Coalition for Responsible Waste Incineration

1615 L Street, NW, Suite 1350
Washington, DC 20036
Phone: 202 452-1241
Fax: 202 887-8044
E-mail: mel@crwi.org
Web Page: http://www.crwi.org

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PS-17 and P-4 for CPMS Monitoring Systems
Docket No. EPA-HQ-OAR-2006-0640
U. S. Environmental Protection Agency
EPA Docket Center, Mailcode: 6102T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

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The Coalition for Responsible Waste Incineration (CRWI) appreciates the opportunity to submit comments on *Performance Specification and Quality Assurance Requirements for Continuous Parameter Monitoring Systems and Amendments to Standards of Performance for New Stationary Sources; National Emission Standards for Hazardous Air Pollutants; and National Emission Standards for Hazardous Air Pollutants for Source Categories* (73 FR 59956, October 9, 2008). CRWI is a trade association comprised of 27 members with interests in hazardous waste combustion. CRWI members operate incinerators, liquid fuel-fired boilers, solid fuel-fired boilers, and hydrochloric acid production furnaces and are regulated under a number of MACT standards. CRWI members also provide technical expertise and services to facilities that own and operate hazardous waste combustors. We appreciate the effort EPA has put into this proposed rule. We look forward to working with the Agency to develop regulations that are consistent with the requirements of the Clean Air Act and good engineering practices.

CRWI members are primarily regulated under 40 CFR Part 63, Subpart EEE, one of the source categories covered by this rule. CRWI agrees with the Agency that the development of high quality data by facilities is necessary to show both the regulating agencies and the public that the regulated entities are in compliance with applicable standards. However, we are concerned that this proposed rule does not accomplish this goal. Our comments and suggested modifications to the rule are attached.

Thank you for the opportunity to comment on this proposed rule. If you have any questions on our comments, please contact me (202-452-1241 or mel@crwi.org).

Sincerely yours,

Melvin E. Keener, Ph.D.
Executive Director

cc: CRWI members
B. Parker, EPA

General Issues

1. The potential scope of this effort is enormous.

   One of our members estimated that there are 113 different types of flow meters, 62 different types of pressure devices, and 33 different types of temperature measurement devices based on chapters in the Instrument Engineers' Handbook, Volume 1, Fourth Edition, Process Measurement and Analysis (Ed. B. G. Liptak, 2005, CRC Press). We find it difficult to see how the requirements proposed for one category of instruments can be applicable to all types of instruments in that category. For example, how can the same specifications be applicable to 113 different types of flow meters?

2. For many Subpart EEE facilities, the backbone for the existing required QA/QC plan for continuous monitoring systems originates from other sources. EPA needs to recognize the other sources of requirements with their accompanying incentives and give credit for them in this rulemaking so as not to subject facilities to competing and/or repetitive requirements.

   There are at least two other programs that directly govern how CRWI member companies select, install, and maintain chemical process equipment, of which Continuous Parameter Monitoring Systems (CPMS) are a portion. These programs are much more flexible in their requirements than this proposed rule. Both the chemical accident prevention provisions under 40 CFR 68 (requiring a risk management plan or RMP) and the process safety management provisions under 29 CFR 1910.119 (OSHA PSM) recognize the need for instrument systems to be reliable and functional. These two programs are intended to prevent acute situations that could quickly lead to industrial disasters. Yet, these two programs allow industry to develop appropriate controls that meet generally accepted good engineering practices, as opposed to specifying prescriptive requirements. For example, under Process Safety Management (PSM--OSHA1910.119), OSHA allows users the flexibility to select from several industry recognized performance type specifications on which to base design, installation, and life cycle maintenance of instruments and analyzers which are associated with process Safety Instrumented Systems (SIS). These industry-recognized performance specifications are generally referred to as "Recognized And Generally Accepted Good Engineering Practice" or "RAGAGEP." Examples of these performance specifications are ISA S84-2004 (recognized by ANSI) and IEC 6-1511 standard. Both allow industry users the flexibility to design, install, and maintain associated instruments and analyzers based on their experiences and performance histories of the particular sensors in a process and the ambient environment to both ensure and document reliable operation while minimizing process exposure to both the environment and process/maintenance personnel.

In other words, the affected industries are free to develop a performance-based approach to preventing industrial accidents or disasters. There are tremendous and tangible incentives for a company to perform very well, and RAGAGEP allows a company to respond to those incentives in a way that is appropriate to the hazards that they face. These incentives can include the protection of people (personnel and local populations), lowering of insurance rates if your results indicate success, the protection of equipment (avoided cost of repair), the protection of manufacturing sales (avoidance of loss of products and customers), as well as the avoidance of governmental intervention as a result of failure. For chemical manufacturers and related industries, these incentives are huge. Companies that are passionate about avoiding accidents receive the benefits of avoiding these very negative consequences.

At the very worst, a Subpart EEE control device with defective CPMS should not rise to the same level of concern as an industrial disaster. However, EPA has arbitrarily chosen to create a very prescriptive program for CPMS that ignores or does not recognize how facilities manage an even larger issue without demanding a prescriptive response, but allows a performance-based program (i.e., RAGAGEP). Perhaps there are entities that are subject to CPMS requirements in Parts 60, 61, and 63 which do not manage chemicals above threshold quantities that would subject them to PSM or RMP. However, for those facilities which are subject to PSM and RMP, their CPMS are more than adequately covered by these two programs without subjecting them to an additional regulatory scheme. At the very least, such facilities should be able to address their CPMS via their response to PSM and RMP provisions and have no applicability for PS-17 and Procedure 4. Alternatively, EPA should allow these responses to PSM/RMP provisions to suffice.

