Newberry Cement Plant
AIRS ID - 0010087

CISWI CONTROL PLAN

For purpose of compliance with Florida Implementation Plan of 40 CFR 60 Subpart DDDD

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SECTION 1 – INTRODUCTION

Argos Cement, LLC - Argos Newberry Cement Plant is a Portland cement plant. This facility consists of raw material handling and storage, raw mill systems, kiln systems clinker handling, finish grinding operations, cement handling, loading, and bagging operations, and coal handling and grinding operations.

1.1 Description of a Control Plan

Argos Cement LLC (Argos) asserts kiln systems 1 and 2 at the Newberry Cement Plant to be subject to Rule 62-204.800(9)(f), F.A.C. which incorporates 40 CFR 60, Subpart DDDD (i.e., Commercial Industrial Solid Waste Incinerator (CISWI)) rule for existing units. Florida Department of Environmental Protection (FDEP) revised its 111(d) Plan for implementing CISWI. This revised plan was submitted to EPA on February 6, 2014. The plan revisions are under review by EPA. The 111(d) Plan simply implements the exact language of 40 CFR 60, Subpart DDDD (40 CFR 60.2600 to 60. 2875) for existing units, including cement kilns, that are determined to be subject to CISWI with the exception of the applicability date for control and waste management plans[1]. Rule 62-204.800(9)(f)(3), F.A.C. directly adopts the control plan requirements applicable and is the same as set forth in 40 CFR 60.2555 through 60.2630. Therefore, this document refers to CISWI rule citations even though the CISWI rules are proposed by FDEP to be incorporated in to the 111(d) Plan through Rule 62-204.800(9)(f), F.A.C. The 111(d) plan is required to be submitted 3 years prior to the date of federal implementation.[2]

According to 40 CFR 60.2600(a), a control plan is a written plan that describes the following five items.

1) A description of the devices for air pollution control and process changes that you will use to comply with the emission limitations and other requirements of this subpart.
2) The type(s) of waste to be burned.
3) The maximum design waste burning capacity.
4) The anticipated maximum charge rate.
5) If applicable, the petition for site-specific operating limits under §60.2680.

1.2 Applicability to the Argos Newberry Cement Plant

The Newberry Cement Plant has declared itself applicable to the FDEP Implementation Plan adopting the guideline regulations of 40 CFR 60 Subpart DDDD (i.e., Commercial Industrial Solid Waste Incinerator (CISWI) rule for existing sources). As such, the facility is required to submit a Control Plan to the FDEP by August 7, 2015.

Unlike an incinerator, the sole purpose of a cement kiln is the production of cement, not incineration. Because of the very hot conditions required to produce clinker ingredient in cement, the kiln can harness the heat content of a broad range of materials, including selected solid waste materials. Furthermore, unlike an incinerator, the incombustible

[1] Rule 62-204.800(9)(f)2, F.A.C. and Rule 62-204.800(9)(f)3, F.A.C.
[2] 40 CFR 60.2535(b)

portion of fuel materials is encapsulated in the cement product and therefore no residual waste originates from this cement kiln system either from raw material or fuel/solid waste inputs. Argos has no waste materials as ingredients that are combusted (as defined below) and therefore, no such ingredients are addressed in this Plan.

- *Waste-burning kiln* means a kiln that is heated, in whole or in part, by combusting solid waste (as the term is defined by the Administrator in 40 CFR part 241). Secondary materials used in Portland cement kilns shall not be deemed to be combusted unless they are introduced into the flame zone in the hot end of the kiln or mixed with the precalciner fuel.

The Newberry Cement Plant currently has two kilns that operate under a Title V Permit (currently permit No. 0010087-048-AV) and is subject to the emission limits shown Table 2-1. Argos will comply with the CISWI regulations for the Newberry Cement Plant and these emission limits are shown in Table 1-1. The facility will need to be in compliance separately for each CISWI regulated pollutant by the date of three years after the EPA approves and promulgates the FDEP Implementation Plan (i.e., the effective date) or February 7, 2018, as determined by this control plan.

Table 1-1 lists the CISWI pollutant limits and the method of compliance which is also Table 8 from 40 CDR 60, Subpart DDDD.

