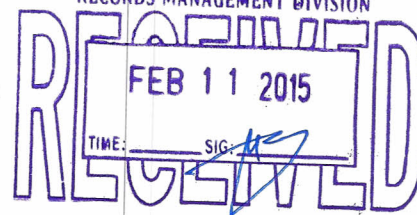




**PHILIPPINE INDEPENDENT POWER PRODUCERS ASSOCIATION, INC.**

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DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
RECORDS MANAGEMENT DIVISION



PIPPA 2015-005

February 09, 2015

**HON. RAMON J. PAJE**

Secretary  
Department of Environment and Natural Resources  
Visayas Avenue, Diliman, Quezon City



Attention: Atty. Jonas R. Leones  
Director  
Environmental Management Bureau

**Subject: PIPPA Position Paper on Installation of CCTV Camera on Stacks of Fuel Burning Stationary Equipment**

Dear Secretary Paje:

The Philippine Independent Power Producers Association (PIPPA) respectfully submits its position paper on the installation of CCTV cameras on stacks of fuel burning stationary equipment. The position paper is attached as Annex "A".

PIPPA supports the department in its objective to improve compliance monitoring and in this regard we hope that our suggestions merit your consideration.

Very truly yours,

  
**Atty. ANNE ESTORCO MACIAS**  
Managing Director



PHILIPPINE INDEPENDENT POWER PRODUCERS ASSOCIATION, INC.

## POSITION PAPER

on

### DENR Secretary Memorandum to EMB Regional Offices dated October 2014 directing All Fuel Burning Sources Nationwide to Install a CCTV

#### PRELIMINARY STATEMENT

*We, the Philippine Independent Power Producers Association (PIPPA), commit to comply with all environmental laws, rules and regulations issued by the Government. We e conduct our business in a manner that contributes to sustainable development and foster partnerships with our stakeholders towards helping the Government in alleviating poverty in our host communities.*

*We monitor and minimize the impact associated with our operations and implement cost-effective measures in the preservation and protection of the environment.. In particular, we have Environmental Management Systems being implemented and other processes in place that ensure efficiency in our operations.*

*In the discussion below, we believe that the environmental monitoring systems and controls practiced in our plants are more than compliant with existing rules, regulations and government requirements.*

#### **Power Plant Emissions and Monitoring Systems in Place**

##### **A. Continuous Emissions Monitoring Systems (CEMS) and Continuous Opacity Monitoring Systems (COMS)**

In compliance with Section 5, Rule X, Part III of the Implementing Rules and Regulations of RA 8749, we have installed continuous emissions monitoring systems (CEMS). Parameters continuously monitored by our systems include SO<sub>x</sub>, NO<sub>x</sub>, and CO aside from measuring opacity, which is consistent with the requirements of Section 2, Rule XIX, Part VII of DENR Administrative Order No. 2000-81, and Performance Specification 1, Appendix B, 40CFR60 of the US EPA.

A CEMS/COMS is an integrated system for continuously measuring pollutant concentrations or emissions rates and generally consists of a sample interface, pollutant analyser, data recorder, the associated electrical wiring, and other



hardware. The CEMS includes the following major subsystems:

- Sample Interface—used to perform one or more of the following tasks: sample acquisition, sample transportation, and sample conditioning, or the protection of the monitor from the effects of the stack effluent
- Pollutant Analyser—senses the pollutant gas and generates an output proportional to the gas concentration
- Data Acquisition and Handling System—electronically records all measurements and automatically calculates and records emissions and heat input (where applicable) in the required units of measure.

CEMS/COMS are used to measure air pollution emissions and other parameters (i.e., diluent gases and volumetric flow) from a variety of industrial sources. CEMS are typically used to:

- Monitor compliance with air pollution emissions limits
- Provide data for emissions inventory applications
- Indicate a control system's performance.

Our installed CEMS/COMS strictly comply with the requirements of DENR Administrative Order No. 2007-22 specifically on the conduct of cylinder gas audits (CGA) and relative accuracy test audits (RATA). Strict quality assurance and control procedures are observed to ensure the integrity of data collected through our data acquisition systems (DAS) and prevent data loss.

Outputs from our CEMS/COMS and DAS, located at the Distributed Control Systems (DCS) at the Power Plants' Central Control Room, allow us to improve our environmental performance. We consider CEMS and COMS as process controls rather than purely environmental monitoring instrumentation because when used as process instrumentation, it provides us data and information in controlling our operations while minimizing our emissions.

#### ***B. Improving our Operations and Efficiency of our Generating Units***

It has always been the objective of the power sector to minimize our environmental impact by improving our plant efficiency. In the power sector, our measure of efficiency is heat rate. It is used to indicate the power plant efficiency. While Efficiency is a dimensionless measure (sometimes quoted in %), heat rate is typically expressed as kJ/kWh. Thus, heat rate is the inverse of efficiency – a lower heat rate is better.

Heat Rate in the context of power plants can be thought of as the input needed to produce one unit of output. As in simple terms, it indicates the amount of fuel required to generate one unit of electricity, the station heat rate of a power plant directly indicates its performance. Performance parameters tracked for any thermal power plant like efficiency, fuel costs, plant load factor, emissions level, etc. are a function of the plant's heat rate and can be linked directly.



