

Electric Utility Steam Generating Unit
Mercury Emissions Information Collection Effort

Summary of Public Comments and Agency Responses
on
Proposed Information Collection Request

September 10, 1998

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I. INTRODUCTION

Section 112(n)(1)(A) of the Clean Air Act, as amended (the Act), requires the U.S. Environmental Protection Agency (EPA) to perform a study of the hazards to public health reasonably anticipated to occur as a result of emissions of hazardous air pollutants (HAPs) from electric utility steam generating units (utility study). In the Final Report to Congress (issued February 1998), EPA stated that mercury is the HAP of greatest potential concern from coal-fired units and that additional information is needed prior to making a decision as to whether it is appropriate and necessary to regulate electric utilities under section 112. Additional information needs include more detailed data on the mercury content of various types of coal as fired in electric utilities and emissions (i.e., the contribution of various types of units; the proportion of divalent mercury compared to elemental mercury; and the effect of factors such as the type of control device, fuel type, and plant configuration on emissions and speciation).

The EPA issued, for public comment, a proposed information collection request (ICR No. 1858.01) for the additional data under the authority of section 114 of the Act (63 FR 17406; April 9, 1998). Over 130 public comments were received from utilities, trade associations, cities, State agencies, State associations, environmental/public interest groups, and private citizens. Additional comments were received from members of Congress. A list of commenters and their assigned comment number is shown in Table 1. A summary of their comments, and the Agency responses, is included in section II.

Table 1. COMMENTER KEY

Commenter Number	Commenter Name	Docket A-92-55 Number
R-1	Alabama Electric Cooperative, Incorporated	I-D-241
R-2	American Municipal Power-Ohio, Incorporated	I-D-299
R-3	American Public Power Association	I-D-270
R-4	Anthracite Region Independent Power Producers Association	I-D-285
R-5	Arizona Electric Power Cooperative, Incorporated	I-D-222
R-6	Associated Electric Cooperative, Incorporated	I-D-242
R-7	Association of Illinois Electric Cooperatives	I-D-243
R-8	Basin Electric Power Cooperative	I-D-233
R-9	Brian Hotchkiss	I-D-244
R-10	Buckeye Power, Incorporated	I-D-272
R-11	California Communities Against Toxics	I-D-219
R-12	Center for Clean Air Policy	I-D-273
R-13	Central Electric Power Cooperative	I-D-234
R-14	Central Iowa Power Cooperative	I-D-235
R-15	Children's Environmental Health Network	I-D-312
R-16	Children's Health Environmental Coalition	I-D-305
R-17	Cinergy Corporation	I-D-245
R-18	City of Hamilton, OH	I-D-246
R-19	City of Springfield, IL	I-D-215
R-20	Class of 85 Regulatory Response Group	I-D-271,-308
R-21	Clean Air Network	I-D-302
R-22	Clean Energy Group	I-D-274
R-23	Coalition for a Livable West Side	I-D-247
R-24	Colorado Rural Electric Association	I-D-231
R-25	Colorado Utilities Association for Clean Air	I-D-275
R-26	CONSOL, Incorporated	I-D-248
R-27	Cooperative Power Association	I-D-249
R-28	Dairyland Power Cooperative	I-D-250
R-29	Dayton Power and Light Company	I-D-251
R-30	Deseret Generation & Transmission Cooperative	I-D-226
R-31	Duke Energy Corporation	I-D-277
R-32	Duquesne Light Company	I-D-252

Table 1. COMMENTER KEY (continued)

Commenter Number	Commenter Name	Docket A-92-55 Number
R-33	East Kentucky Power Cooperative	I-D-253
R-34	Edison Electric Institute	I-D-278
R-35	Entergy Services, Incorporated	I-D-279
R-36	Environment Council of Rhode Island, Incorporated	I-D-254
R-37	Environmental Advocates	I-D-300
R-38	Environmental Law & Policy Center	I-D-255
R-39	EPRI	I-D-256
R-40	Faye W. White	I-D-310
R-41	Florida Clean Power Coalition	I-D-257
R-42	Florida Power Corporation	I-D-258
R-43	Hoosier Energy Rural Electric Cooperative, Incorporated	I-D-227
R-44	Hoosier Environmental Council	I-D-280
R-45	Illinois Power Company	I-D-282
R-46	Indianapolis Power & Light Company	I-D-283
R-47	INFORM, Incorporated	I-D-236
R-48	ISCA Management Limited	I-D-311
R-49	Izaak Walton League of America	I-D-221
R-50	Kentucky Resources Council, Incorporated	I-D-268
R-51	Legal Environmental Assistance Foundation	I-D-218
R-52	Lignite Energy Council	I-D-224
R-53	Los Angeles Department of Water and Power	I-D-304
R-54	Massachusetts Department of Environmental Protection	I-D-276
R-55	McDermott Technology, Incorporated	I-D-259
R-56	Michigan Department of Environmental Quality	I-D-232
R-57	Michigan Environmental Council	I-D-223
R-58	MidAmerican Energy Company	I-D-260
R-59	Mildred Whalen	I-D-313
R-60	Minnesota Center for Environmental Advocacy	I-D-217
R-61	Minnesota Pollution Control Agency	I-D-286
R-62	Minnkota Power Cooperative, Incorporated	I-D-216
R-63	National Mining Association	I-D-287
R-64	National Rural Electric Cooperative Association	I-D-288

Table 1. COMMENTER KEY (continued)

Commenter Number	Commenter Name	Docket A-92-55 Number
R-65	National Wildlife Federation	I-D-289
R-66	New England Governor's Conference, Incorporated	I-D-314
R-67	New Jersey Department of Environmental Protection	I-D-303
R-68	New York State Department of Environmental Conservation	I-D-290
R-69	Northeast States for Coordinated Air Use Management	I-D-237
R-70	Northeast Utilities System	I-D-291
R-71	Northern States Power	I-D-306
R-72	Ohio Environmental Council	I-D-269
R-73	Old Dominion Electric Cooperative	I-D-292
R-74	Paul & Sugerman, PC	I-D-309
R-75	Pennsylvania Electric Association	I-D-261
R-76	Platte River Power Association	I-D-298
R-77	Portland General Electric	I-D-229
R-78	Public Service Company of Colorado	I-D-214
R-79	San Miguel Electric Cooperative, Incorporated	I-D-262
R-80	Santee Cooper	I-D-293
R-81	Seminole Electric Cooperative Incorporated	I-D-225
R-82	Sierra Club, Ohio Chapter Energy Committee	I-D-220
R-83	Sierra Pacific Power Company	I-D-230
R-84	South Carolina Electric & Gas Company	I-D-238
R-85	Soyland Power Cooperative, Incorporated	I-D-239
R-86	STAPPA/ALAPCO	I-D-263
R-87	Sunflower Electric Power Corporation	I-D-301
R-88	Tennessee Valley Authority	I-D-264
R-89	Texas Utilities Services, Incorporated	I-D-284
R-90	Tri-State Generation and Transmission Association, Inc.	I-D-265
R-91	Utility Air Regulatory Group	I-D-281
R-92	Vermont Agency of Natural Resources	I-D-294
R-93	Virginia Power	I-D-297
R-94	West Associates	I-D-228
R-95	West Virginia Coal Association	I-D-295
R-96	Western Regional Council	I-D-266

Table 1. COMMENTER KEY (continued)

Commenter Number	Commenter Name	Docket A-92-55 Number
R-97	Western Resources	I-D-296
R-98	Wisconsin Department of Natural Resources	I-D-240
R-99	Wisconsin Public Service Corporation	I-D-267
R-100	Pennsylvania Coal Association	I-D-317
R-101	Nebraska Public Power District	I-D-325
R-102	Greater Boston Physicians for Social Responsibility	I-D-321
R-103	Sierra Club Lone Star Chapter	I-D-322
R-104	John M. Wade	I-D-324
R-105	Linda Liang and Glenbrook South High School Ecology Club	I-D-318
R-106	Karen Garrett	I-D-319
R-107	David Sinnett	I-D-323
R-108	William D. Green	I-D-327
R-109	M. Ruth Niswander	I-D-328
R-110	Vicky Stone	I-D-332
R-111	Heather Zichal	I-D-333
R-112	Ernie Zichal	I-D-341
R-113	Tom Morris	I-D-340
R-114	Dennis Anderson	I-D-334
R-115	Richard Issac	I-D-337
R-116	Bart Semcer	I-D-331
R-117	Jane Tousman	I-D-339
R-118	Joan and George Denzer	I-D-336
R-119	Sunil Somalwar, Ph.D.	I-D-335
R-120	Kenneth A. Niswander, M.D.	I-D-329
R-121	Candace M. Ashmum	I-D-338
R-122	Jack Chartten	I-D-314
R-123	American Lung Association, et al.	I-D-302
R-124	Kent Conrad, et al., U.S. Senate	I-D-316,-326
R-125	Bob Schaffer, U.S. House	I-D-320
R-126	Thomas H. Allen and Henry A. Waxman, et al., U.S. House	I-D-330
R-127	American Lung Association of Michigan	I-D-342
R-128	Debbie Stabenow, U.S. House	I-D-343