Table 1-1: Modified Table 8 to Subpart DDDD of Part 60 adopted into FDEP 111(d) plan

For the air pollutant	You must meet this emission limitation[b]	And determining compliance using this method
Carbon monoxide	790 ppmvd[b]	30-day rolling by CEMS[d] or Method 10
Sulfur dioxide	600 ppmvd[b]	30-day rolling by CEMS[d] or Method 6 or 6c
Oxides of nitrogen	630 ppmvd[b]	30-day rolling by CEMS[d] Method 7 or 7E
Dioxins/furans (total mass basis) *or* Dioxins/furans (toxic equivalency basis)	1.3 ng/dscm[b]	Method 23 (collect a minimum volume of 4 dry standard cubic meters)
	0.075 ng/dscm[b]	
Hydrogen chloride	3.0 ppmvd[b,c]	30-day rolling by HCl CEMS[d] if a wet scrubber is not used. If scrubbing then can use sorbent injection rate or SO2 CEMS
Cadmium	0.0014 mg/dscm[b,c]	Method 29
Lead	0.014 mg/dscm[b,c]	Method 29
Mercury	0.011 mg/dscm[b]	30-day rolling by CEMS[d] or sorbent trap monitoring system (performance specification 12A or 12B)
Particulate matter filterable	4.6 mg/dscm[b]	Method 5 and CPMS operating limit establishes 30-day rolling average by CPMS[d]

[a]The date specified in the state plan can be no later than 3 years after the effective date of EPA approval of the 111(d) FDEP plan or February 7, 2018.
[b]All emission limitations are measured at 7 percent O_2, dry basis at standard conditions. For dioxins/furans, you must meet either the total mass basis limit or the toxic equivalency basis limit. No O_2 correction on CEMS data collected during startup and shutdown .
[c]If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to §60.2720 if all of the other provisions of §60.2720 are met. For all other pollutants that do not contain a footnote "c", your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing, with the exception of annual performance tests to certify a CEMS or PM CPMS.
[d]For CEMS or CPMS, a 30-day rolling average of all valid 1-hour average data is to be used including startup and shutdown. If CEMS not used for compliance, then EPA Method test length defines averaging time for emission limit.

SECTION 2 – KILN 1 CONTROL PLAN

40 CFR 60.2600
(A) Submit the final control plan that includes the five items described in paragraphs (a)(1) through (5) of this section.
(1) A description of the devices for air pollution control and process changes that you will use to comply with the emission limitations and other requirements of this subpart.
(2) The type(s) of waste to be burned.
(3) The maximum design waste burning capacity.
(4) The anticipated maximum charge rate.
(5) If applicable, the petition for site-specific operating limits under §60.2680.

§60.2600 How do I comply with the increment of progress for submittal of a control plan?

(A) Submit the final control plan that includes the five items described in paragraphs (a)(1) through (5) of this section.

(1) A description of the devices for air pollution control and process changes that you will use to comply with the emission limitations and other requirements of this subpart.

For each pollutant, historical data has been analyzed to assess the need for pollutant controls to come into compliance, i.e., an effective control plan.

The current Title V permit emission limits are shown in Table 2-1 for CISWI pollutants. Those emission limits converted to similar CISWI units and corresponding historical emissions data for CISWI pollutants are shown in Table 2-2. Table 2-2 also shows the 95% upper prediction limit (UPL) based on the historical data described in the table. These emission limits and data can be quickly reviewed to determine which pollutants are currently capable to meet CISWI limits. Table 2-2 provides the justification for whether Argos can currently comply to the CISWI limits or must apply controls to come into compliance to the CISWI limits. Following Table 2-2 narrative description information is provided on compliance to CISWI limits, any current or potential future air pollution control devices to achieve compliance to CISWI, as well as any process changes planned that may affect each CISWI pollutant are described below Table 2-2.

Table 2-1: Kiln 1 (EU-003) – Current Title V Permit Emission Limits

Pollutant	Emission Limit	Averaging Time	Basis
PM	0.14 lb/ton of dry preheater feed; 0.23 lb/ton of clinker; 25.9 lb/hr, 94 ton/yr	3 hour (Method 5)	BACT and LLL
PM_{10}	0.12 lb/ton of dry preheater feed; 0.20 lb/ton of clinker; 22.1 lb/hr, 80 ton/yr	3 hour (Method 5)	BACT
SO_2	0.16 lb/ton of clinker; 17.7 lb/hr, 64 ton/yr	24 hours (CEMS)	BACT
NO_X	2.45 lb/ton of clinker; 271 lb/hr, 980 ton/yr	30 days (CEMS)	BACT
CO	2.50 lb/ton of clinker; 276 lb/hr, 1000 ton/yr	1 hour (Method 10)	BACT
Mercury (Hg)	200 lb/yr	12-month (material balance)	BACT

