP.
- Discount the cost of achieving emission reductions based on actions already planned or required by EGUs. EGUs have and will achieve mercury reductions independent of EPA’s MACT rule making through compliance with other state and federal regulations, steps to address excess electrical capacity, attempts to reduce carbon emissions, etc. When considering what standard is achievable, EPA should exclude the costs incurred in achieving emissions reductions that would have occurred regardless of a MACT standard.
- Recognize the potential lower cost of shutting down or converting old plants. In evaluating costs, EPA should recognize that it may be more cost effective to decommission or convert coal plants to operate with cleaner fuels.

➤ When considering “non-air quality health and environmental impacts from reduced mercury emissions,” EPA should balance the implementation costs against:

- The critical and pervasive health impacts associated with mercury and their associated economic costs to the United States.

- The impact of mercury contamination on lakes and streams and the fish that inhabit them.
 - Mercury’s very significant tourism-related costs , especially in areas that rely heavily on recreational fishing.
- When considering “energy requirements,” EPA should consider the current overcapacity of traditional electricity generation.

IV. Compliance schedule for existing sources:

- EPA should require compliance with the new MACT standards substantially sooner than three years after the effective date of promulgation. CAA 112 requires EPA to “establish a compliance date or dates for each category or subcategory of existing sources, which shall provide for compliance *as expeditiously as practical.*” 112(i)(3). It has been ten years since EPA determined that regulating mercury emissions from EGUs is necessary and appropriate and EGUs have had sufficient lead time to prepare for these regulations. Dr. Carl Watras’ research and others make clear that removal of mercury and sulfur emissions results in direct, substantial, and timely reductions of mercury in fish and wildlife, which has immediate benefits for human health.

V. Environmental Justice doctrine and EPA’s Trust Responsibility:

- The environmental justice doctrine obligates EPA to address the disproportionate impact of mercury emissions from EGUs on Native American communities. Under executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," EPA is required to identify and address “disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low income populations.” 59 Fed. Reg. 7629 (1994). E.O. 12,898 expressly confirms that its provisions apply to federal activities involving Native Americans. *Id.* at 7632.
- EPA’s Trust Responsibility requires EPA to protect Tribal rights and resources from mercury contamination. The federal government’s Trust Responsibility is an independent legal doctrine based on the unique history of the federal-tribal relationship and the course of dealings between Native Americans and the United States. Under the Trust Responsibility, EPA has a “responsibility to protect [tribal] rights and resources” including cultural resources. *See Klamath Water Users Protective Association v. Patterson*, 204 F.3d 1206, 1213 (9th Cir. 2000).
- The environmental justice doctrine and EPA’s Trust Responsibility require EPA to ensure that tribes’ mercury concerns are addressed. EPA’s environmental justice and Trust Responsibility duties require it to (1) set an existing source MACT floor that truly represents the average emissions of the best performing 12%, (2) set a new-source MACT floor that truly represents the best performing source, (3) ensure that the MACT standard represents the maximum degree of reduction achievable, and (4) provide for compliance as expeditiously as possible.