Table 1. COMMENTER KEY (continued)

Commenter Number	Commenter Name	Docket A-92-55 Number
R-129	Bob Graham, U.S. Senate	I-D-344
R-130	Jan Fieldman	I-D-345
R-131	Victoria B. Fuller	I-D-346
R-132	Lynches Scenic River Advisory Council	I-D-347
R-133	Cooper Environmental Services	I-D-348

II. SUMMARY OF PUBLIC COMMENTS AND RESPONSES

A. Need/Authority for the Collection

A.1 Need for the Collection

Comment: Over 65 commenters (R-9, 11, 12, 15, 16, 19, 21, 23, 36, 37, 38, 40, 41, 44, 47, 49, 50, 51, 54, 56, 57, 59, 60, 61, 62, 64, 65, 66, 67, 68, 69, 72, 74, 82, 85, 86, 92, 98, 102, 103, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 127, 128, 129, 130, 131, 132, and 133) representing individual environmental organizations, coalitions of environmental/public health groups, State environmental agencies, State associations, members of Congress, and interested citizens express strong support for the need for the ICR. Of these commenters, one represents a coalition of 45 environmental/public interest groups and another represents 37 members of Congress. These commenters cite the need for information about toxic mercury emissions from coal-fired power plants by EPA and the public; the health effects on infants, children, and the unborn; the need for better emission estimates overall as well as plant-specific estimates; projections for increased emissions from utilities; the growing environmental threat posed by mercury emissions (demonstrated by the dramatic increase in fish advisories and reports of mercury contamination of waterbodies); the need for a uniform national program; and the need for rigorous monitoring to collect additional information to better understand the environmental fate and most cost effective controls for mercury emissions. Many of these commenters point out that utilities are a major source of mercury emissions that have been “grandfathered” under existing environmental regulations.

Over 60 commenters comprised mainly of utilities and industry trade associations (R-1, 2, 3, 5, 6, 7, 8, 10, 13, 14, 16, 17, 18, 20, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 38, 39, 42, 43,

44, 45, 46, 58, 62, 63, 64, 71, 73, 74, 75, 76, 77, 78, 79, 80, 81, 83, 84, 85, 87, 88, 89, 90, 91, 93, 94, 95, 96, 97, 99, 100, 101, 125, and 126) generally oppose the need for the ICR. These commenters believe the ICR should be scaled back, postponed, or eliminated in favor of existing data (including Federal Energy Regulatory Commission [FERC] forms 767 and 423, U.S. Geological Survey [USGS], private databases, Part 75 continuous emission monitor [CEM] data) or new data to be developed by the Department of Energy (DOE) and industry. Many suggest that the ICR should be delayed pending resolution of mercury health-effects issues, identification of a proven control technology, test method/analysis issues, and/or better understanding of the potential effect of other regulations. Other reasons for not proceeding with the ICR are that the responses will not provide all the information needed to make a regulatory determination (some believe that the regulatory determination should be based on global and regional estimates rather than EPA study results) and/or the responses will not improve current emission estimates or be available for the regulatory determination (November 15, 1998).

Response: The Agency appreciates the support for the information collection effort expressed by many of the commenters.

The Agency believes that the information collection effort will provide valuable information which will help to inform the Agency's decisions regarding mercury emissions from electric utility steam generating units under section 112 of the Act. Although the Agency believes that the estimate of total mercury emissions by the electric utility industry as a whole that was compiled as part of the utility study was reasonable, the electric utility industry has consistently questioned the validity of that estimate. Furthermore, this information collection effort is designed to provide information on the species of mercury that is being emitted from electric

utility steam generating units. The species of mercury emitted is important because many control technologies are species-specific and because the transport of mercury in the environment depends on the species.

The Agency believes that it has an obligation to base its decisions on the best available information. The proposed information collection effort is designed to provide the most accurate measure of mercury emissions by electric utility steam generating units possible while not imposing an unreasonable burden. By including all electric utility steam generating units, the information collection effort will also provide a more accurate estimate of mercury emissions from individual electric utility steam generating units than was possible to obtain during the utility study. Information on mercury emissions from individual units, and the potential impact of those emissions on persons living adjacent to those units, is an appropriate factor to consider in making the required regulatory determination. Because of its obligations, the Agency also does not believe that it is appropriate to delay obtaining the desired data.

While the Agency will avail itself of available information to the extent possible, the Agency does not believe that the information available at this time is of sufficient quality, quantity, or uniformity to serve as a viable substitute for the information which will be collected as part of the information collection effort. Further, the Agency does not have sufficient assurances of the availability, now or in the future, of such data. For example, plant-specific information, including the fuel burned and types of air pollution controls installed, is not currently publicly available for nonutility generators (e.g., independent power producers [IPPs], cogeneration units, etc.). Although the Energy Information Administration (EIA) has recently proposed that such information become available to the public, the outcome of this proposal is unknown. In addition,

even in the comments received suggesting that existing data be used, firm assurances were not provided that existing information would or could be made available to the Agency (e.g., “[m]ost of these data would *likely* be available for EPA’s use...” [emphasis added]).

Finally, the Agency acknowledges that the information collection effort will not provide all of the information which the Agency believes appropriate to consider in making decisions regarding mercury; however, the Agency believes that the information which will be obtained through the information collection effort will be useful in making future decisions.

A.2 Section 114 Authority for the Collection

Comment: Fourteen commenters (R-20, 25, 27, 28, 29, 32, 34, 63, 75, 76, 89, 90, 91, and 94) believe that EPA is exceeding its authority under section 114 of the Act by proposing to require all coal-fired utility units to conduct coal sampling and analysis. These commenters believe the weekly coal sampling under Phase I of the draft ICR is neither necessary for the EPA to determine whether it should regulate mercury emissions from coal-fired electric utility units, nor a reasonable requirement under section 114.

In opposition, commenters R-21 and R-38 state that section 114 authorizes EPA to collect information to carry out any provision of the Act, including the very important provisions contained in section 103 of the Act. Among other things, section 103 calls on the EPA to investigate and disseminate information pertaining to air pollution, including air pollution with ecosystems impacts, as is clearly the case with mercury.

Response: As indicated in the response to comment A.1, the Agency believes that it is appropriate to consider information concerning the extent of mercury emissions from each individual electric utility steam generating unit and the potential effects of those emissions on

persons living adjacent to those units in making the regulatory determination. Including all electric utility steam generating units in the information collection effort will provide the best possible information on mercury emissions by individual electric utility steam generating units. Section 114 of the Act provides the Agency with broad authority to require persons who own or operate emission sources to provide the Agency with information on emissions from those sources to the extent that such information is necessary to carry out a provision of the Act. While the primary purpose of the information collection effort is to inform the regulatory decisions, the Agency agrees with the commenter that section 114 authority could also be used to further the goals set forth in section 103 of the Act.

Comment: Six commenters (R-25, 63, 76, 90, 91, and 93) believe that the ICR cannot be used as a surrogate for collecting toxics release inventory (TRI) information. These commenters state that EPA may not use the ICR as a surrogate means of collecting toxic release information that it cannot legally collect under section 313 of the Emergency Preparedness and Community Right-to-Know Act (EPCRA). Commenter R-63 adds that utilities will make TRI reports of mercury levels in 1999 but mercury emissions would generally be under TRI threshold levels.

Response: The ICR is not a surrogate for collecting TRI information. It is primarily an effort to obtain information to inform regulatory decisions. The information obtained could also assist the Agency in carrying out other responsibilities under the Act.

A.3 Compliance with Paperwork Reduction Act

Comment: Seven commenters (R-25, 29, 63, 76, 80, 91, and 93) believe that EPA's proposal is inconsistent with the Paperwork Reduction Act (PRA). In their opinion, legitimate questions remain as to the need to require costly data compilation by the private sector in light of

existing, alternate sources, and impose burdensome requirements on the regulated community for information that may already in large part exist.

Alternatively, commenter R-50 believes that EPA's proposal is consistent with the PRA and OMB's regulations on Controlling Paperwork Burden on the Public (5 CFR 1320.1 et seq.), because:

(1) The information collection is essential to a proper determination of whether additional controls should be placed on combustion of coal in order to lower ambient concentrations of mercury in the environment.

(2) The information collection will benefit both the public at large, since it will provide a more firm basis for taking regulatory action to control mercury under section 112 of the Act, and those combusting coal, since it will assure that the regulatory determinations are based on the most accurate information rather than more generalized information associated with geologic assays of samples from various coalfields.

(3) The information will be used widely by the Agency and the public, and will form an important component of the basis for a cost-effective, meaningful HAP standard, and, thus, meets the goal of the PRA of maximizing the practical utility and public benefits of the information "created, collected, disclosed, maintained, used, shared and disseminated by" EPA (5 CFR 1320.1).

(4) The proposed method of collection is the least burdensome necessary for proper performance of the Agency's functions to comply with the legal requirements of the Act and to achieve program objectives and is not duplicative of information otherwise accessible to the Agency [5 CFR 1320.5(d)(1)(i)]. The requirement for monitoring both raw coal and stack emissions is needed to provide a mass balance comparison of the effects of combustion on the mercury present in the raw feed.