Table 2-2: Kiln 1 Historical Emissions

Argos - Newberry K1 KA 187-15-06

Modified Table 8 to Subpart DDDD of Part 60 adopted into FDEP 111(d) plan						
For the air pollutant	**Current TV Permit Limits (Actual and Equivalent CISWI @7%O_2)**	**You must meet this CISWI emission limitation[b]**	**Stack Test Results (7% O_2)**	**Upper Prediction Limit 95% (7% O_2)**	**Stack Testing Date / CEMS**	**And determining CISWI compliance using this method**
Carbon monoxide	276 lb/hr 528 ppmvd	790 ppmvd[b]	327 ppmvd	470 ppmvd	5-yr avg ST	30-day rolling by CEMS[d] or Method 10
Sulfur dioxide	17.7 lb/hr 15 ppmvd	600 ppmvd[b]	0.38 ppmvd	1.02 ppmvd	5-yr avg ST	30-day rolling by CEMS[d] or Method 6 or 6c
Oxides of nitrogen	271 lb/hr 315 ppmvd	630 ppmvd[b]	310 ppmvd	394 ppmvd	5-yr avg ST	30-day rolling by CEMS[d] Method 7 or 7E
Dioxins/furans (total mass basis)	n/a	1.3 ng/dscm[b]	0.021 ng/dscm	0.055 ng/dscm	7-yr avg ST RMU	Method 23 (collect a minimum volume of 4 dry standard cubic meters) - *May use either mass or TEQ basis*
			0.096 ng/dscm	0.341 ng/dscm	7-yr avg ST RMD	
Dioxins/furans (toxic equivalency basis)	0.2 ng/dscm	0.075 ng/dscm[b]	0.0003 ng/dscm	0.0008 ng/dscm	7-yr avg ST RMU	
			0.012 ng/dscm	0.043 ng/dscm	7-yr avg ST RMD	
Hydrogen chloride	n/a	3.0 ppmvd[b,c]				30-day rolling by HCl CEMS[d] if a wet scrubber is not used. If scrubbing then can use sorbent injection rate or SO2 CEMS
Cadmium	n/a	0.0014 mg/dscm[b,c]				Method 29
Lead	n/a	0.014 mg/dscm[b,c]				Method 29
Mercury	200 lb/yr	0.011 mg/dscm[b]				30-day rolling by CEMS[d] or sorbent trap monitoring system (performance specification 12A or 12B)
Particulate matter filterable	25.9 lb/hr 59 mg/dscm	4.6 mg/dscm[b]	7.6 mg/dscm	11.6 mg/dscm	5-yr avg ST RMU	Method 5 and CPMS operating limit establishes 30-day rolling average by CPMS[d]
			25.5 mg/dscm		Jan-13 ST RMD	

Legend:	Insufficient Valid Data	Emission Limit Exceeded

[a]The date specified in the state plan can be no later than 1 year after the effective date of EPA approval of the 111(d) FDEP plan or February 7, 2018.

[b]All emission limitations are measured at 7 percent O_2, dry basis at standard conditions. For dioxins/furans, you must meet either the total mass basis limit or the toxic equivalency basis limit. No O_2 correction on CEMS data collected during startup and shutdown .

[c]If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to §60.2720 if all of the other provisions of §60.2720 are met. For all other pollutants that do not contain a footnote "c", your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing, with the exception of annual performance tests to certify a CEMS or PM CPMS.

[d]For CEMS or CPMS, a 30-day rolling average of all valid 1-hour average data is to be used including startup and shutdown. If CEMS not used for compliance, then EPA Method test length defines averaging time for emission limit.

2.1 Summary of Planned Pollutant Control Measures

The following lists each CISWI pollutants applicable to the facility and how these pollutants will be monitored.

Carbon Monoxide (CO): Currently monitored by Method 10. The current Title V permit limit is effectively 528 ppmvd of a 1-hour average. Control consists of judicious selection of raw materials; high temperature combustion in the kiln using hot air from the clinker cooler as primary and secondary air; and staged combustion and sufficient residence time in the calciner using hot tertiary air from the clinker cooler.

