Bonsal American
Pensacola, FL
February 22, 2007

Environmental Compliance Plan

Operation and Maintenance [(O & M) Environment Compliance Plan] provides reasonable assurance that the facility can be effectively operated and maintained, through reasonable provisions of the operation and maintenance of the facility. Routine maintenance of equipment will be performed as needed to assure optimal operation. The facility shall be operated to control objectionable odors in accordance with Rule 62-296.320(2), F.A.C. Fuels, solvents, lubricants and other maintenance materials shall be stored in approved areas.

Baghouses BH-1 & BH-2

Start-up Procedure

Start all electric drive components to ensure proper rotation.

Run air compressor to ensure proper air pressure is reached for cleaning cycle.

Run exhaust fan and check differential pressure magnehelic gauge.

Preheat baghouse BH 1 to 115-125 F before aggregate is discharged into dryer. This should be done first thing in the morning and then again only after prolonged shutdowns during the day (60 minutes or more).

Minimum inlet temperatures to baghouse BH 1 should never be allowed to fall below 115F or condensation may occur inside the baghouse causing bag mudding or blinding with a result of very high static pressures and loss of adequate draft for proper dryer operation.

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The performance parameters include such physical, chemical or electrical characteristics as are applicable to the particular emissions unit and which are indicators of the condition, operating rates and efficiencies. Such parameters generally include the following for baghouses:

Bag pressure drop

Air to cloth ratio

Bag weave

Bag material

Bag cleaning conditions

Pulsing sequence and air pressure

The operating protocol addresses the physical steps and procedures to be followed by the operator when monitored parameters are outside the typical operating range. Proper operation of these baghouses require the use of differential pressure gauges such as magnehelics that can indicate a sudden decrease in pressure across filtering media (bags) which represents a system leak or a sudden rise in pressure representing plugging problems. U-tube manometers can also be used to help identify problems with dampers and bags by indicating the difference in pressure across the baghouse. A manometer or magnehelic gauge indicates the pressure differential across the filter elements in inches of water.

Baghouse BH 1 & BH 2 control emissions by capturing particulate emissions that might otherwise be released into the atmosphere. During the dust filtering operation, material is collected by bags causing a reduction in dust emissions. In order to control the pressure differential across filters, a cyclic timer periodically actuates the solenoid valves that deliver momentary surges of high pressure air. These surges are discharged through orifices located above each bag causing a reverse flow of air through the bag for cleaning purposes. Cleaning (blowing) of bags is done in sequence controlled by a timer so that not all bags are blown at the same time. Instead, a timer is sequenced to deliver bursts to one or several bags at one time. This assures the baghouse continues to operate uninterrupted without disrupting the filtering process.

The operating parameters of the baghouse type pollution control equipment to be monitored are as follows:

Pressure drop (Delta P) across baghouse

Visible emissions

Pressure drop across the baghouse is a useful parameter to monitor baghouse performances. A given baghouse will operate within a pressure drop range.

A pressure drop much lower than the lower end of the operating range could indicate:

New Bags, which have not developed a filter cake

Bag failure

Baghouse or ductwork structural failure

A pressure drop much higher than the upper end of the operating range could indicate:

Plugged bags or ductwork

Blocked stack

Fan malfunction

Baghouse BH 1 controls emissions from a drying operation with a rotary kiln dryer. The magnehelic gauge is used to monitor differential pressure from across bags. Normal range is 2-6" WG.

Baghouse BH 2 controls emissions from packaging operation. Magnehelic gauge is used to monitor differential pressure across bags. Normal range is 2-6".

Daily monitoring and checks of baghouse and auxiliary equipment

Record baghouse BH 1 & BH 2 differential pressure readings.

If readings exceed 6" WG on Baghouse BH 1 or 6" on BH 2, operator needs to rectify the problem immediately by determining the reason for the high reading and take corrective actions.

First determine that the gauge is not malfunctioning by performing the following:

Disconnect both lines leading to gauge and see if gauge reads "O". If not, use set screw to reset gauge to "O".