One of the key indicators in improved plant efficiency is the measure of CO level in the flue gas. At higher CO levels, combustion efficiency decreases thereby resulting in higher fuel consumption and a lower conversion of heat of combustion to produce the required unit output. Also, at higher CO levels, dark smoke may also be emitted and is also a function of opacity.

### **Installation of CCTV as defined by the DENR Secretary Memorandum**

Last 30 October 2014, the DENR Secretary directed all EMB Regional Directors to implement the installation of CCTV camera on stacks of all fuel-burning stationary equipment nationwide. The same shall be a requirement prior to issuance of a permit to operate. Such installation is based on Section 5(a)(1)(d), Rule XIX, Part VI of the Implementing Rules and Regulations of RA 8749.

As defined, a closed-circuit television (CCTV), also known as video surveillance, is the use of video cameras to transmit a signal to a specific place, on a limited set of monitors. It differs from broadcast television in that the signal is not openly transmitted, though it may employ point to point (P2P), point to multipoint, or mesh wireless links. CCTV is often used for surveillance in areas that may need monitoring such as security surveillance and monitoring in banks, airports, military installations, traffic and traffic related events.

In industrial plants, CCTV equipment may be used to observe parts of a process from a central control room, when the environment is not suitable for workers due to exposure and safety. CCTV systems may operate continuously or only as required to monitor a particular event. Surveillance of the public using CCTV is particularly common in many areas have been used in most parts of the world.

While CCTVs may provide a tool for compliance monitoring and a continuous visual recording of events, as emphasized in the Memorandum, it does not provide quantitative information, which can be compared with the standards defined by Section 1 and 2, Rule XXV, Part VII of DENR Administrative Order No. 2000-81. Therefore, CCTV recording, in our opinion, cannot be used as an enforcement tool. Rules IX, X, XII and XIII require compliance with emission standards and ambient air quality standards pertaining to sources, regardless of the airshed designation, attainment or non-attainment.

In addition, Section 5(a)(1)(a) to 5(a)(1)(d), Rule XXV, Part VI pertain to approaches to prevent discharging black smoke from any fuel-burning equipment. CCTVs do not provide data about emissions and hence, cannot determine compliance with standards.

### **Advantages of CEMS/COMS and Limitations of CCTV in Environmental Monitoring and Determining Compliance with Emission Standards**

Our installed CEMS and COMS provide real-time, instantaneous digital output or values which can readily confirm our compliance with emission standards, as defined by Sections 1 and 2, Rule XXV, Part VII of DENR Administrative Order No. 2000-81. These data are summarized and submitted to DENR-EMB Regional Offices as part



of the quarterly self-monitoring reports. CEMS/COMS data displayed in our DCS readily prompts our Control Room Operators to implement preventive actions to avoid breaching of the standards, which includes opacity.

On the other hand, CCTV does not provide data and information that are generated by CEMS/COMS and its associated DAS. CCTV is not a redundant or alternate monitoring systems to CEMS/COMS for the following reasons:

- There is no sample acquisition, transport and conditioning
- There is no analyzer to quantify to smoke density of a black smoke
- It is less inferior to COMS in describing and quantifying smoke density
- It does not function or achieve the same goals and objectives compared to COMS or opacity monitors

Based on the above discussions, installation of CCTVs is not a measure to improve our compliance and environmental performance.

## **CONCLUSION & RECOMMENDATION**

While it is the intent of the DENR Secretary Memorandum to improve compliance and protect the environment, we have installed the appropriate technologies, training of personnel, comprehensive environmental monitoring, and audits (internal and external) which are over and above the minimum requirements and objectives of existing laws, rules, regulations and policies.

We note that current laws, rules and regulations do not prescribe the specific types of technologies that owners or operators of generating facilities are required to install, but merely provide the guidelines thereof, recognizing that the decision-making or option is the prerogative of owners or operators, as project proponents. Section 5(a)(1)(a) to 5(a)(1)(d), Rule XXV, Part VI describes the Miscellaneous Provisions and Equipment that stationary sources operator need to install. The additional requirements do not limit to the installation of CCTVs but describe other schemes or approaches, which will achieve a similar objective as CCTVs. We believe that the DENR Memorandum should provide alternatives where owners or operators of stationary source equipment can select, based on their business needs and limitations, the best option applicable to them.

To reiterate, we highly recommend that the DENR Memorandum exclude stationary source equipment with CEMS/COMS installation, for reasons cited above e.g. its superiority over CCTVs.

In closing, the practice of strict compliance with all environmental requirements under existing laws, rules and regulations, including, among others, the Philippine Clean Air Act is strictly enforced by our members. This is accomplished through the operation of reliable and highly efficient control equipment, employment of highly qualified personnel and implementation of management systems.



**Environmental Management Bureau  
Document Action Tracking System**

**Date: Feb.11,2015  
DATS: 620152-11-9**

**Name: Atty.Anne Estorcio Macias,Managing Dir.**

**Address: PIPPA**

**ACKNOWLEDGEMENT RECEIPT**

This is to acknowledge receipt of the following: PIPPA position paper on installation of CCTV Camera on stack of fuel burning stationary equipment.(w.encl.position paper) -Received on 2/11/2015 from Atty.Anne Estorcio Macias, Managing Dir. - forwarded to OD-For information For information

The said document was referred Office of the Director on Feb.11, 2015. You may follow-up further action or development on the matter through telephone no: 9283725 c/o Jeremy P..