The CISWI limit is 790 ppmvd of a 30-day average by CEMS. CO is expected to be within acceptable limits with no additional modifications.

Sulfur Dioxide (SO_2): Currently monitored by CEMS. The current Title V permit limit is effectively 15 ppmvd of a 24-hour average. Control consists of judicious selection of raw materials; inherent scrubbing of fuel SO_2 to form calcium sulfate ($CaSO_4$) by hot, finely divided lime in the calciner; and inherent scrubbing any remaining SO_2 by contact with moist limestone within the raw mill.

After the materials (including $CaSO_4$) enter the kiln, evolved SO_2 reacts with excess sodium (Na) and potassium (K). Ultimately the SO_2 is incorporated into the clinker as complex sodium/potassium/calcium sulfate species.

The CISWI limit is 600 ppmvd of a 30-day average by CEMS. SO_2 is expected to be within acceptable limits with no additional modifications.

Oxides of Nitrogen (NO_X): Currently monitored by CEMS. The current Title V permit limit is effectively 315 ppmvd of a 30-day average. Control consists of judicious selection of raw materials; indirect firing at the kiln burner; staged combustion in the calciner; and, to the extent needed, ammonia injection through a selective non-catalytic reduction (SNCR) system located in the ductwork leaving the calciner.

The CISWI limit is 630 ppmvd of a 30-day average by CEMS. NO_X is expected to be within acceptable limits with no additional modifications.

Dioxins and Furans (D/F): The CISWI limit is 0.075 ng/dscm (TEQ) or 1.3 ng/dscm (both at 7% O_2). D/F is expected to be within acceptable limits with no additional modifications. Control consists of temperature management insuring a rapid quench between the calciner and baghouse including a water spray tower (when the raw mill is down) to minimize denovo dioxin and furan formation.

Hydrogen Chloride (HCl): HCl is controlled by judicious selection of raw materials and by the same scrubbing strategy described above for SO_2. HCl will be further controlled by new high efficiency membrane bags in a new baghouse that improve contact between

acid gases and solids compared with the original electrostatic precipitator (ESP). The new baghouse is in the process of installation which was permitted with FDEP. The design of the baghouse control of particulate should induce greater capture efficiency of HCl and meet the proposed HCl limits. Argos expects to comply by February 7, 2018. There are currently no "NIST traceable" low concentration HCl calibration gasses that are commercially available. Until these gases are commercially available to HCl CEMS users, Argos will not be able to be able to comply with the monitoring requirements using HCl CEMS.

Cadmium (Cd): Cadmium has not been fully evaluated. Cd compliance will be achieved by the reduction of PM and related metal emissions. Argos expects to comply by February 7, 2018.

Lead (Pb): Lead has not been fully evaluated. Cd compliance will be achieved by the reduction of PM and related metal emissions. Argos expects to comply by February 7, 2018.

Mercury (Hg): Florida kilns are already subject to permitted Hg conditions separate from the CISWI requirements. Hg control to the permitted limit of 200 pounds per year (lb/year) is accomplished by judicious selection of raw materials and fuels. Dust shuttling is an available operational strategy to further control Hg emissions that is being evaluated by Argos. Argos will continue to comply by material analysis and balance with the current Title V air permit requirement until the CISWI compliance date. Argos believes that Hg compliance will be achieved by the reduction of PM and related metal emissions. Argos expects to comply by February 7, 2018. To date, National Institute of Standards and Technology (NIST) has not approved the required certification of the Hg CEMS calibrator. Without the ability to accurately operate an Hg CEMS, one cannot implement the control measures for mercury using CEMs in accordance with the CISWI rules. Argos is reviewing the option to use Hg sorbent traps for monitoring.

Particulate Matter (PM): Under a Florida DEP air construction permit, the plant is installing new baghouse control systems on each kiln line and will use new high efficiency membrane bags. Upon compliance to CISWI, PM will be monitored by a continuous parametric monitoring system (CPMS). The current Title V permit limit is effectively 59 mg/dscm (7% O_2). The CISWI limit is 4.6 mg/dscm. PM is expected to be within acceptable limits after the baghouse installation/modifications. Argos expects to comply by February 7, 2018.

***Note: All effective and actual emissions are corrected to 7% O_2.**

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(2) The type(s) of waste to be burned.