3. Subpart EEE sources already have an effective plan in place to assure the quality of data collected and should be added to the list of source categories not subject to PS-17 and Procedure 4.

CRWI agrees that the quality of CPMS data is important. We would like to point out that the owners and operators of hazardous waste combustors have been generating data of acceptable quality for many years. Our members have been subject to Part 63, Subpart EEE since it was initially promulgated in 1999. Under Subpart EEE, owners and operators are required to follow the General Provisions (40 CFR 63.8) that mandate the development of a QA/QC plan for Continuous Monitoring Systems (CMS). Furthermore, Subpart EEE at 40 CFR 63.1207(e) requires that the continuous monitoring system performance evaluation test plan specified in 40 CFR 63.8 be submitted to the permitting authority for its approval with the emissions performance test plan. Once approval is received and the test conducted, Subpart EEE sources are required to submit the results of the performance evaluation test to the permitting agency for evaluation in determining a Finding of Compliance. Thus, Subpart EEE sources already have a process for developing a CMS quality control plan, submitting a CMS performance evaluation test plan for their instruments, conducting the CMS test at every emission test interval and obtaining verification of the quality of the results The permitting agency sees and approves the data showing that the instrument is performing as expected in the process of issuing the Finding of Compliance. In addition, Subpart EEE requires weekly tests for the Automatic Waste Feed Cutoff System (which is tied to every instrument used to show compliance) and most facilities have systems that constantly check to ensure that the electronic connections are complete. Since the requirements of 40 CFR 63.8 are already applicable and the CMS performance evaluation test plan is site-specific, and reviewed and approved by the agency, CRWI believes that the process Subpart EEE sources already have in place is functionally equivalent to what EPA has proposed. In essence, EPA has already agreed that these plans are adequate for ensuring quality CPMS data and there is no need for additional scrutiny. Therefore, CRWI suggests that the Agency add Subpart EEE sources to Table 2, the list of Part 63 rules not subject to PS-17 or Procedure 4.

4. EPA should modify the proposed rule to make sure that only the instruments involved with showing compliance with the applicable standards are included.

Proposed Section 1.2 of PS-17 defines the types of devices covered. A device is covered if 1) the facility is required by an applicable subpart to install the total equipment on a continuous basis and 2) if the facility uses the total equipment to monitor the parameters (temperature, pressure, flow, pH, and conductivity) associated with the operations of an emissions control device or process unit. Our initial interpretation of this is that this only covers the instruments that are part of a required continuous parameter monitoring system (CPMS) used to show compliance with the applicable standards. However, as written, we can see where it could be interpreted to include all instruments at a "facility." We do not believe this was EPA's intent. We suggest that EPA modify Section 1.2 to make it clear that this requirement only applies to CPMS that are required by the applicable regulations to demonstrate compliance with an emissions standard.

5. EPA has significantly underestimated the cost for this proposed rule and needs to revise their cost estimates.

CRWI believes that EPA has significantly under estimated the cost of this rule to facilities. EPA was gracious enough to supply us with the spreadsheets used to make these cost calculations and we appreciate their willingness to share these spreadsheets. Having these spreadsheets allowed us to partially determine how EPA derived the numbers and to offer some suggested changes that may make estimating the cost of these two procedures (PS-17 and Procedure 4) more accurate. We have specific suggestions in five areas:

<u>Modifications in the number and types of facilities covered</u>

The current spreadsheet lists three types of combustors covered by 40 CFR Part 63, Subpart EEE: incinerators (INC); cement kilns; and lightweight aggregate kilns. With the promulgation of the 2005 rule, three new source categories were added to this Subpart: liquid fuel-fired boilers (LFB); solid fuel-fired boilers (SFB), and hydrochloric acid production furnaces (HClPF). In addition, the number of units listed for incinerators, cement kilns, and lightweight aggregate kilns is outdated and needs to be revised. The information in the table below is taken from the April 20, 2004 (69 FR 21353) proposed rule as modified by the October 12, 2005 (70 FR 59530) final rule. The current best estimate of the number of units regulated by Subpart EEE is as follows:

Source	EPA estimate	2005 Estimate
Incinerators	186	78
Cement kilns	33	26
Lightweight aggregate	10	7
Liquid fuel-fired boilers	--	99
Solid fuel-fired boilers	--	10
Hydrochloric acid furnaces	--	17

The error associated with the number of Subpart EEE sources is not large by itself (3%) but becomes significant when the other sources of error are considered as we explain later in these comments. In addition, the initial spreadsheet indicated that all incinerators have baghouses as control devices. This is not correct. Incinerators have a number of different air pollution control devices depending upon the air pollutants that need to be controlled from that particular facility. Although CRWI does not represent cement kilns, it is our understanding that this source category does not have any wet scrubbers. These incorrect assumptions are not problems in themselves as long as the numbers of different sensors impacted by this rule are properly listed.

<u>Suggested changes in the number of sensors impacted per facility</u>

In the introductory table, EPA lists temperature as the only parameter for incinerators that will be impacted by this rule. When our members went through the parameters that are required to be monitored by EEE (assuming that the only sensors impacted are the ones used to show compliance) and would be impacted by this rule, we found a much different list.