(5) The information has practical utility [5 CFR 1320.5(d)(1)(iii)] in that it will be available to third parties and will be used by the Agency to carry out its functions. [5 CFR 1320.3(I)].

Response: The Agency has complied fully with both the procedural and substantive requirements of the PRA. The information to be obtained is in furtherance of a specific statutory mandate imposed upon the Agency. Based on information received during the comment period,

the Agency has modified the ICR to reduce the burden to the maximum extent possible while still providing the Agency, in a timely manner, with information of sufficient quality, quantity, and uniformity to carry out that mandate. The Agency believes that commenter R-50 succinctly states many of the factors demonstrating the Agency's compliance with the PRA.

A.4 Regulation of Coal-Fired Utility Units Under Section 112 of the Act Cannot Be Justified

Comment: Commenters R-20 and R-28 argue that the EPA, in their Final Report to Congress, stated that further research is needed in several areas regarding mercury emissions from coal-fired steam generating units. The EPA was unable to identify cost-effective mercury control technology for coal-fired steam generating units. The EPA has determined that activated carbon injection is the most effective technology to control mercury emissions; however, the cost ranges from \$67,700 to \$70,000 per pound of mercury removed. Since activated carbon injection has not been demonstrated at electric utilities and, thus, cannot form the basis of the section 112 maximum achievable control technology (MACT) floor determination, EPA must perform a "beyond-the-floor" analysis that takes into consideration costs, non-air quality health and environmental impacts and energy requirements to set standards more stringent than the "MACT floor." Based on the beyond-the-floor analyses EPA has conducted for other MACT rulemakings, the costs of activated carbon injection could not be justified. Consequently, collecting the information identified in the proposed ICR would be a waste of resources for the utility industry as, based on current data, it could not lead to the development of MACT standards for the industry.

Response: The Agency is not purporting to regulate coal-fired electric utility steam generating units under section 112 of the Act at this time. Rather, the Agency is trying to obtain desirable additional information to inform future decisions regarding mercury emissions from electric utility steam generating units. Regardless of the current availability, or the lack thereof, of a cost-effective mercury control technology for coal-fired electric utility steam generating units, the Agency believes that it is desirable to obtain the most accurate information reasonably available on the quantity and species of mercury emitted to the atmosphere by such units.

B. Respondents and Information Collection Requirements

B.1 The ICR Should Not Target Lignite-Fired Units for Stack Testing over Other Configurations

Comment: Commenters R-8 and R-52 state that the ICR should not require more testing for lignite plants than for other types of coal-burning plants.

Comment: Commenter R-55 states that EPA's method of picking plants to stack test does not take into account their relative proportion in the industry and, thus, over-burdens units in smaller configuration groups (e.g., North Dakota lignites).

Response: The plan for obtaining stack testing data for all categories is only intended to collect enough information to perform a statistical analysis of the sub-population. Therefore, a minimum of three facilities must be tested in each category to perform a statistical analysis of the sub-population (if fewer than three facilities exist in a category, each facility must be tested in order to have information representative of the category). Unfortunately, there are fewer plants in some categories (e.g., dry scrubber/lignites); therefore, although it appears that more of those facilities are being targeted, this is not the case.

B.2 The ICR should exclude Waste Coal-Fired Circulating Fluidized-Bed (CFB) Qualifying Facilities and Independent Power Producers (IPPs)

Comment: Commenter R-4 states that the draft ICR appears not to apply to waste coal-fired CFB qualifying facilities and IPPs as no waste coal-fired CFB qualifying facilities and IPPs are listed. Also, under Title IV of the Act, Congress specifically exempted certain qualifying facilities and IPPs from the requirements of the Acid Rain provisions in recognition of the clean-burning nature of these facilities and the unique economic constraints that such facilities face.

In opposition, commenter R-12 states IPPs should be included in the ICR.

Response: As noted earlier, plant-specific information on IPPs and other nonutility generators (including some CFB units) is not publicly available. At the time the draft ICR was prepared, the Agency did not have sufficient information concerning coal-fired CFB qualifying facilities and IPPs to provide the detailed listing of such units that was provided for conventional utility units. Additional information has been obtained and included in the revised supporting statement. The draft ICR was, however, intended to cover all “electric utility steam generating units” as defined in the Act. Section 112(a)(8) defines “electric utility steam generating unit” as:

[A]ny fossil fuel fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A unit that cogenerates steam and electricity and supplies more than one-third of its potential capacity and more than 25 megawatts electrical output to any utility power distribution system for sale shall be considered an electric utility steam generating unit.

Thus, to the extent that a coal-fired CFB qualifying facility or an IPP meets the definition of “electric utility steam generating unit,” it will be subject to the ICR. As part of the approved ICR, the Agency intends to solicit information to further define the universe of generators who meet

the definition of “electric utility steam generating unit” and will, therefore, be required to comply with the information collection effort.

B.3 The ICR Should Reduce Sampling Requirements for Waste Coal-Fired CFB Qualifying Facilities and IPPs

Comment: Commenter R-4 states that not only do the waste coal-fired CFBs emit significantly less air pollution than conventional fossil fuel-fired electric utility steam generating units, these facilities also provide independent environmental benefits through the consumption of waste coal piles, the restoration of significant land area, and the amelioration of acid mine drainage and its effect on surface water and habitats. Therefore, it is appropriate for the Agency to ensure the perpetuation of these environmental benefits by resisting application of unnecessary and burdensome standards to these facilities.

Response: As noted in the response to comment A.4, the Agency is not imposing any standards with this information collection effort. The Agency is trying to obtain desirable additional information from the universe of coal-fired units meeting the section 112(a)(8) definition of electric utility steam generating unit.

Comment: Commenter R-4 states that waste coal-fired CFBs obtain their coal refuse from a particular seam or strata which should be consistent over a coal basin. And while weekly coal sampling may be sufficient to characterize mercury content from large conventional fossil fuel-fired electric generating units, these units fire significantly more fuel than the quantity of waste coal burned by a waste coal-fired CFB. Therefore, in addition to the reduced variability of the fuel, the relative quantity of fuel combusted by these smaller facilities supports less extensive testing.

Response: The Agency has no information to indicate that the variability of the mercury contents of waste coals would be any more or less than that of “non-waste” coals and, thus, has no basis for changing the approach on this point alone. However, the Agency believes that the coal sampling requirements, as revised based on the comments received, will take into account the relative quantity of fuel combusted by each facility.

B.4 Waste Coal-Fired CFB Qualifying Facilities and IPPs Face Unique Economic Constraints with Respect to Additional Regulation Including Required Information Gathering Standards

Comment: Commenter R-4 states that because of the long-term contracts to which IPPs are subject, these facilities cannot pass through the cost of additional compliance measures, or additional sampling requirements, to any consumer, nor can the IPPs request approval from any State Public Utility Commission to increase rates to offset such costs.

Response: The Agency has made every effort to minimize the burden imposed by the ICR while ensuring that information of sufficient quality and quantity is obtained. While the Agency realizes that the ICR may have disparate impacts, it does not believe that this is a sufficient basis for exempting from the ICR facilities which otherwise meet the statutory definition of electric utility steam generating unit.

B.5 EPA’s ICR Should Be Expanded to Require Coal Sample Analyses for Other HAPS of Concern

Comment: Eighteen commenters (R-2, 9, 11, 12, 21, 37, 38, 44, 49, 50, 51, 57, 60, 61, 72, 82, 86, and 98) state that EPA’s ICR should be more comprehensive and include coal sample analyses for additional HAPs so that EPA can determine whether controls are warranted for other HAPs of concern. In its Final Report to Congress, EPA determined that arsenic emissions from

coal combustion were also of potential concern. Other suggestions include dioxin since coal-fired power plants have been found to be a significant source of these emissions in Europe. Two commenters submitted information on radionuclide emissions and HAP metals in coal combuster waste.

Six industry commenters (R-20, 25, 35, 76, 78, and 84) believe the ICR should not require submission of non-mercury constituent data and one commenter (R-34) suggests the ICR be limited to mercury and chlorine.

Response: As noted above, in the Final Report to Congress mercury was identified as the HAP of greatest potential concern from coal-fired units and the information collection effort has been designed around that pollutant (i.e., through identification of factors likely to impact on emissions and speciation). The factors identified for this program may not be those that would be identified for other pollutants (e.g., arsenic emissions are more likely to be influenced by the method of particulate matter control; dioxin emissions result from combustion conditions rather than from coal constituents). The scope of this effort has been limited to those factors believed necessary to address mercury.

B.6 Frequency/Duration of Sampling

Comment: Commenters R-29 and R-97 state that the American Society for Testing and Materials (ASTM) method for collection of a gross sample of coal (D 2234-89) states that: “... Practical experience, however, indicates the maximum size of a lot of coal to be represented by one gross sample should not exceed 10,000 tons.” A large unit can burn 10,000 tons of coal in a single day. Weekly sampling is not in accordance with the ASTM method.

