COMPLIANCE ASSURANCE MONITORING PLAN
UPDATES MADE IN 2009
ARMSTRONG WORLD INDUSTRIES, INC.

The initial CAM Plan was submitted with the Title V permit renewal application in October 2003. Subsequent upgrades and improvements that were in progress were made to the plant monitoring system and submitted to the FDEP. The CAM Plan was approved in February 2005 and incorporated into the Title V Air Operating Permit No. 0330006-011-AV.

The complete CAM Plan that was approved by FDEP is attached, with the following minor updates for the 2009 renewal application:

1. All references to EU065 (Baghouse No. 1) have been removed. Baghouse No. 1 was part of the Travertone Line which has been permanently removed from service.
2. Emission Unit descriptions have been updated on pages 2-14.
3. A description of enhancements to the water strainer system has been added on pages 21-22, and an updated drawing of the water system is included.

No changes have been made to monitoring approaches or parameter ranges.

Tables E.3 and E.4 (pages 17 and 18) replace the previous Tables E.3 and E.4 to update the allowable excursion duration as requested by letter dated February 23, 2010. Table E.3 was updated for a second time to accommodate the relocation of the pressure transmitter reading point to ground level and establishing an equivalent operating range (requested by letter dated March 26, 2010).

Table E.5 (page 19) replaces the previous table E.5 due to removal of the Travertone Line.

No changes are necessary for Tables E.1 or E.2 from the previous permit.

TABLE E.1
MONITORING APPROACH FOR:
EU003, EU009, EU010, EU012, EU054 and EU056
SCRUBBERS 3, 4, 6, 7, 8, & 9

I. Indicator	Scrubber water inlet pressure.
Measurement Approach	The scrubber water pressure is monitored continuously using a pressure transmitter connected to the plant's Data Historian system.
II. Indicator Range	While the scrubber is operating, an excursion is defined as water pressure outside the range specified below for a continuous period of 2 hours. (Note: If the fan shuts down, the process line shuts down immediately. This is not considered an excursion). An excursion will trigger an investigation of the occurrence and corrective action. Scrubber No. 3: 15 psi to 35 psi Scrubber No. 4: 15 psi to 35 psi Scrubber No. 6: 15 psi to 35 psi Scrubber No. 7: 15 psi to 35 psi Scrubber No. 8: 15 psi to 35 psi Scrubber No. 9: 15 psi to 35 psi
III. Performance Criteria	
A. Data Representativeness	The pressure transmitter is located at the water inlet to the scrubber.
B. Verification of Operational Status	NA
C. Quality Assurance and Control Practices	Install, calibrate, maintain and operate pressure transmitters following manufacturer's specifications.
D. Monitoring Frequency	Water pressure is continuously monitored via the plant's Data Historian system.
Data Collection Procedures	The plant's Data Historian system collects and retains an instantaneous data point every 15 minutes. This data is stored electronically and archived for 5 years.
Averaging Period	None

TABLE E.2
MONITORING APPROACH FOR:
EU011, EU014, and EU 055
SCRUBBER 2, SCRUBBER 5 & PERLITE SCRUBBER

I. Indicator	Scrubber water flow.
Measurement Approach	The scrubber water flow is monitored continuously using a flow meter connected to the plant's Data Historian system.
II. Indicator Range	While the scrubber is operating, an excursion is defined as water flow less than those specified below for a continuous period of 2 hours. (Note: If the fan shuts down, the process line shuts down immediately. This is not considered an excursion). An excursion will trigger an investigation of the occurrence and corrective action. Scrubber No. 2: 165 gpm minimum Scrubber No. 5: 80 gpm minimum Perlite Scrubber: 165 gpm minimum
III. Performance Criteria	
A. Data Representativeness	The flow meter is located at the water inlet to the scrubber.
B. Verification of Operational Status	NA
C. Quality Assurance and Control Practices	Install, calibrate, maintain and operate flow meters following manufacturer's specifications.
D. Monitoring Frequency	Water flow is continuously monitored via the plant's Data Historian system.
Data Collection Procedures	The plant's Data Historian system collects and retains an instantaneous data point every 15 minutes. This data is stored electronically and archived for 5 years.
Averaging Period	None

TABLE E.3
MONITORING APPROACH FOR:
EU050 – SCRUBBER NO. 53

I. Indicator	Scrubber water inlet pressure.
Measurement Approach	The scrubber water pressure is monitored continuously using a pressure transmitter connected to the plant's Data Historian system.
II. Indicator Range	While the scrubber is operating, an excursion is defined as a scrubber water inlet pressure less than 21 psi for a continuous period of 4.5 hours. (Note: This allowable period of 4.5 hours is contingent on Armstrong ceasing feed of boards to the board mill dryer within 2 hours). An excursion will trigger an investigation of the occurrence and corrective action.
III. Performance Criteria	
A. Data Representativeness	The water pressure is monitored using a pressure transmitter. The pressure transmitter is located in the water inlet line.
B. Verification of Operational Status	NA
C. Quality Assurance and Control Practices	Maintain and operate transmitters following manufacturer's specifications.
D. Monitoring Frequency	The scrubber water inlet pressure is continuously monitored via the plant's Data Historian system.
Data Collection Procedures	The plant's Data Historian system collects and retains an instantaneous data point every 15 minutes. This data is stored electronically and archived for 5 years.
Averaging Period	None

TABLE E.4
MONITORING APPROACH FOR:
EU050 – MULTICYCLONE NO. 54

I. Indicator	Static air pressure.
Measurement Approach	The static air pressure is monitored continuously using a pressure transmitter connected to the plant's Data Historian system
II. Indicator Range	While the multicyclone is operating, an excursion is defined as static air pressure which falls outside the range of 5 to 15 inches water column for a continuous period of 4.5 hours. (Note: This allowable period of 4.5 hours is contingent on Armstrong ceasing feed of boards to the board mill dryer within 2 hours). An excursion will trigger an investigation of the occurrence and corrective action.
III. Performance Criteria	
A. Data Representativeness	The static air pressure is measured using a pressure transmitter. The pressure transmitter is located at the Multicyclone inlet.
B. Verification of Operational Status	NA
C. Quality Assurance and Control Practices	Maintain and operate transmitter following manufacturer's specifications.
D. Monitoring Frequency	The static air pressure is continuously monitored via the plant's Data Historian system.
Data Collection Procedures	The plant's Data Historian system collects and retains an instantaneous data point every 15 minutes. This data is stored electronically and archived for 5 years.
Averaging Period	None

TABLE E.5
MONITORING APPROACH FOR:
EU080 and EU081
BAGHOUSES 21 and 22

I. Indicator	Static pressure across the baghouse.
Measurement Approach	The static air pressure is measured using a pressure transmitter.
II. Indicator Range	While the baghouse is operating, an excursion is defined as static pressure outside the range specified below for a continuous period of 2 hours. (Note: If the fan shuts down, the process line shuts down immediately. This is not considered an excursion). An excursion will trigger an investigation of the occurrence and corrective action. Baghouse 21: between 2.8 and 8 inches water column Baghouse 22: between 2 and 8 inches water column
III. Performance Criteria A. Data Representativeness	The pressure transmitter measures the static pressure across the baghouse.
B. Verification of Operational Status	NA
C. Quality Assurance and Control Practices	Maintain and operate transmitter following manufacturer's specifications.
D. Monitoring Frequency	Pressure is continuously monitored via the plant's Data Historian system.
Data Collection Procedures	The plant's Data Historian system collects and retains an instantaneous data point every 15 minutes. This data is stored electronically and archived for 5 years.
Averaging Period	None