Category	Unit No.	Temp.	Pressure	Flow	pH	Conduct.	Total number of instruments
INC							
	1	9	14	39	2	0	64
	2	6	11	36	1	0	54
	3	2	6	28	2	0	38
	4	1	2	2	0	0	5
	5	3	4	5	0	0	12
	6	5	3	8	0	1	17
	7	5	3	7	0	1	16
	8	9	10	10	0	1	30
	9	5	18	6	4	0	33
	10	5	17	6	4	0	32
	11	11	20	2	4	0	37
	12	11	20	3	4	0	38
	13	3	4	7	4	0	18
	14	3	4	7	4	0	18
	15	5	5	6	4	0	20
	16	5	5	4	4	0	18
	17	3	11	3	4	0	21
	18	3	9	5	4	0	21
	19	5	9	3	4	0	21

Category	Unit No.	Temp.	Pressure	Flow	pH	Conduct.	Total number of instruments
LFB							
	1	1	1	3	0	0	5
	2	2	4	6	0	0	12
	3	4	10	34	4	0	52
	5	2	3	10	2	0	17
	6	3	2	23	2	0	30
	7	1	1	5	0	0	7
	8	3	3	9	0	0	15
	9	1	3	11	2	0	17
	10	2	2	12	1	0	17
	11	4	4	13	1	0	22
SFB							
	1	7	5	1	0	0	13
	2	7	5	1	0	0	13
	3	7	5	5	0	0	17
	4	7	5	5	0	0	17
HCIPF							
	1	2	4	8	2	0	16
	2	1	3	12	2	0	18
	3	1	2	11	2	0	16
	4	1	4	5	1	0	11
	5	1	4	3	1	0	9
Total							854

As can be seen from the above table, listing a single temperature measurement as the only impact of this rule is a significant underestimate of the number that will be impacted. In addition, this table is only a small subset of the total sources regulated by Part 63 Subpart EEE, or approximately 16% (39 out of 237 sources). If all of the sources regulated by this one subpart were included, the number of underestimated instruments would be even more glaring. EPA's current cost analysis is based on one instrument per source or 39 sensors for this subset. However, our estimates are that this group would have 854 instruments impacted by the rule. This represents an underestimation of 2900%. CRWI cannot estimate if this degree of error would carry over into some or all of the sources regulated by Part 60, 61, and 63, but the error for Part 63 Subpart EEE alone is more than significant.

In addition, the initial costs associated with the requirements for PS-17 section 8.1(2) for installing work platforms, test ports, pressure taps, valves, fittings, etc. are not included. Depending on the specific installation, these costs can range from minimal (4.5 hours for adding a pressure tap) to in excess of several tens of thousands of dollars if a work platform plus valves and piping changes are required. If a platform (potentially 60 feet above grade) is necessary, it may require support steel and possibly foundations, depending upon the specific installation. It also assumes that the test gear, which has not been fully identified, can be carried up or down stairs by a single individual. If a crane or other lifting device is required to meet OSHA requirements, additional costs will be incurred.

Also not included in the costs is the potential loss of production. If the accuracy audits cannot be conducted while the facility is operating, as is suggested by many of the methods, the source will have to cease operations while conducting the accuracy audits. It could take a day to shutdown, and a day to startup, with several days to conduct the testing, for a total outage of 3-6 days. Many facilities use natural gas or another fossil fuel to return to the operating window, and this cost is not included.

<u>Suggested changes in the amounts of time needed to make certain accuracy audits and visual inspections</u>

In the Cost Summary spreadsheets, EPA lists 40 hours as the appropriate time to develop a QC program in the "Input for Supporting Statement" section. We agree that 40 hours might be appropriate for some source categories. For some Subpart EEE sources, development of the existing QA/QC plan for CMS took much longer than 40 hours. This proposed rule would most likely trigger significant modification of those plans, and 40 hours may not be adequate. However, in the spreadsheets, EPA has the number of occurrences as zero (0). Even though sources subject to 40 CFR 63.8(d) already have a QC program, that program may require modification as a result of this proposed rule. If so, this occurrence should not be zero (0). In addition for Subpart EEE sources, the development of the QC program is not a one-time event but involves periodic review and modification, so the periodic revisions could also be affected by this rule. We assume this is an oversight and that the number should be one (1) at the very least. In addition, this line in the table is not carried up into the "Summary of Compliance Costs by Year" section. Again, we assume this is simply an oversight. Also, the number of occurrences per year for visual inspections is zero (0). Procedure 4 requires monthly visual inspections for pressure, flow, and pH instruments and quarterly visual inspections for temperature and conductivity instruments.

Although sources are doing inspections already (e.g., daily CPMS system response as per 63.8(c)(6) and possibly others), in most cases these inspections do not involve the level of scrutiny that Procedure 4 would mandate (e.g., disassembly of an instrument to inspect electrical connections or the removal of a flow constriction). We are not sure whether the number in the spreadsheets should be 4 or 12 but we are fairly sure it should not be zero. Again, we believe that this is simply an oversight by the Agency. The database used to develop these costs is very large and specific entries could be overlooked.