Response: The Agency believes that the coal sampling requirements, as revised based on the comments received, will take into account the relative quantity of fuel combusted by each facility and reflect current business practices to determine compliance with coal delivery contracts.

Comment: Thirty-six commenters (R-2, 9, 11, 15, 16, 21, 23, 36, 37, 38, 40, 41, 44, 49, 51, 56, 57, 59, 60, 61, 65, 72, 74, 86, 98, 103, 104, 107, 109, 120, 123, 127, 129, 130, 131, and 132) believe mercury monitoring should be an ongoing requirement for coal-fired plants. These commenters believe the requirement is needed to establish baseline data and as well as compile yearly reporting data to better assess mercury trends and coal use trends. Ongoing mercury monitoring will ensure that they have the data needed to establish benchmarks and to evaluate progress being made toward mercury reduction. Commenters R-98 and R-61 suggest that the ICR should facilitate the development of a system to develop estimates of future mercury emissions.

Response: The Agency concurs with these comments.

Comment: Five commenters (R-12, 22, 43, 67, and 88) support sampling for more than 1 year. Commenters R-12, 22, and 67 desire a 2-year period. Commenter R-67 describes a 2-year scenario using data collected by EPA in the first sampling year as the baseline for the sampling project and then deciding on the second year. Commenter R-12 envisions that the first year would involve data collection and the second year would involve data analysis and an assessment of the predictive nature of the results. Commenter R-88 supports spreading sampling over a 3-year period while commenter R-43 suggests sampling for a 4-year period with an option to discontinue after 2 years. Four commenters (R-19, 52, 62, and 91) specifically oppose

extension of the sampling beyond 1 year. Three commenters (R-5, 35, and 84) state that the ICR should clearly define the number of years sampling will be required.

Response: The Agency believes that, based on its current needs and with the upcoming proposal to lower the TRI reporting threshold beginning in the year 2000, a 1-year sampling program is appropriate. However, should the reporting threshold not be lowered or should it be determined that even this lower threshold does not cover all electric utility steam generators as defined by section 112(a)(8) of the Act, the Agency will consider extending the sampling program.

Comment: Five commenters (R-4, 18, 35, 53, and 86) suggest that sampling be conducted monthly rather than weekly to reduce the respondent burden. Commenter R-91 states that EPA offers no strong justification for weekly sampling; commenters R-17 and R-76 oppose weekly testing. Commenter R-19 suggests that biweekly sampling would produce a large number of samples at less cost; commenter R-43 suggests quarterly sampling. Commenter R-88 states that they collect a weekly composite coal sample (from a coal stockpile) to analyze heat content. If these stockpiles were used to test for weekly mercury content they would not represent as-fired samples. Commenter R-75 suggests one annual test per unit.

Response: The Agency believes that the coal sampling requirements, as revised to reflect current coal delivery contract verification practices, will resolve such concerns as the commenters raised regarding the frequency of coal sampling.

B.7 EPA's Proposed Sample Size for Stack Testing Should Be Increased to Ensure a More Complete Data Set

Comment: Twelve commenters (R-2, 11, 21, 36, 37, 38, 44, 49, 57, 60, 72, and 86) state that EPA's proposed sample size for stack testing should be increased. Most suggest increasing the sampling set from 30 to 106 to ensure a more complete data set that comprises at least 10 percent of all boilers in each subcategory listed in the draft ICR to meet MACT-model requirements. Commenters R-62 and R-65 ask that the ICR require testing of enough samples to account for the normal variation in mercury levels. Three additional commenters (R-67, 86, and 98) believe that 30 stack samples are not sufficient to represent the wide variation in utility boiler configuration, controls, flue gas technologies, and coal types. Commenters R-11 and R-49 state that if EPA retains the same sample size, it needs to prove that the emissions variability is low between boilers within a subcategory. Commenter R-92 asks for more explanation as to why 30 units is adequate for statistical purposes. Commenter R-65 believes that the EPA should rigorously demonstrate that sampling 30 units out of a national population of 1,017 is sufficiently large to obtain adequate data on actual mercury emissions from the large majority of utility units.

Four commenters (R-32, 42, 76, and 91) believe requiring testing of 30 plants is arbitrary. Other commenters oppose requiring testing of more than 30 plants; commenter R-70 supports limiting the number to 30; commenter R-30 suggests 8 plants. Commenter R-80 says sampling at 30 plants is not needed to predict speciated mercury emissions because these emissions do not vary significantly over time. More data would be gathered by sampling four plants once instead of one plant four times. Commenter R-77 suggests that EPA solicit volunteers among the plant "categories" prior to imposing mandatory testing at randomly selected sites.

Response: The Agency believes that the number of plants required to perform one-time stack testing, as revised based on comments received, will address the concerns commenters had regarding the number of plants to be selected for stack testing, the frequency of stack testing, and the burden associated with stack testing. Additional explanation of the basis for the final number to be selected has been provided in the supporting statement. It is believed that the solicitation of “volunteers” would compromise the randomness of the selection process.

Comment: Commenters R-61 and R-98 believe that the proposed testing of only two units in each of six of the eight draft ICR categories is not sufficient replication, in that a minimal statistical analysis requires triplicate analyses — one cannot even calculate a standard deviation on a sample size of two. Under triplicate analysis, if any one facility proves to be an outlier, has quality assurance problems, or turns out to have been misclassified then statistical power is gone. Therefore, replication should be at least quadruplicate in categories where enough units exist.

Response: The Agency concurs with this comment.

Comment: Commenter R-98 suggests that the ICR reduce the amount of coal testing and use the savings for more stack testing. The mercury content in coal can be tested at fewer units if the unit has a similar configuration to other units where coal is tested. Commenter R-22 suggests proceeding with the coal and stack testing as planned but after a period of testing, reduce the amount of samples required.

Response: The information collection effort is based on coal type and method of sulfur dioxide (SO₂) control, not on boiler configuration. As noted earlier, the duration of the effort is currently planned for only 1-year.

B.8 EPA Should Revise Stack Test Site Selection Protocol

Comment: Commenter R-88 suggests trying to avoid testing at several sites owned by the same company. Commenter R-22 suggests that to spread costs out further, EPA should test multi-owner rather than single-owner units.

Response: Although the Agency hopes that selection of facilities for stack testing includes a wide variety of sites (i.e., different companies), the randomness of the selection process would be greatly compromised if the remaining sites of a particular company were removed once one site was selected.

Comment: Commenter R-22 suggests that stack testing be conducted at baseloaded rather than non-baseloaded units. Stack testing at non-baseloaded units will be more financially burdensome per MWh.

Response: The Agency believes that the current plan for stack testing, as revised based on comments received, eliminates the commenters concern.

Comment: Commenter R-61 states that flue gas temperature be part of the test site selection because the temperature of the flue gas at the air pollution control device (APCD) is a primary controlling factor for mercury removal. The EPA should create a substrata of suitable temperature ranges (e.g., <280°F, 280 to 300 °F, 300 to 325 °F) before selecting the test sites which will facilitate the acquisition of much greater predictive ability.

Response: The Agency recognizes that flue gas temperature can be a factor in mercury control, and has information on the effect from studies conducted on a pilot scale dry scrubber. Flue gas temperatures will be documented during all stack testing and temperatures can be examined if there are any anomalies in the data.

B.9 The ICR Should Expand the Coal Sampling Requirements

Comment: Five commenters (R-9, 23, 36, 62, and 108) request coal sampling requirements include all coal types, boiler types, and/or likely changes in the coal supply during testing.

Response: The Agency believes that the coal sampling requirements, as revised based on the comments received, will include all coal types and will include changes in the fuel supply made by a utility during the sampling period.

Comment: Commenter R-12 suggests that sampling include units with electrostatic precipitators (ESPs) and units with high and low levels of chlorine in their feed coal.

Response: The Agency believes that the sampling program as revised based on the comments will include units with ESPs. Although the chlorine content of the coal is important, it is the mercury-chlorine relationship that is believed key to evaluating the mercury speciation issue. It is believed that the current plan will include units with varying levels of chlorine in the coal.

Comment: Commenter R-98 suggests that the speciation sampling include units that represent or anticipate future changes in the utility industry (e.g., efforts to reduce criteria pollutants such as new nitrogen oxides [NO_x] rules; industry restructuring).

Response: The Agency believes that the program as currently planned will encompass such changes as the commenter suggests.

Comment: Seven commenters (R-12, 53, 60, 61, 86, 87, and 98) suggest that the sampling requirements include testing of ash; three of these commenters (R-12, 53, and 98) also suggest including testing of coal cleaning sludge.

Response: The task of attempting to perform a complete mass balance for mercury at each tested facility is beyond the scope of this information collection effort. The effectiveness of a SO₂ control device for air emissions of mercury can be determined with the ICR as currently laid out.

Comment: Commenter R-12 suggests sampling of coal from different seams to further understanding of the differences in coal from different mines and coal preparers.

Response: The plan for obtaining mercury-in-coal analyses as modified based on the comments received will reflect, to the extent possible, any differences discernable between mines and preparers.