Please refer to the Waste Management Plan. For the purposes of the Waste Management plan and this Control Plan, the term solid waste will utilize the RCRA definition of "solid waste" in 42 U.S.C. § 6901. RCRA defines "solid waste" as : *any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control*

facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges.

(3) The maximum design waste burning capacity.

The maximum design waste burning capacity is based on the permitted maximum heat input, per the design of the kiln. Please see the most recent version of the facility's Title V permit for the heat input values. Capacity can be estimated using a relative heat content of each category of solid waste.

(4) The anticipated maximum charge rate.

The maximum anticipated charge rate is dependent on the type of AFM and is equivalent to the maximum design waste burning capacity as discussed above.

The anticipated maximum charge rate only applies to units using a wet scrubber for CISWI pollutant control. Argos does not plan to use wet scrubbing for control. Therefore, the maximum charge rate does not apply to this CISWI unit.

(5) If applicable, the petition for site-specific operating limits under §60.2680.

§60.2680 What if I do not use a wet scrubber, fabric filter, activated carbon injection, selective noncatalytic reduction, an electrostatic precipitator, or a dry scrubber to comply with the emission limitations?

(a) If you use an air pollution control device other than a wet scrubber, activated carbon injection, selective noncatalytic reduction, fabric filter, an electrostatic precipitator, or a dry scrubber or limit emissions in some other manner, including mass balances, to comply with the emission limitations under §60.2670, you must petition the EPA Administrator for specific operating limits to be established during the initial performance test and continuously monitored thereafter. You must submit the petition at least sixty days before the performance test is scheduled to begin. Your petition must include the five items listed in paragraphs (a)(1) through (5) of this section.

Not Applicable.

SECTION 3 – KILN 2 CONTROL PLAN

40 CFR 60.2600
(A) Submit the final control plan that includes the five items described in paragraphs (a)(1) through (5) of this section.
(1) A description of the devices for air pollution control and process changes that you will use to comply with the emission limitations and other requirements of this subpart.
(2) The type(s) of waste to be burned.
(3) The maximum design waste burning capacity.
(4) The anticipated maximum charge rate.
(5) If applicable, the petition for site-specific operating limits under §60.2680.

§60.2600 How do I comply with the increment of progress for submittal of a control plan? (A) Submit the final control plan that includes the five items described in paragraphs (a)(1) through (5) of this section.

(1) A description of the devices for air pollution control and process changes that you will use to comply with the emission limitations and other requirements of this subpart.

Similar to the Kiln 1 description, Kiln 2 is described in Tables 3-1 and 3-2.

Table 3-1: Kiln 2 (EU-010) – Current Emission Limits

Pollutant	Emission Limit	Averaging Time	Basis
PM	0.136 lb/ton of dry preheater feed; 0.23 lb/ton of clinker; 28.8 lb/hr	3 hours (Method 5)	BACT and LLL
PM_{10}	0.118 lb/ton of dry preheater feed; 0.20 lb/ton of clinker; 25.0 lb/hr	3 hours (Method 5)	BACT
SO_2	0.28 lb/ton clinker; 35.0 lb/hour	24 hours (CEMS)	BACT
NO_X	1.95 lb/ton clinker; 243.75 lb/hour	30 days (CEMS)	BACT
CO	3.6 lb/ton clinker; 450.0 lb/hour	24 hours (CEMS)	BACT
Mercury (Hg)	122 lb/yr	12-month (material balance)	BACT