Also, in the "Input for Supporting Statement" section, EPA uses a value of 2.0 as the number of person hours needed to complete an accuracy audit. We believe this length of time is too short. Our members estimate that it would take at least 5.5 hours to do a single accuracy audit for pressure and temperature devices. This time difference would introduce another source of error for the cost estimates of approximately 275%. This estimate is based on using the comparison to a calibrated device method and on the following information. The rule states that for every accuracy audit, you are required to take 3 readings, each at least an hour apart. We estimate that it will take one hour to plan the job (print forms, procedure review, schedule, assign priorities, assign manpower, provide lineup, etc.), one hour to mobilize (get tools, walk to job site, set up, coordinate with production, etc.), 2 hours to run the test, one hour to demobilize (take down set up, return from job site, coordinate completion with production, etc.), and half an hour for recordkeeping (print data, file, update computer tracking systems, etc.). We consider this to be a minimum timetable since it does not allow for any problems (forgetting a wrench, not being able to run the three tests in 2 hours, etc.). For some of these accuracy audits, we are simply not sure how to do them yet, given the requirements and restrictions in Procedure 4. Some may require redesign of piping and connections. At least one type of flow meter (differential pressure device using a constriction such as an orifice) has the requirement to remove the constriction for inspection each time the accuracy audit is performed. That single requirement to remove the constriction would add significantly to our 5.5 hour time estimate and would only magnify the degree of error in the cost estimate. To inspect this type of flow meter would require isolating the flow meter and clearing the pipeline of any hazardous material. In some cases such as scrubber liquid flow, it may be necessary to shut down the unit completely. In this extreme case, it may take a nominal 24 hours (or more, depending on circumstances) to shutdown safely and an additional 24 hours to start back up. As a result, an additional product loss penalty will be incurred for these installations.

The number of hours for visual inspections in the spreadsheet is listed as 0.25 hours (15 minutes). This may be adequate for visual inspections for devices that are easily accessible. However, in our facilities, there are a number of devices that require visual inspection that are not easily accessible. For example, Procedure 4 of the proposed rule requires that the visual inspection include a check of electrical connections for oxidation and galvanic corrosion. The time required for that component of the inspection alone is significant, since instruments would have to be disassembled to some degree in order to perform the inspection. Workers doing this inspection would likely spend at least 15 minutes just getting safety permission to access the electrical connections, much less inspecting them. If any instrument also includes connections with something other than low voltage in a standard electrical classification area (e.g., Class I Division 2), the time needed to satisfy the safety precautions would be even longer. Even if this inspection item only adds 10 minutes (a conservative estimate) to the time required, this time difference would introduce yet another source of error of 67%.

For initial validation, Table 5 (PS-17) in the preamble indicates that Relative Accuracy is the only method allowed for a "differential pressure tube." This method would require mobilizing a stack sampling crew to do the initial test for a stack flow meter. For ongoing validation (Accuracy Audit), Table 8 (Procedure 4) of the preamble and paragraph #5 at 73 FR 59969 indicate that Relative Accuracy is the only method allowed for the ongoing validation for a pitot tube. As a result, a stack sampling crew would need to be mobilized each time the Accuracy Audit is done. For frequency of the Accuracy Audit, Table 9 (Procedure) of the preamble indicates quarterly. Some of these instruments could be located without platform access and require scaffolding, and most companies do not employ permanent scaffolding for safety reasons (and most would not want to rebuild scaffolding 4 times per year). If work had to be done this frequently, they would probably need to install permanent access. Permanent access, in addition to higher cost, may require a higher standard of construction (e.g. steel flooring instead of wood decking).

Since these two sources of error (time to perform an accuracy audit and time to inspect) would be repeated over of a multitude of instruments and over a multitude of audits and inspections, the annual cost difference for a single source would be significant.

Specific Issues for Demilitarization Facilities Subject to EEE

Approximately 37% of the instruments that would be subject to PS-17/Procedure 4 requirements are located within high security, restricted access and/or toxic areas of the facilities. To safely accomplish work in such areas requires adherence to strict procedures governing entry which in turn require the involvement of numerous people. Entries must be made by at least two people to meet safety, surety, and security requirements. To support two people on a toxic entry into a secure area typically requires that the entrants complete pre and post-entry medical screening by medical personnel, provisions for additional security in the areas being accessed, a control room operator to monitor agent concentrations during the entry, an entry supervisor to provide instruction during the entry and one other entry support person. Heat stress considerations driven by levels of personal protective clothing and potentially elevated temperatures with locations to be entered may limit the overall stay time. In summary, it is estimated to require between 20 and 25 labor hours to support one hour of work on a toxic entry.

Mobility in high levels of dress such as Level A is greatly inhibited. Special access platforms may have to be constructed to allow access to certain elements of CPMS. Implementing Procedure 4 on the mass flow rate of chemical agent to the Liquid Injection Incinerator is one example where entry into a potentially highly contaminated area would be required. One must carefully weigh the potential benefits of requiring these activities against the risk to which entrants will be exposed while carrying them out, particularly absent any evidence that instruments are actually not functioning as designed and within existing QA/QC requirements.

To avoid potential interruptions in recorded operating parameters during instrument inspection and calibration activities, it is normal practice to cease hazardous waste operations and allow the hazard waste residence time to transpire before initiating any such work. For a combustor designed to process solids, that residence time frequently can extend to an hour or more. After work is complete the unit must be brought back within limits before processing can resume. These collateral effects add significantly to the cost of compliance. The need for quarterly or monthly accuracy audits has not been demonstrated and will, in all probability, add to facility operating costs without improving performance. These facilities have operated successfully for a number of years under both RCRA and MACT employing significantly lower calibration frequencies than those now being proposed.