B.10 The ICR Should Allow Estimates of the Volatile Matter, Carbon, Hydrogen, Nitrogen, and Oxygen Content of Coal Rather than Require Test Results

Comment: Commenter R-17 states that the information required in the ICR regarding volatile matter, carbon, hydrogen, nitrogen, and oxygen content of the coal can be eliminated because this information can be estimated without testing based on identification of what type of coal is burned. Commenter R-77 opposes inclusion of this data because it is not related to mercury emissions. Commenter R-46 asks that EPA explain why this is needed since it is provided annually on form EIA-767 on a unit-specific basis.

Response: The Agency believes that this information is already being acquired as part of the coal delivery contract compliance procedure and, therefore, estimation is not necessary and it is not inappropriate to request that the information be provided. In addition, as noted earlier, this information is not available from the EIA for all units meeting the section 112(a)(8) definition of electric utility steam generating unit. Furthermore, as noted by other commenters, there may be

numerous factors that impact on mercury emissions and speciation. The Agency is requesting the information, as it may be already available, as means of increasing the base of knowledge.

B.11 The ICR Should Include Additional Information

Comment: Three commenters (R-12, 22, and 55) request that the ICR account for other known (or all important) variables likely to influence speciation, including iron, chlorine, NO_x, SO₂, copper, carbon in coal and in fly ash, hydrogen chloride, oxygen, water, and carbon monoxide in flue gas, and flue gas temperature.

Response: The Agency recognizes that other factors may influence speciation, but the central goal for this ICR is to determine, within reasonable costs, the control effectiveness of existing SO₂ control devices for the mercury species present in the combustion gases. Since the relative abundance of chlorine in the combustion gases is critical to the formation of mercuric chloride, which is more readily controlled than elemental mercury, the concentration of chlorine in the coal is of greatest interest. The DOE has an extensive ongoing research program to identify and evaluate all the variables that could influence speciation.

Comment: Commenters R-8 and R-52 suggest that the ICR clarify coal content on a dry basis (as received) or wet basis (with moisture content).

Response: The Agency agrees with this comment and has made appropriate clarifications.

Comment: Commenter R-55 suggests that the ICR require identification of the coal source and cleaning method.

Response: The ICR does require identification of the coal source. Information on the effectiveness of various methods of coal cleaning is outside the scope of this information collection effort.

Comment: Commenter R-50 requests that the ICR identify variations in toxic element emissions per boiler type.

Response: The EPA believes that the program as currently planned will adequately cover the various boiler types.

Comment: Commenter R-55 asks that the ICR request information on other variables in mercury speciation such as wet scrubber operating parameter and type.

Response: For all emission tests, the Agency will obtain information on the type of control device and on the various control device operating parameters.

B.12 The ICR Should Base Stack Sampling Requirements on the Matrix of Parameters That Affect Mercury Speciation

Comment: Fifteen commenters (R-20, 23, 25, 27, 32, 34, 38, 39, 42, 44, 63, 75, 76, 87, and 91) state that stack sampling requirements should be based on the parameters that affect mercury speciation. They note that new data to be developed by EPRI should aid in identifying these parameters (e.g., sulfur, chloride, mercury content). The EPRI currently has long-term speciated mercury variability data for one site and additional speciation testing on 5 to 10 units will be available by the year 2000. Additional research also is planned on speciation as well as on transformation and partitioning of trace elements from coal through the boiler and the APCD. The EPA should not proceed until this information is available and EPA has a better understanding of mercury chemistry.

Response: The Agency welcomes any information that can or may be provided related to mercury speciation and control. However, in order to meet its obligations, the Agency feels it must proceed with the information collection effort as outlined so as to be able to make its regulatory determination in a timely manner.

B.13 EPA Should Coordinate its Data Collection with Other Sponsors and Researchers Doing Stack Mercury Measurements

Comment: Commenters R-12 and R-30 state that the EPA should coordinate its data collection with other sponsors and researchers doing stack mercury measurements to reduce duplication of certain unit types and configurations such as bituminous coal fired units with scrubbers.

Response: The Agency intends to continue working with other sponsors and researchers so as not to duplicate the emission testing of individual facilities. However, there of necessity will be duplication of unit types and configurations to strengthen the data base.

B.14 The ICR Should Not Require Information on Additional Trace Metals

Comment: Commenter R-17 states that EPA has not demonstrated the need for the collection of information on additional trace metals and ash mineralogy (such as analyses of pulverizer performance, slagging characteristics, and unit efficiency) that are available for coal fired in the boilers. Utilities should not be obligated to provide this information without a clearly articulated need by EPA. The EPA has not shown such a need.

Response: As noted by other commenters, there may be numerous factors that impact on mercury emissions and speciation. The Agency has identified two, mercury content and chlorine content, for evaluation under this program. The EPA is requesting the additional information

noted by commenter R-17, as it may already be available, as a means of increasing the base of knowledge.

B.15 Plant Does Not Currently Track Coal Seam Information

Comment: Commenter R-17 states that EPA proposes to request that utilities quantify the amount of coal from each seam it consumes on a weekly basis. Commenter R-17's facility does not track coal seam information.

Response: The Agency believes that suitable information is available to each utility from the coal supplier as to the seam(s) or mine(s) that comprise a given shipment. This information will be sufficient to satisfy the requirements of the current plan.

B.16 EPA Should Revise Sampling Requirements for Coal Piles

Comment: Twenty-six commenters (R-1, 2, 8, 12, 13, 18, 22, 31, 32, 35, 39, 45, 52, 55, 57, 58, 70, 75, 83, 84, 87, 88, 89, 91, 97, and 100) state that EPA should require (or consider) mercury analyses by coal suppliers rather than requiring separate coal pile analyses from each plant. Commenter R-39 points out that most utility coal is currently sampled at the mine or when received by the plant so data already exist. Some commenters believe that properly performed coal analyses from suppliers can represent as-fired coal analyses. Commenter R-12 suggests that EPA test to determine if as-shipped coal analyses are a good substitute for as-fired coal analyses before allowing this option. Commenter R-55 states that analyses of cleaned coal by suppliers may provide a good approximation of as-fired mercury concentrations but yields a conservative estimate of emissions.

Commenters R-35 and R-84 suggest that EPA require that mines supply the coal analysis data. Commenter R-39 disagrees, explaining that requiring coal suppliers to conduct sampling

would be too costly. Commenter R-12 also disagrees with obtaining samples from mines because of the wide variance in coal cleaning on mercury removal. Mined samples are not as valuable as plant specific samples in determining the effectiveness of coal cleaning.

Commenter R-18 suggests that utilities sample coal per number of tons received from the supplier. Commenter R-70 suggests that EPA should eliminate the coal pile sampling requirement because sampling without correlation to actual emissions resulting from the coal burned, the value of knowing the mercury content in fuel stores is limited. Commenter R-97 suggests utilities provide information on the source/amount of coal burned in each unit on a periodic basis to match with coal analysis from the supplier.

Comment: A number of commenters do not believe sampling of coal piles is practical (R-17, 23, 29, 31, 39, 71, 76, 84, 91, 97, and 99) . The commenters explain that power plants handle coal differently from plant to plant. Once the coal is delivered it is impossible to track its origin. Coal piles may also be used for long-term storage. Three commenters (R-71, 76, and 84) add that coal sampling from piles may not represent daily coal burned because of pile stagnation and blending. An “as-fired sample from a coal storage pile” does not apply to plants that receive coal via large unit trains or river barges and then transport the coal directly to the electric utility unit by front end loaders or conveyer belts. As-received samples would be more practical for these plants if not provided by the supplier.

Comment: Commenter R-84 states that some plants use ball mills that reject harder materials called pyrites and other plants may be equipped with mills which grind all of the material. Coal piles may or may not be representative of what is conveyed to the boiler, depending on mill type.

Response: After review of the comments, the Agency agrees with those commenters that indicated that supplier-provided analyses would be of better quality than analyses obtained from on-site coal piles. Further, many commenters indicated that such supplier-provided analyses would not be difficult to obtain by the utility. Available information indicates that there should be little measurable difference in the mercury content of as-shipped vs. as-received vs. as-fired coal. Therefore, the current plan specifically states that supplier-provided mercury analyses are acceptable, as long as certain conditions are met. This provision will also facilitate collection of information on the source of the coal.

B.17 Weekly Estimates of As-Fired Coal by Individual Boilers Difficult to Track

Comment: Commenter R-84 states that it is possible for plants to provide weekly estimates of the amount of as-fired coal used during any calendar week period. However, coal combusted by an individual boiler may not, and likely could not, be tracked as fuel from any one mine source.

Response: The EPA agrees that tracking of coal seam information may be more easily accomplished when done on an as-received basis. Thus, the current plan utilizes this approach.

B.18 Recording Yearly Coal Receipts

Comment: Commenter R-84 states that recording the amount of coal received in one year on the ICR is possible but would not necessarily reflect the amount from any mine source consumed during the same period.

Response: The plan, as revised, is believed to better enable the Agency to determine the source of coals along with the amounts received (which will reflect the amount fired).