Table 3-2: Kiln 2 Historical Emissions

Argos - Newberry K2 KA 187-15-06

Modified Table 8 to Subpart DDDD of Part 60 adopted into FDEP 111(d) plan						
For the air pollutant	**Current TV Permit Limits (Actual and Equivalent CISWI @7%O_2)**	**You must meet this CISWI emission limitation[b]**	**Stack Test Results (7% O_2)**	**Upper Prediction Limit 95% (7% O_2)**	**Stack Testing Date / CEMS**	**And determining CISWI compliance using this method**
Carbon monoxide	450 lb/hr 820 ppmvd	790 ppmvd[b]	622 ppmvd	772 ppmvd	5-yr avg ST	30-day rolling by CEMS[d] or Method 10
Sulfur dioxide	35 lb/hr 28 ppmvd	600 ppmvd[b]	0.06 ppmvd	0.18 ppmvd	5-yr avg ST	30-day rolling by CEMS[d] or Method 6 or 6c
Oxides of nitrogen	243.75 lb/hr 270 ppmvd	630 ppmvd[b]	192 ppmvd	242 ppmvd	5-yr avg ST	30-day rolling by CEMS[d] Method 7 or 7E
Dioxins/furans (total mass basis)	n/a	1.3 ng/dscm[b]	0.003 ng/dscm	0.009 ng/dscm	5-yr avg ST RMU	Method 23 (collect a minimum volume of 4 dry standard cubic meters) - *May use either mass or TEQ basis*
			0.021 ng/dscm	0.085 ng/dscm	5-yr avg ST RMD	
Dioxins/furans (toxic equivalency basis)	0.2 ng/dscm	0.075 ng/dscm[b]	0.00001 ng/dscm	0.00006 ng/dscm	5-yr avg ST RMU	
			0.003 ng/dscm	0.017 ng/dscm	5-yr avg ST RMD	
Hydrogen chloride	n/a	3.0 ppmvd[b,c]				30-day rolling by HCl CEMS[d] if a wet scrubber is not used. If scrubbing then can use sorbent injection rate or SO2 CEMS
Cadmium	n/a	0.0014 mg/dscm[b,c]				Method 29
Lead	n/a	0.014 mg/dscm[b,c]				Method 29
Mercury	122 lb/yr	0.011 mg/dscm[b]				30-day rolling by CEMS[d] or sorbent trap monitoring system (performance specification 12A or 12B)
Particulate matter filterable	28.8 lb/hr 57 mg/dscm	4.6 mg/dscm[b]	7.4 mg/dscm	13 mg/dscm	5-yr avg ST RMU	Method 5 and CPMS operating limit establishes 30-day rolling average by CPMS[d]
			24.1 mg/dscm		Oct-10 ST RMD	

Legend:	Insufficient Valid Data	Emission Limit Exceeded

[a]The date specified in the state plan can be no later than 1 year after the effective date of EPA approval of the 111(d) FDEP plan or February 7, 2018.

[b]All emission limitations are measured at 7 percent O_2, dry basis at standard conditions. For dioxins/furans, you must meet either the total mass basis limit or the toxic equivalency basis limit. No O_2 correction on CEMS data collected during startup and shutdown .

[c]If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to §60.2720 if all of the other provisions of §60.2720 are met. For all other pollutants that do not contain a footnote "c", your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing, with the exception of annual performance tests to certify a CEMS or PM CPMS.

[d]For CEMS or CPMS, a 30-day rolling average of all valid 1-hour average data is to be used including startup and shutdown. If CEMS not used for compliance, then EPA Method test length defines averaging time for emission limit.

3.1 Summary of Planned Pollutant Control Measures

The following lists each CISWI pollutants applicable to the facility and how these pollutants will be monitored.

Carbon Monoxide (CO): Currently monitored by CEMS. The current Title V permit limit is effectively 820 ppmvd of a 24-hour average. Control consists of judicious selection of raw materials; high temperature combustion in the kiln using hot air from the clinker cooler as primary and secondary air; and staged combustion and sufficient residence time in the calciner using hot tertiary air from the clinker cooler

The CISWI limit is 790 ppmvd of a 30-day average by CEMS. CO is expected to be within acceptable limits with no additional modifications.

Sulfur Dioxide (SO_2): Currently monitored by CEMS. The current Title V permit limit is effectively 28 ppmvd of a 24-hour average. Control consists of judicious selection of raw materials; inherent scrubbing of fuel SO_2 by hot, finely divided lime to form calcium sulfate ($CaSO_4$) in the calciner; and inherent scrubbing any remaining SO_2 by contact with moist limestone within the raw mill.

After the materials (including $CaSO_4$) enter the kiln, evolved SO_2 reacts with excess sodium (Na) and potassium (K). Ultimately the SO_2 is incorporated into the clinker as complex sodium/potassium/calcium sulfate species.

The CISWI limit is 600 ppmvd of a 30-day average by CEMS. SO_2 is expected to be within acceptable limits with no additional modifications.

Oxides of Nitrogen (NO_X): Currently monitored by CEMS. The current Title V permit limit is effectively 270 ppmvd of a 30-day average. Control consists of judicious selection of raw materials; indirect firing at the kiln burner; staged combustion in the calciner; and ammonia injection through a selective non-catalytic reduction (SNCR) system located in the ductwork leaving the calciner.