Below is a list of the number of affected instruments at 3 of the 4 chemical demilitarization facilities subdivided into those in high security/toxic areas (typically associated with mass flows to the combustors, combustor chamber pressure and temperature) and those in lower security/non-toxic areas (typically areas where the Air Pollution Control System Devices are located). As one can see, the proposed requirements for these three facilities would not be trivial.

	Temp	Press	Flow	pH	Cond	Total
Totals	59	122	52	44	0	277
High Security Areas	44	28	29	0	0	101
Lower Security Areas	15	94	23	44	0	176

<u>Estimated cost to implement this rule if finalized as proposed</u>

To illustrate the magnitude of costs imposed by this rule, we asked member companies to determine how they would comply with PS-17 and Procedure 4 as proposed, pick the method by which they would comply, and estimate the costs. Three companies provided responses and all chose to comply using redundant instruments. One facility is a powerhouse with four solid fuel boilers. To meet these requirements, this facility would need to install four redundant thermocouples, four redundant steam flow monitors (mag-meters), and four redundant pressure sensors (and associated electrical circuit loops) at an initial cost of $380,000. It is estimated that an additional 960 hours per year of technician time will be needed to perform the quarterly audits on sixteen pairs of sensors (otherwise done annually) for a total cost of $48,000 per year (at $50 per hour). Four of these pairs are micro motion meters which require specialized equipment and are labor intensive (four person team) to conduct.

The second is an incineration facility with two rotary kilns and one liquid chemical destructor. To meet these requirements, this facility would need to install six redundant resistance temperature detectors, three redundant pressure switches, and fifteen redundant magnetic flow monitors (and associated electrical circuit loops) at an initial cost of $380,000. At this facility, an additional 1,500 hours per year of technician time will be needed to perform the quarterly audits (otherwise done annually) and monthly leak inspections for a total cost of $75,000 per year (at $50 per hour).

The third facility estimates that installing redundant instruments would initially cost $430,000 for approximately 13 instruments and requires redesign of the feed piping and scrubber piping, plus the resulting instrument pulls and data control system support equipment.

Summary of cost concerns

Since we have not had the time to fully understand the ramifications of simply plugging the numbers into the spreadsheet, we are reluctant to do so. The Agency is better able to understand this than are we. However, we have pointed out that there are significant errors in the assumptions used to develop the cost estimates. A summary of some of these errors relating to ongoing costs are as follows:

- 3% error in number of EEE affected facilities;
- 2900% error in number of EEE affected instruments;
- 275% error (at a minimum) in the number of man-hours to perform an accuracy audit;
- 67% error (at a minimum) in the man-hours to visually inspect; and
- A failure to take into account special circumstances (in this case, the special needs of the demilitarization program).

The above sources of cost error do not include any associated with capital requirements, such as the installation of redundant equipment, construction of access platforms, etc. In addition, we did not attempt to address cost associated with lost production that would be created if the rule were implemented as proposed and whether the phase in approach EPA used is appropriate (see PS-17 Specific Comment #2). We suggest that EPA take all the data provided by the commenters and revise the cost estimates. We believe that the overall cost to the regulated community for implementing PS-17 and Procedure 4 would easily exceed the $100 MM threshold for a major rulemaking. CRWI sees this as an enormous cost to member operations with very little if any incremental improvement in data quality.

Specific comments

PS 17

1. EPA should match the regulatory language for the initial calibration and initial validation methods to the preamble language.

In the preamble, EPA states (73 FR 59968) that "For PS–17, we assumed that newly installed sensors are calibrated, and a separate check of sensor accuracy would be unnecessary." However, this language did not get carried over into the regulatory language of PS-17. CRWI suggests that this omission be corrected in the final rule.

2. CRWI suggests a simple 5 year compliance time for both major and area sources that is totally independent of the Title V permit renewal process.

   CRWI members see numerous problems with the phased in approach that EPA has proposed.

   a) Area sources have 5 years to comply. Some major sources may have only a few months to comply, depending upon the timing of their Title V renewal
   b) Phased-in approach (as proposed) could put unnecessary burden on state permitting resources because sources would be required to submit Title V revisions upon replacement of a component of a CPMS which would then trigger the applicability of a new requirement (i.e. PS-17 / Procedure 4).
   c) Trying to keep track of which CPMS are regulated via PS-17 and which are not would be a real nightmare for facilities with numerous CPMS and would require a level of change control that may not be in place today for like-for-like instrumentation replacements (for example, maintenance replacing a transmitter or a flow meter with devices from their spare parts inventory). For all practical purposes, once the first few instruments at an existing facility becomes subject to PS-17 and Procedure 4, many facilities will apply the requirements to all instruments to avoid confusion and the administrative difficulties associated with maintaining a running list of which instruments are subject to the new requirements and which are not. We do not believe that a gradual increase in number of instruments impacted over a 5-year period (and the associated cost) is realistic. Under the proposed scheme, we believe that most existing facilities will experience the full cost of implementation within the first year, not as EPA has indicated in the proposed rule.
   d) Existing instruments will quickly become subject to PS-17/Procedure 4 because EPA has defined "key components" so broadly (73 FR 59962).