B.19 Coal Sampling Location Concurrent with Stack Testing

Comment: Commenter R-88 states that sampling at the coal bunker would likely be adequate for coal sampling during stack testing. Three commenters (R-71, 84, and 99) state that if a representative as-fired coal sample is sought by EPA it should be taken from the conveyer belt as the coal is conveyed to the boiler.

Response: The Agency will allow coal sampling during the stack testing at any suitable, safe location as long as the location is adequately documented and the analyses obtained adequately reflect the coal being burned in the boiler during the test period.

B.20 Stack Testing Should Include Both Inlet and Outlet of the APCD

Comment: Commenter R-61 believes that EPA should clearly state in the ICR that stack testing should include both inlet and outlet of the APCD.

Response: The Agency has clarified this discussion.

B.21 The ICR Needs to Include/Expand QA/QC Requirements

Comment: Several commenters generally note the deficiencies in existing stack sampling protocols and mercury analyses (R-12, 19, 22, 23, 25, 26, 27, 29, 35, 39, 53, 55, 56, 61, 63, 70, 76, 78, 83, 84, 86, 87, 89, 91, 95, 97, 98, 99, and 100). These commenters make a wide variety of suggestions for improving QA/QC aspects of the ICR such as:

(1) EPA have an independent QA/QC contractor.

(2) The ICR should require a test plan (including QA/QC plan) to ensure representative sampling and consistent stack test procedures and analysis. Commenter R-84 asks if EPA intends to establish operational criteria during sampling.

(3) The ICR should specify the coal sampling method to be used. An existing, accurate, proven method (like ASTM) should be in place before sampling is required. Some commenters believe the sampling method is deficient.

(4) An adequate stack sampling method has not been developed or validated. Stack sampling results may not be accurate because of interference's in flue gas that are not known or understood. Stack sampling is not representative of actual mercury emitted if mercury in coal is bound as sulfate, or other species not released through combustion but reported in the laboratory analysis as total mercury. A standardized analytical method should be used due to variability among methods.

(5) An accurate analytical method also should be in place before sampling. Four commenters note that there is no U.S. coal standard reference material for mercury and trace elements. Another commenter adds that the National Institute of Standards and Technology (NIST) has standard samples for bituminous and subbituminous coal but the standards are not certified for mercury content. Commenter R-12 suggests EPA encourage NIST to commit to an early release of coal standard reference material certified for mercury and chlorine.

(6) EPA should identify appropriate labs that can perform the analyses or certify labs.

Response: The Agency agrees that the use of an independent QA/QC contractor may be appropriate, when possible. The Agency also agrees that a QA/QC plan should be included in addition to the test plan. A generic Quality Assurance Project Plan (QAPP) will be issued with the section 114 letters to selected facilities requiring them to perform stack testing. The revised ICR does not itself require coal sampling; coal sampling that is performed by either the coal supplier or the receiving facility that is recognized as adequate for coal delivery contract verification purposes will be acceptable. The Agency has consulted with the DOE and has reviewed the extensive evaluation work performed on the Ontario Hydro method by the Energy and Environmental Research Center at the University of North Dakota (UNDEERC) and believes that the method has been sufficiently demonstrated for the purposes of this ICR. The Agency has contacted the NIST and they have indicated that they expect that standard reference materials certified for mercury will be available for inclusion in a sample analysis QC program. The Agency does not currently have a program in place for the certification of laboratories, but the

requirement to perform analyses that meet certain criteria and report results for NIST samples will insure that data submitted are of known quality.

Comment: Commenter R-88 points out that EPRI has not completed verification of the Ontario Hydro method for mercury speciation and suggests encouraging verification tests. Commenter R-70 states that the Ontario Hydro test method has been evaluated by EPRI and deemed not yet ready for field work. The EPA should focus on identification or development of an approved method of speciation of flue gas mercury.

Response: The Agency has consulted with the DOE and has reviewed the extensive evaluation work performed on the Ontario Hydro method by the UNDEERC and believes that the method has been sufficiently demonstrated for the purposes of this information collection effort.

Comment: Twenty-four commenters (R-1, 5, 8, 10, 13, 14, 17, 23, 24, 25, 27, 30, 39, 43, 52, 62, 64, 73, 76, 78, 79, 81, 87, and 90) state that the proposed ICR does not address the potential effect on data collection resulting from too few qualified laboratories using uniform techniques to produce accurate and precise analytical data. These commenters discuss the high degree of analytical variation among laboratories, depending on the procedures used. The variability is compounded by the wide range of variation in the mercury content within samples from the same seam or the same mine. The limited number of laboratories may lead to greater potential for errors as fewer facilities must handle large volumes of samples from multiple sources. Three commenters (R-27, 43, and 62) also cite concerns regarding availability of enough test equipment and trained stack testing firms.

Response: The Agency has spoken with suppliers of analytical services in this market and is confident that analytical capacities will be expanded to meet the market needs.

Comment: Commenter R-17 points out that the draft ICR requires evidence of laboratory accreditation for the as-fired coal analysis but there is no specific accreditation program for coal analysis.

Response: The reporting form requires the submission of analyses performed on NIST standard reference coal samples concurrent with analyses performed on the contract verification samples so the data quality can be assessed.

Comment: Commenter R-30 states that the confidence limits of the current test methods need to be examined to see if the data expectations can be achieved.

Response: All stack testing will be performed in duplicate so that the precision of the data can be assessed.

Comment: Commenter R-27 added that equipment used to initially weigh the coal received by their plants, transport, store, and then feed the coal into the units have insufficient accuracy in their instrumentation to use them in a ASTM test.

Response: Coal weight measurements normally performed for coal delivery contract verification procedures will be adequate for this information collection effort.

B.22 The ICR Should Incorporate Statistical Methodology

Comment: Commenter R-87 points out that the draft ICR presents no statistical methodology. Commenter R-91 states that EPA has failed to design the ICR in the most efficient statistical way because the EPA did not provide detailed reasons for the choice of sample sizes and sampling times.

Response: The Agency feels that the statistical rationale for selecting plants for stack testing is adequately presented in the supporting statement.

Comment: Commenters R-86 and R-98 ask that a level of statistical uncertainty be estimated before data are collected. After a year of testing, the data should be analyzed and confidence intervals narrowed (± 20 percent). Commenter R-86 suggests developing a statistical relationship between mercury in coal and control device efficiency. In this way, emissions could then be estimated based on coal chemistry rather than stack tests.

Response: The Agency does not believe that statistical uncertainty needs to be established before the information collection program begins. The Agency intends to refine its existing relationships between mercury-in-coal values and emissions of mercury to the atmosphere based on the data amassed by this information collection effort.

Comment: Commenter R-53 requests the inclusion of statistical methods to identify data gaps to be filled and to shorten the coal sampling time. Commenter R-19 suggests that EPA should apply statistical sampling to reduce the number of samples which need to be collected; for units with small standard deviation in mercury results, further sampling could end. Commenter R-55 suggests sampling 20 percent of the population with a reduced sampling frequency. Commenter R-55 also suggests combining weekly samples into composite samples for monthly analyses.

Response: Because of the wide variation in coals, and coal combinations, used throughout the industry and because of the lack of unit-specific information for the entire industry, the Agency does not believe that sufficient information can be obtained on mercury emissions from each unit through a statistical sampling approach. The Agency believes that the coal sampling requirements, as revised based on the comments received, address the other issues to the extent possible.

B.23 Operating and Physical Characteristics Might Effect ICR Results

Comment: Commenter R-91 states that most utility companies have carefully planned dispatch schedules. If EPA selects a unit for stack testing that represents relatively high-cost generation for the utility, the unit may operate infrequently, thus posing a problem to schedule a conduct quarterly testing. Also, quality mercury speciation data are more likely to be obtained from a unit that is well equipped to support manual stack testing.

Response: The Agency believes that the stack sampling requirements, as modified based on the comments received, adequately respond to the comment and provides for enough scheduling flexibility to allow for testing of units operated infrequently, should one be selected for testing.

Comment: Commenter R-84 asks how will the sampling requirements be adjusted to account for planned outages, unforeseen shutdowns, or any modifications to plant operational characteristics. Will the Agency require makeup samples or extension of the planned sample schedule to meet the ICR requirements?

Response: The Agency believes that the current plan for stack testing, as revised based on comments received, eliminates the concerns.

B.24 The ICR Needs to Explain Emission Correlation Factors

Comment: Commenter R-84 states that EPA should document the correlation factors and the rationale for application of those factors that EPA described as being be used to “derive a reasonable estimate of the total amount of mercury emitted by each by coal-fired electric steam generating unit on an annual basis.”

Response: Any correlation factors developed will be documented in any subsequent reports generated.

B.25 EPA Sampling Program Should Use Mercury Trapping Filter Cartridge

Comment: Commenter R-133 suggests a radical departure from the proposed coal analysis and stack sampling scheme. The commenter suggests that, instead of the proposed program of universal coal analyses and limited stack testing, all facilities be required to sample at the stack outlet (only) once a month for a year with a sampling train based on a mercury trapping filter cartridge.