The CISWI limit is 630 ppmvd of a 30-day average by CEMS. NO_X is expected to be within acceptable limits with no additional modifications.

Dioxins and Furans (D/F): The CISWI limit is 0.075 ng/dscm (TEQ). Control consists of temperature management insuring a rapid quench between the calciner and baghouse including a water spray tower (when the raw mill is down) to minimize *de novo* dioxin and furan formation.

D/F is expected to be within acceptable limits with no additional modifications.

Hydrogen Chloride (HCl): HCl is controlled by judicious selection of raw materials and by the same scrubbing strategy described above for SO_2. HCl will be further controlled

by new high efficiency membrane bags in a new baghouse. The new baghouse is in the process of installation which was permitted with FDEP. The design of the baghouse control of particulate should induce greater capture efficiency of HCl and meet the proposed HCl limits. Argos expects to comply by February 7, 2018. There are currently no "NIST traceable" low concentration HCl calibration gasses that are commercially available. Until these gases are commercially available to HCl CEMS users, Argos will not be able to be able to comply with the emission limits.

Cadmium (Cd): Cadmium has not been fully evaluated. Cd compliance will be achieved by the reduction of PM and related metal emissions. Argos expects to comply by February 7, 2018.

Lead (Pb): Lead has not been fully evaluated. Cd compliance will be achieved by the reduction of PM and related metal emissions. Argos expects to comply by February 7, 2018.

Mercury (Hg): Florida kilns are already subject to permitted Hg conditions separate from the CISWI requirements. Hg control to the permitted limit of 122 lb/year is accomplished by judicious selection of raw materials and fuels. Dust shuttling is an available operational strategy that is being tested by Argos to control Hg emissions. Argos will continue to comply by material analysis and balance with the current Title V air permit requirement until the CISWI compliance date. Argos believes that Hg compliance will be achieved by the reduction of PM and related metal emissions. Argos expects to comply by February 7, 2018. To date, National Institute of Standards and Technology (NIST) has not approved the required certification of the Hg CEMS calibrator. Without the ability to accurately operate this monitoring device, one cannot implement the control measures for mercury using CEMs in accordance with the terms of the regulations.

Particulate Matter (PM): Under the authorization of Florida DEP air construction permits, the plant is installing new baghouse control systems on each kiln line and will use new high efficiency membrane bags. Upon compliance to CISWI, PM will be monitored by continuous parametric monitoring system (CPMS). The current Title V permit limit is effectively 57 mg/dscm (7% O_2). The CISWI limit is 4.6 mg/dscm. PM is expected to be within acceptable limits after the baghouse installation/modifications. Argos expects to comply by February 7, 2018.

***Note: All effective and actual emissions are corrected to 7% O_2.**

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(2) The type(s) of waste to be burned.

Please refer to the Waste Management Plan. For the purposes of the Waste Management plan and this Control Plan, the term solid waste will utilize the RCRA definition of "solid waste" in 42 U.S.C. § 6901. RCRA defines "solid waste" as : *any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained*

gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges.

(3) The maximum design waste burning capacity.

The maximum design waste burning capacity is based on the permitted maximum heat input, per the design of the kiln relative to the heat content of each category of AFM. Please see the most recent version of the facility's Title V permit for these values.

(4) The anticipated maximum charge rate.

The maximum anticipated charge rate is dependent on the type of AFM and is equivalent to the maximum design waste burning capacity as discussed above.

The anticipated maximum charge rate only applies to units using a wet scrubber for CISWI pollutant control. Argos does not plan to use wet scrubbing for control. Therefore, the maximum charge rate does not apply to this CISWI unit.

(5) If applicable, the petition for site-specific operating limits under §60.2680.

§60.2680 What if I do not use a wet scrubber, fabric filter, activated carbon injection, selective noncatalytic reduction, an electrostatic precipitator, or a dry scrubber to comply with the emission limitations?
(a) If you use an air pollution control device other than a wet scrubber, activated carbon injection, selective noncatalytic reduction, fabric filter, an electrostatic precipitator, or a dry scrubber or limit emissions in some other manner, including mass balances, to comply with the emission limitations under §60.2670, you must petition the EPA Administrator for specific operating limits to be established during the initial performance test and continuously monitored thereafter. You must submit the petition at least sixty days before the performance test is scheduled to begin. Your petition must include the five items listed in paragraphs (a)(1) through (5) of this section.

Not Applicable.