   CRWI suggests the final rule allow all facilities to phase in the requirements as they see fit as long as all affected CPMS are in compliance on or before the compliance date. Therefore, we recommend a simple five year compliance time for both major and area sources. With a single compliance time for all applicable CPMS, facilities and permitting authorities would only have to process a single Title V permit revision requiring the applicable CPMS to comply with the provisions of PS-17 and Procedure 4 on or before the compliance date (5 years after publication of the final rule).

3. CRWI believes that EPA should allow for instrument ranges other than ±20% of normal expected operating range.

CRWI believes that requiring an instrument with a range of ±20% of normal expected operating range is not appropriate in all cases. While this may be appropriate in certain circumstances, it is entirely inappropriate in others. For example, consider kiln temperature for a hazardous waste combustor. Normally these facilities operate on the low end of the operating window, in case that an upset would drive temperature up. To ensure unnecessary Automatic Waste Feed Cutoffs (AWFCO), facilities must use the full operating window as our range. Twenty percent of 2400° F puts the upper limit at 2880° F. Since these facilities also have an AWFCO at the upper span limit of the instrument, there is no reason to require an instrument to operate much above the window where this facility is not allowed to operate. Another example is using a mass flow meter for incinerator fuel flow rate. Assume a mass flow meter has a 0-30 lb/min range with normal operations at 26 lbs/min. If the ±20% operating range is required, it makes the range higher than the operating value (26 lbs/min x 1.2 = 31.2) forcing the facility to change to a less accurate meter. Since the facility has an automatic waste feed cutoff at the upper span limit, having a ±20% operating range makes no sense. Also, for Subpart EEE, the optimal operating limit is defined during the Comprehensive Performance Test and may change between the initial calibration and the accuracy audit. Facilities will know what the general range of values needed but may have to adjust that range after the results of the test are obtained.

The one exception to the ±20% criterion is for pH. Here the instrument must be capable of measuring the entire 0-14 range. Some of EEE sources have pH meter ranges are set from 2-10 or 2-14. This is specifically designed to give those facilities a more accurate reading. As a rule, extending the range of any device decreases its accuracy. In these cases, we believe that a narrow range instrument should be allowed.

Also, some parameters are single point parameters (e.g., secondary combustion pressure) where instrument range is not important. This is a good example of where a site-specific plan can better address these issues.

CRWI believes that requiring a ±20% criterion for all CPMS unnecessarily restrictive. The CMS plan required for all EEE sources normally contains meter ranges. This method allows meter ranges to be better matched for the process conditions.

4. CRWI is concerned with the way Table 6 presents the accuracy requirements. (73 FR 59966).

   Most of the manufacturers we are familiar with use a percentage of range as the criteria for accuracy, not a percentage of reading. CRWI suggests that Table 6 be modified to match the way manufacturers normally present their accuracy.

<u>Procedure 4</u>

1. CRWI believes that the frequency of accuracy audits under Procedure 4 is not matched to the service needs of the instruments.

   One set frequency for all instruments regardless of the sophistication of the instrument and regardless of the service environment for the instrument is not appropriate. In other words, one size does not fit all. Companies that have gone to the expense of using sophisticated instruments such as smart transmitters and other instruments with self-diagnostics as opposed to continuing to use older, less sophisticated systems would not benefit from upgrading their systems.

   For example, one of our members reviewed two years of calibration records for 15 CMS devices. The two devices with the maximum drift had a drift of 0.1% to 0.02% of range respectively. These instruments have varying calibration frequencies from weekly to annually. In another example, the manufacturer's specification for a certain pressure transmitter lists a "guaranteed stability of 0.125% over a period of five years". Another example is the use of micro motion flow meters. One manufacturer (Emerson Process Management - www.emersonprocess.com) claims that their micro motion flow meters are accurate to within ±0.05%, have no moving parts, have no calibration drift and as such never need the zero adjusted from the factory setting. For these types of instruments, there is no basis for a quarterly audit. There may be instruments that need quarterly or weekly calibration checks. However there are others that may never need re-calibration. Requiring all pressure, temperature, flow and conductivity measurement devices to have quarterly accuracy audits is simply not appropriate in some cases and may be virtually impossible to do in others. For example, a turbine flow meter would require very expensive equipment to test and the cost of setting up a flow lab could not be justified for every facility for every type of device. In such a case, the flow meter would need to be removed from service and shipped to a commercial flow laboratory. Obviously, the facility would have to have spare instruments to use while the flow meter is being tested. If the cost of performing a quarterly audit of an existing instrument exceeds the cost of installing a new instrument, companies will most likely do the latter. The implication of such an approach (which Procedure 4 would encourage because of its prescriptive nature) may result in the discarding of many instruments that are perfectly fine and would be a waste of resources.

All CRWI members already have an ongoing written Quality Control protocol as required by Part 63 Subpart EEE. This QC program sets a frequency of accuracy audits based on the instruments used in their facility, their maintenance history, and in the cases where it is provided, according to manufacturer's recommendations. One specific example is the frequency for calibrating thermocouples. CRWI developed extensive comments on this for the July 3, 2001, proposed technical amendments to the 1999 hazardous waste combustor MACT rule. A part of these comments are as follows:

> In the preamble, EPA states: "Thermocouples may malfunction either by a failure in the circuit (e.g., the junction between the two wires at the bead may break) or the electronics may drift. If the circuit fails, the thermocouple will give clearly erroneous readings. Drift in the electronics can be corrected without removing the thermocouple." CRWI agrees with these statements. Thermocouples are robust devices that are either working properly or the circuit is broken. There is not much else that can go wrong. CRWI agrees that it is obvious when the circuit breaks. CRWI also agrees that the electronics can be checked without removing a thermocouple. If that is what EPA intends to require every three months, CRWI agrees that this can be accomplished and does not represent an undue burden.
>
> CRWI suggests that the agency make it clear that the intent of the regulations is to test and calibrate the electronics to ensure they are functioning properly and allow the thermocouple itself to be replaced with a new factory calibrated thermocouples when it fails.