Response: The Agency believes the program proposed by the commenter would not accomplish the Agency's objectives, particularly with respect to an extensive demonstration of the as-fired mercury content of coal presently burned, and the need for further study of the control efficiencies achieved by existing emission control devices. The need for further demonstration of this method, as recognized by the commenter, would create uncertainty as to the success of the program at best, and could delay the program. In addition, the Agency has reservations about the estimated cost of the commenter's proposal, and believes it would be substantially higher than the figure given (\$2,000,000) based on the costs associated with obtaining a quality-assured sample and the total number of sample fractions that would be generated.

C. Collection Methodology

C.1 Quarterly Monitoring Reports Should Be Made Publicly Available via the Internet

Comment: Thirty-three commenters (R-2, 9, 11, 15, 16, 21, 23, 36, 37, 38, 40, 44, 49, 57, 60, 61, 72, 74, 82, 103, 107, 108, 111, 118, 119, 120, 123, 124, 127, 129, 130, 131, and 132) state that monitoring reports should be publicly available. Most suggest quarterly monitoring

reports via the Internet. The ongoing data gathering under the ICR will be critical to inform policy decisions and regulatory strategies, particular for establishing emissions baselines and for setting appropriate targets.

Response: The Agency agrees that the monitoring reports and the mercury analyses should be made publicly available. However, the program is designed to track yearly mercury emissions, not quarterly or any other time period. Companies are being asked to provide data on a more frequent basis only so as to allow a more uniform flow of data.

C.2 Automatic Data Submission

Comment: Commenter R-55 supports lowering the burden, as EPA suggests in the ICR, by automating the submission of responses.

Response: The Agency is examining the methods by which data may be submitted.

D. Collection Schedule

D.1 The ICR Should Allow More Time for Reporting Results

Comment: Commenter R-17 suggests that EPA extend the reporting deadline from to 60 or 90 days after the end of the quarter to ease scheduling problems at laboratories.

Response: The Agency agrees that a period longer than 30 days may be appropriate and, consistent with other programs, has changed the reporting deadline to 45 days after the end of the quarter. Reports of stack tests would be due 60 days following the end of the testing.

Comment: Commenters R-52 and R-62 believe that the easiest way for small utilities to transmit their coal sampling data would be on a quarterly basis using a spreadsheet format.

Response: The Agency plans to use a submittal format that is compatible with existing Agency database activities and envisions that a commercial product will be used. Specifics on the method of transmittal will be provided in the section 114 letter sent to each facility.

Comment: Commenter R-84 opposes the start date of January 1, 1999 because he believes that this date would not give affected utilities time to prepare for the ICR.

Response: The Agency believes that January 1, 1999 is a reasonable date for coal sampling to begin because it is not requiring the collection of any additional samples nor the installation of any equipment.

E. Burden Estimates

E.1 Agency Resource Estimates

Comment: Commenter R-52 asks that EPA or States pay for the coal analyses from permit fees. Commenter R-75 asks that EPA pay for stack testing costs. Four commenters (R-35, 70, 77, and 97) ask that EPA pay for all costs. Commenter R-87 suggests that EPA fund an EPRI-style QC program. Commenters R-8 and R-87 suggest that EPA or DOE provide all funding.

Response: The Agency has no means of providing programs such as are suggested by the commenters.

E.2 EPA Has Underestimated the Cost and Burden of Coal Sampling and Stack Testing for Smaller Utilities

Comment: Twenty-six commenters (R-1, 2, 6, 7, 10, 13, 14, 18, 19, 24, 27, 30, 33, 52, 53, 62, 64, 73, 76, 79, 80, 81, 85, 87, 90, and 91) state that EPA's ICR has generally underestimated the cost and burden of coal sampling and stack testing for smaller utilities.

Response: The Agency has reexamined its burden estimates based on the comments received and, combined with the other changes made, believes that the burden on smaller facilities is reasonable.

Comment: Five commenters (R-1, 24, 30, 64, and 81) agree with the comment above and add for many of these units, extra staff (or outside contractors), as well as additional coal-sampling apparatus, could be required. These extra expenditures are not reflected in EPA's estimate. Commenter R-87 believes outages may be required to modify existing structures to install systems and time should be allowed for installation or maintenance. Commenter R-62 states that the costs of installing test ports and platforms is costly for small facilities. Commenter R-14 states that at smaller utilities, coal sampling equipment and staff may not be readily available or trained to generate a representative sample for testing. Commenter R-87 says that 20 additional man-hours will be needed to comply with this task.

Response: As a result of the changes made, it is not believed that additional staff, training, or equipment will be necessary at any facility. The coal sampling being done to ensure compliance with coal purchasing contracts is adequate for this program; thus, no additional burden is being imposed.

Comment: Commenters R-3 and R-91 state that smaller facilities could experience financial difficulties in obtaining the more than \$175,000 (based on EPA's estimate) to conduct coal sampling and analysis and quarterly stack sampling. Also, these facilities may have difficulty in scheduling stack sampling due to unusual operating and physical characteristics (e.g., smaller units may be dispatched to operate only infrequently or they may not be equipped to support

manual stack testing). The result may be a disproportionately larger burden on smaller units (that burn less fuel and produce fewer emissions) to comply with the Agency's proposed ICR.

Response: The Agency believes that the plan, as modified based on the comments, addresses these concerns to the extent possible. Those facilities receiving fewer shipments will be required to submit fewer analyses. In addition, the stack testing requirement for those facilities selected has been reduced, which eases the scheduling problem and also lessens the burden.

Comment: Commenters R-2 and R-18 suggest that in lieu of a subsidized testing program (where EPA pays for testing), the simplest means of avoiding disproportionate economic impacts on smaller plants is to raise the applicability criteria from 25 MW to greater than 75 MW.

Response: The Agency has no basis for raising the applicability criteria as suggested. The section 112(a)(8) definition of "electric utility steam generating unit" is clearly set at 25 MWe.

E.3 EPA Has Underestimated the Cost and Burden of Coal Sampling for Electric Utility Units

Comment: Twenty-seven commenters (R-5, 13, 17, 20, 23, 25, 26, 31, 32, 39, 45, 53, 55, 71, 75, 78, 79, 80, 84, 87, 90, 91, 94, 95, 97, 98, and 100) state that EPA's draft ICR has generally underestimated the cost and burden of coal sampling and stack testing for electric utility units. Commenter R-76 requires more management hours (10 percent vs. 5 percent) and clerical hours (20 percent vs. 10 percent) than EPA has estimated. Commenter R-17 states that EPA's estimate per facility is \$22,925/year while commenter R-17's estimate per facility is \$39,985/year. The large difference in these two estimates involves the anticipated time required for documentation and record keeping using new data management techniques. The EPA's estimate

also does not include the cost of modification to existing information technology programs or the cost of creating a new one. Commenter R-71 notes that EPA estimates that it will take 37 hours per site to collect, analyze, track, and report coal sampling data. This is less than 1 hour per sample and is extremely conservative. Commenter R-71 estimates that for mercury alone the sample preparation and analysis for one sample would take 1 hour. Commenter R-20 estimates a minimum of 1.5 to 2 hours/week to collect, prepare, and analyze a sample. Commenters R-29 and R-71 state that it is difficult to develop a better estimate of the amount of time required for this endeavor in that all of the constituents that sampling would be required for have not been identified in EPA's proposal. It is also difficult to assess the accuracy of EPA's annual cost estimate of \$22,925 as the list of constituents required to be analyzed has not been thoroughly defined. Commenter R-91 says EPA does not include time for preparation of samples prior to analysis (30 to 45 minutes). Commenter R-70 states that EPA must include costs for mercury analysis.

Response: The Agency has reviewed and revised, as appropriate, its burden estimates. Its estimates of technical vs. management vs. clerical time are consistent with Agency guidelines and previous ICR efforts. Sample preparation costs are considered to be included in the costs of the contracted analyses.

Comment: Three commenters (R-76, 78, and 80) state that the draft ICR suggests that the collection of a coal sample from a coal pile will take 1 hour/week and the collection of a representative sample requires that a specific mass of coal be obtained from each coal pile, in relation to the size and shape of the pile. Commenters R-76 and R-80 estimate that it could easily take up to 15 hours/week to obtain and process the samples specified by the draft ICR.

Commenters R-25 and R-78 estimate that it could easily take up to 20 hours/week to obtain and process the samples specified by the draft ICR. Commenter R-53 states that it would take 3 to 5 hours/week for collection of testing results and data transmission. Most of their active coal piles cover an area measured in the tens of acres and can be 50 to 100 feet deep. Collecting a representative sample from these piles would require aerial mapping and drilling, or excavating, to obtain each sample. Following the collection of the pile samples, a substantial effort would be required to split and divide the coal to obtain a sample for lab analysis. As new coal arrives, and old coal is consumed, the shape and size of the pile will change requiring continual re-evaluation and modification of the sampling protocol.

Response: As noted above, the EPA agrees with the comments suggesting that sampling from on-site coal piles will not provide the information desired. Therefore, the current plan allows for analyses of as-shipped, as-received, or as-fired samples.