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CRWI would like to point out that facilities do not recalibrate thermocouples. They purchase thermocouples that are factory calibrated. Instead of recalibrating a thermocouple, the facility will simply replace a thermocouple that is giving erroneous readings with a new, factory-calibrated sensor. The sensors themselves are not very expensive. The problem with replacing some of the sensors is that the facility has to be in a cold shutdown mode to actually get to those sensors. The length of the service for each sensor depends upon the location within the system. Some thermocouples could be expected to last several years while others may need to be inspected and replaced on a more frequent basis. Since this replacement schedule depends upon the location of the sensor, CRWI suggests that the regulations be reworded to state that thermocouple will be replaced (recalibrated) on a schedule based on manufacturer's specifications as described in the CMS plan.

EPA's response was in the February 14, 2002, rule (67 FR 6978). It is as follows

VI. What Are the Calibration Requirements for Temperature Measurement Devices?

The September 1999 final rule requires that thermocouples and other temperature measurement devices, such as pyrometers, must be recalibrated every three months. However, stakeholders are concerned that recalibrating these devices every three months can be particularly burdensome and offers little environmental benefit (i.e., among other things, no better assurance of compliance with the actual emission standards) over a less frequent calibration interval. In the July 2001 proposal, we discussed stakeholders' concerns and requested more information on the need for, and burden associated with, calibrating temperature measurement devices. See 66 FR at 35138. We also indicated that analysis of comments may lead us to conclude that § 63.1209(b)(2)(i) should be deleted in lieu of a requirement that each source develop an appropriate calibration procedure and frequency and include that information in the evaluation plan required by § 63.8(e)(3)(i).

Nearly all commenters agree with the need to provide flexibility in calibration frequency. Rather than delete § 63.1209(b)(2)(i), however, commenters suggest that we revise that provision to require calibration of temperature measurement devices using the manufacturer's procedures and calibration frequency. Also, commenters suggest that

> the calibration be performed at least once a year, unless a less frequent optical pyrometer calibration interval is approved by the Administrator.
>
> We agree with commenters' suggestions and are revising § 63.1209(b)(2)(i) accordingly.

As a result of these comments, EPA set an annual calibration schedule for thermocouples in § 63.1209(b)(2)(i). Thus, in our specific application for using thermocouples to monitor the combustion zone temperature, EPA has already set a frequency for calibration at once per year. We see no reason why EPA should now modify that frequency.

Procedure 4 also requires a physical inspection of the sensor and other elements of the CPMS. The reason for this requirement isn't really clear and there is a real danger that removing a sensor from its process location to perform an inspection may result in damage. Thus, rather than improving CPMS performance, the inspection requirement could have the opposite effect.

The consequences of failed sensors for EEE facilities are shutdowns. This gives our members a vested interest in balancing the cost of sensor replacement against the lost production time to replace. The current requirements allow the operators to make those decisions. We believe this system works and does not need modification.

In addition, a number of modern meters have internal diagnostics and flags. The currently proposed procedure does not allow facilities to use these methods to show continuous compliance with what is at least the spirit of these requirements. Finally, there does not seem to be any incentive for emerging technologies. Instruments are much better than they were 20 years ago. Instruments that used to require frequent calibration can now go from several months to several years without the need for recalibration. Putting in place fixed requirements to perform an accuracy audit every 3 months would remove any incentive for installing newer, more stable instruments.

CRWI suggests that creating a one size fits all schedule for accuracy audits is not appropriate for all the many different types of instruments that may be used in all of the applications covered by this proposed rule. EPA should, at the very least, allow for increased time between audits where it can be shown (either through manufacturer's data or on-site measurements) that the instruments do not drift over time.

CRWI believes that EPA should allow the use of a performance based approach as we discussed in our earlier comment #2 (under General Issues) as opposed to setting a prescriptive frequency.

2. The methods by which facilities will be required to do accuracy audits are not always appropriate.

CRWI believes that the methods described in section 8.0 are not always appropriate. For example, it does not seem to be appropriate to use the volumetric method to check the calibration for a 3000 gallon per minute flow meter. A very large bucket would be needed. In other circumstances, line breaks will be necessary to check the calibration of some in-pipe instruments. This requires shutting down the system, or at least isolating that pipe. If this pipe contains hazardous materials, all OSHA safety procedures must be followed. The facility would have to purge the line, etc., before starting the test. The facility should not use the material itself to do flow checks since it is hazardous and would be released to the environment, requiring the reporting of a spill. Additional problems would be encountered if the flow meter is elevated above grade.

In certain circumstances, none of the seven proposed methods can be used to check flow meters. In these circumstances, there does not seem to be any choice except to redesign the system and put in redundant flow meters. For most of our members, the current method used to measure a parameter is the most accurate method available. Using any other method would be less accurate. This is specifically appropriate when trying to calibrate flow meters using gravimetric or volumetric methods. The errors in these methods can be much greater than the inherent errors in the instrument being checked. It should also be pointed out that there are potential safety and environmental hazards with using either gravimetric or volumetric methods to check the flow of certain materials and that any type of gravimetric or volumetric method may require shut down a facility or at least isolating the pipe.

3. Meeting the accuracy hierarchy of 3 can be problematic

Most of the time, CRWI members purchase the most accurate instrument available. This makes it difficult to find an instrument that is 3 times more accurate to use when conducting an accuracy audit. On the other hand, if the facility elects to use redundant instruments, the two instruments have to have the same accuracy requirements. This seems inconsistent. We suggest that EPA modify this requirement so that the check instrument does not have to be 3 times more accurate than the instrument in question – only as accurate.

4. CRWI believes that this rule will impose additional recordkeeping burdens

   EPA states that this rule does not add any recordkeeping burden. If finalized as proposed, CRWI believes that additional burden will be required. First, we will be required to keep records showing that our calibrations are traceable to NIST standards and satisfy the accuracy hierarchy of 3. In addition, any increase in current frequency will increase the recordkeeping burden. Finally, the complexity of the proposed procedures will require additional recordkeeping.

5. CRWI is concerned that the requirements of Procedure 4 would result in additional process startups and shutdowns

   CRWI members do not see how to do some of the proposed processes without a shutdown. Not only will this add to the cost of the requirements, it may increase emissions and result in increased personnel hazards to meet these requirements. We believe this is opposite of EPA's stated goals of protecting human health and the environment. While we understand that making sure instruments are giving valid readings, requiring accuracy audits on instruments that do not drift may increase emissions without any benefits.

6. CRWI suggests that the requirement for visual inspections must be clarified or substantially simplified.

   As currently written, Procedure 4 could require the opening of electrical cabinets to check wiring connections. It could also involve the physical removal of the instrument from the process to check for corrosion (for orifice plates, this is a specific requirement). This totally defeats the advantage of having redundant instruments as an acceptable accuracy method. For example, the accuracy audit for redundant temperature probes would require only a comparison of values but the visual inspection would require pulling the probes to check the physical integrity. The same can be said for pH probes. It would not be feasible to remove a micro motion flow meter for a visual inspection. These flow meters are installed in-line with the process piping and would require a work stoppage before they could be visually inspected. There are also a number of instruments that cannot be operated while doing an inspection, again causing a work stoppage.

Many metering systems are designed to address limited corrosion issues. There are no reasons to check electrical circuits for corrosion. Most sensors are either digital or send a 4-20 mA signal. Neither of these signals is impacted by corrosion. Corrosion will either create an open circuit or it will increase the voltage. Voltage does not matter when measuring a 4-20 mA signal and an open circuit is immediately recognized because there is no signal – either digital or analog. Most instruments are designed to detect an open circuit and send an alert. We suggest that there is no need to require periodic visually inspections of electrical circuits for corrosion. Systems are already in place to do this.

7. CRWI suggests that EPA explicitly exclude measurement systems that are subject to Performance Specification 6 (Continuous Emission Rate Monitoring Systems) and Performance Specification 16 (Predictive Emissions Monitoring).

8. The loss in weight measurement is in the PS-4 Table 8 Accuracy Audit methods, but it is not in PS-17 initial performance criteria Table 6.

9. Section 9.0 of Procedure 4 actually has two subsections numbered 9.1. CRWI believes that is an error. The second Section 9.1 of P 4 requires that the facility keep the written QA/QC procedures for the life of the CPMS. While it is important for the facility to have a QA/QC procedures or a plan, those procedures or plans can be modified on occasion (i.e. because an instrument needs to be upgraded). The current wording could be interpreted to mean that the facility had to keep all versions of the procedures/plan for the life of the CPMS. CRWI suggests that EPA modify the language so that the facility must create and maintain current QA/QC procedures/plan. When that plan is modified, the previous version must be retained for 5 years to be consistent with other Title V requirements. After that, versions older than five years can be discarded.

10. Section 8.6(6) of the proposed PS-17 (73 FR 59989) for the Relative Accuracy (RA) for a gas flow rate using differential flow tubes references Section 7.5 of PS-2 for this calculation. The current version of PS-2 does not contain a Section 7.5. Section 7.5 of the old PS-2 contained a reference to the equations for the calculations related to the performance specification. Based on this, we believe that the correct reference should be to Section 12.0, Calculations and Data Analysis, of PS-2 instead of Section 7.5. In addition, Sections 5.1.5(3) and (6) of Procedure 1 (73 FR 59994) and Section 8.3(6) of Procedure 4 (73 FR 59998) also appear to

contain similar referencing issues. These are examples of an error created by an October 17, 2000, final rule (65 FR 61744) that modified several EPA Methods in 40 CFR Part 60 Appendix A and the Performance Specifications in 40 CFR Part 60 Appendix B. One of the major modifications was the re-organization of the methods and specifications so that they would have consistent templates. However, when EPA re-organized the methods and specifications, they did not change the references within the methods and specifications that were not included in the October 17, 2000, notice. There may be other references in these two propose actions. CRWI suggests that EPA recheck the references as proposed to make sure they point to the proper places. In addition, we would encourage EPA to finish the process of revising all performance specification and procedures to match the new template.