Comment: Commenter R-99 states that page 8 of the draft ICR refers to ASTM sampling of coal but the time given by the draft ICR to accomplish this is 0.5 hours/week. This time represents the time needed for a grab sample rather than an ASTM sample. The commenter believes that either EPA has underestimated the time necessary to collect and prepare a coal sample for laboratory analysis under ASTM procedures or EPA is not requiring ASTM sampling. The EPA needs to clarify that either ASTM samples are required with enough time to do them or that grab samples will suffice. Commenters R-52 and R-76 estimate a minimum of 1.5 hours per weekly sample for administration of analysis and recordkeeping. Also, they believe that EPA should allot more time for Q/A in its estimate. Commenter R-76 states that the draft ICR does not account for duplicate Q/A analysis required by ASTM method. Commenters R-5 and R-91

estimate a minimum of 2 to 5 hours/week to accomplish ASTM sampling of coal. Commenter R-39 estimates the cost to sample a fixed pile and provide coal analysis at \$60,000/week per plant. Commenter R-98 estimates a minimum of 4.5 hours/week to collect and prepare a weekly coal sample for analysis plus 10 hours/week for the ASTM procedure. Commenters R-25 and R-76 estimate 6 to 8 hours/week to composit as-fired samples into a weekly composite sample for analysis.

Response: The revised plan allows for analysis of samples already being taken for coal delivery contract verification. Thus, there is no additional burden for acquiring the samples and there is no requirement that any utility initiate any new procedures.

Comment: Four commenters (R-32, 53, 74, and 78) believe the ICR should consider costs associated with deregulation. For example, Pennsylvania will not allow deregulated industries to pass regulatory costs to customers.

Response: As noted earlier, the Agency has made every effort to minimize the burden imposed by the ICR while ensuring that information of sufficient quality and quantity is obtained. While the Agency realizes that the ICR may have disparate impacts, it does not believe that this is a sufficient basis for exempting from the ICR facilities which otherwise meet the statutory definition of electric utility steam generating unit.

Comment: Commenter R-24 adds that the cost estimates for sampling do not reflect the potential increase in laboratory charges due to the increased demand. Commenter R-17 states that the cost estimates for sampling do not include costs of analysis for other constituents.

Response: The Agency believes that, as there is sufficient laboratory capacity, there will not be an increase in laboratory charges as described by the commenter.

Comment: Five commenters (R-25, 80, 87, 91, and 97) state that the cost estimates should include costs and time for QA/QC of sample analyses. Two of these commenters believe this would increase the respondent cost burden by about 25 percent.

Response: The Agency believes that its burden estimate adequately incorporates the costs of good QA/QC.

Comment: Four commenters (R-23, 79, 84, and 87) state that the cost of performing an Ontario Hydro test will undoubtedly increase with demand. Stack testing costs may have been underestimated by EPA by 30 percent.

Response: The Agency has reevaluated its cost estimates based on changes to the information collection effort and comments received. However, it does not believe that testing costs will increase as a result of this effort.

Comment: Commenter R-39 estimates capital cost of samples to be \$250,000 to \$500,000. Commenter R-97 states that an automatic mechanical sampling system for two coal feed belts would cost \$100,000 to \$180,000 per unit (plus maintenance).

Response: As noted earlier, the Agency is not requiring the installation of any equipment.

Comment: Five commenters (R-23, 79, 84, 87, and 97) state that EPA should include the cost burden of both capital and operation and maintenance (O&M) costs in coal sampling because many units do not have the ASTM automatic sampling equipment and any sampling would necessitate the substantial involvement of plant personnel.

Response: The current plan allows for submittal of analyses of samples currently taken to verify the coal delivery contract so that installation of ASTM sampling equipment would not be necessary.

Comment: Commenter R-84 is concerned that EPA has not included additional costs necessary to modify plant operations to control operational variables or for the costs of additional HAP analysis and for the additional costs of utilities being required to modify fuel use practices, particularly the costs associated with the use of alternative fuels (e.g., used oil) in combination with coal.

Response: The Agency is not requiring that any fuel use practices be modified and, thus, has not incorporated costs for such modifications in its burden estimates.

Comment: Commenters R-25 and R-76 suggest a one-time cost of 60 hours to train personnel to conduct sampling.

Response: The Agency does not believe that any personnel will need to be trained as the coal samples required are already being obtained and the stack sampling is assumed to be done by contract.

Comment: Commenter R-84 asks if the cost burden estimates in the draft ICR include those utility internal costs to prepare site specific test plans for Agency approval and review.

Response: The Agency has assumed that utilities will contract for the emission testing services and such contracting will include site specific test plans.

Comment: Commenter R-71 states that EPA has developed cost estimates based on the assumption that no more than two coal piles and/or silos exist at each facility. However, coal bunkers are also referred to as silos and are used at many facilities in addition to coal piles as “holding tanks” for the coal prior to its being burned. If silos are included in the count, the number of sample points at the commenter’s facilities would range from 5 to 26. If sampling is required, EPA should define “silo.”

Response: As noted earlier, the Agency has removed any requirement for sampling from the on-site coal piles or silos.

Comment: Commenter R-71 states that EPA's estimated costs for stack testing exclude additional costs for preparation, reporting, and administrative activities related to sampling.

Response: The Agency has assumed that all stack testing will be done by contract and that the costs noted by the commenter are included in the contract cost.

E.4 The ICR Needs Additional Explanation of Costs of Analyses for Coal Sampling and Stack Emissions Testing

Comment: Commenter R-70 states that EPA should further disclose the assumptions used to evaluate the cost estimate for the specialized testing needed in the analyses of both coal and flue gases to identify the species of mercury present. Commenter R-97 states that they need more specifics on ASTM coal sampling (e.g., a research plan) in order to check EPA's cost estimates.

Response: The overall cost estimate for stack testing has been revised to reflect the changes in the prescribed testing. The testing now consists of the collection of a total of 12 2-hour samples using the Ontario Hydro Method, obtained 4 at a time (paired sample trains run simultaneously at both the inlet and the outlet of the last emission control device). Coal grab sampling is to be performed concurrently with the stack testing at the feed to the pulverizer (or equivalent) to obtain three composited coal samples, one for each speciated emission test run. It is estimated that the testing will require seven persons on site for one week. Other factors contributing to the overall estimate include development of a site-specific test plan, presurvey of the site, development of a QAPP, travel, equipment set-up, per diem, sampling, sample analyses

(including analyses of blanks), data analysis, preparation of draft and final reports, overhead, fringe, and fee. The Agency believes the estimate is reasonable, as the Agency regularly secures the services of emission testing contractors, and routinely estimates testing costs to prepare independent cost estimates of testing to be performed for the Agency.

E.5 EPA Should Ensure its Burden in Coal Sampling Individual Sources Accounts for the Economic Size of the Operation

Comment: Commenter R-4 states that it is significantly less burdensome, on a relative basis, for a facility that conducts a greater level of operational activity to bear identical analytical costs to those imposed upon much smaller units. The draft ICR should therefore be modified to ensure that the burden imposed on individual sources accounts for the economic size of the operation. Commenter R-4 also states that it would be inappropriate for the Agency to provide a far greater relative reduction in burden (sampling weekly) to larger facilities, which necessarily contribute the relatively higher proportion of mercury emissions, than do much smaller facilities.

Comment: Commenter R-27 argues that the ICR places an inequitable financial burden on rural electric generation and transmission cooperatives. The largest concentration of control devices, especially on those units using western coals, are installed within the electrical systems owned by rural electric generation and transmission cooperatives and other public-owned power systems.

Response: As noted earlier, the Agency has made every effort to minimize the burden imposed by the ICR while ensuring that information of sufficient quality and quantity is obtained. While the Agency realizes that the ICR may have disparate impacts, it does not believe that this is a sufficient basis for exempting from the ICR facilities which otherwise meet the statutory

definition of electric utility steam generating unit. The Agency believes that the coal sampling requirements, as revised based on the comments received, will take into account the relative quantity of fuel combusted by each facility.

E.6 The ICR Should Allow Cost Sharing for Stack Testing

Comment: Four commenters (R-56, 86, 88, and 98) suggest that the ICR allow industry-wide cost sharing to reduce burden estimates on the 30 selected units.

Response: There is nothing in the ICR that would preclude what the commenters are suggesting.

F. Miscellaneous

F.1 ICR Table 9C Is Inaccurate

Comment: Commenters R-17 and R-88 state that EPA's database of coal-fired electric utility units appears to have missed the addition of retrofitted scrubbers on four large coal-fired units (Gavin 1 and 2 [R-17] and Cumberland 1 and 2 [R-17 and R-88]). In addition, commenter R-17 states that Conesville Unit 4 is unscrubbed; Gibson Unit 4 has a retrofitted wet scrubber; Zimmer Unit 1 is in commercial operation, uses bituminous coal, and has a wet scrubber. Commenter R-46 states that EPA's database of coal-fired electric utility units appears to have missed the addition of retrofitted scrubbers on two coal-fired units (Petersburg 1 and 2).

Response: The database will be corrected as noted.

F.2 New Technology

Comment: Commenter R-48 states that his company has a new air pollution control technology for capturing sulfur, NO_x, and heavy metals (such as mercury) from flue gas.

Response: The Agency has not specified the use of any technology.