While lines are still disconnected, blow both lines with compressed air (pressures no higher than 120 PSIG).

The performance parameters include such physical, chemical or electrical characteristics as are applicable to the particular emissions unit and which are indicators of the condition, operating rates and efficiencies. Such parameters generally include the following for baghouses:

Bag pressure drop

Air to cloth ratio

Bag weave

Bag material

Bag cleaning conditions

Pulsing sequence and air pressure

The operating protocol addresses the physical steps and procedures to be followed by the operator when monitored parameters are outside the typical operating range. Proper operation of these baghouses require the use of differential pressure gauges such as magnehelics that can indicate a sudden decrease in pressure across filtering media (bags) which represents a system leak or a sudden rise in pressure representing plugging problems. U-tube manometers can also be used to help identify problems with dampers and bags by indicating the difference in pressure across the baghouse. A manometer or magnehelic gauge indicates the pressure differential across the filter elements in inches of water.

Baghouse BH 1 & BH 2 control emissions by capturing particulate emissions that might otherwise be released into the atmosphere. During the dust filtering operation, material is collected by bags causing a reduction in dust emissions. In order to control the pressure differential across filters, a cyclic timer periodically actuates the solenoid valves that deliver momentary surges of high pressure air. These surges are discharged through orifices located above each bag causing a reverse flow of air through the bag for cleaning purposes. Cleaning (blowing) of bags is done in sequence controlled by a timer so that not all bags are blown at the same time. Instead, a timer is sequenced to deliver bursts to one or several bags at one time. This assures the baghouse continues to operate uninterrupted without disrupting the filtering process.

The operating parameters of the baghouse type pollution control equipment to be monitored are as follows:

Reconnect lines and check reading.

If reading is still high, the problem is in the baghouse or ductwork as described above.

If gauge readings are 2.0" WG or lower for Baghouse BH 1 [or 1" WG or lower for baghouse BH-2,] check gauge as described above and if readings are still low, the problem is in the baghouse or ductwork as described above during normal operation. Lower pressure drops will occur at intial startup with new bags.

Perform visual inspection of the plume from baghouse exhausts. If at anytime a constant stream of dust is observed from exhaust(s), check for a mechanical leak or worn or torn bag (s). If a leak develops, the area can usually be easily spotted from the clean air side by a large deposit of dust around the leak area. Should a leak develop, clean dust from area and reseal both sides of leak with high temperature silicone sealant.

Check baghouse pulsating system and determine if it functions correctly. Record compressed air pressure.

Check baghouse dust hopper and auger conveying system to make sure it operates properly.

Record daily production for drying and packaging operations.

All of the above checks and data will be recorded on plant daily log. Sample of Daily bag logs for drying operation and packaging operation are attached.

Weekly Maintenance

Apply grease to all grease fittings.

Check belt tension (s).

Empty compressed air filter and water trap.

Inspections

Perform regular inspections as described below. Inspections to be performed by Management .

Monthly

Record compressed air reading
Check that hopper is empty
Check access door seals for leaks
Check door seals for deterioration

Quarterly

Check bag condition (dirty side)
Check fan blades and housing for corrosion
Check belt tension, adjust as required
Check cause support for corrosion
Check ductwork for buildup of dust

Baghouses BH-3 & BH-4

These baghouse are located atop cement silos to control emissions created during cement transfer from tankers into silos. The transfer is accomplished using compressed air to pressurize tankers. Compressed air forces cement through the pipe into the top of the silo while displaced air from the silo if filtered by filtering media inside baghouses. After each transfer, bags are cleaned using compressed air using compressed air pulses above each bag. Actuation of pulsing action is triggered by a sensor sensing decrease of pressure in the silo when loading is stopped. Duration of pulsing cycle is controlled by a timer set to 10-15 minutes.

Monitoring

Following monitoring to be conducted during silo loading:

To protect flex hose connecting tanker to silo filling pipe and to protect bags inside the baghouse, compress air pressure during transfer of cement should be limited to 10 PSIG. Bonsal will post a sign at each silo to warn drivers not to exceed 10 PSIG pressure.

Observe visual emissions from each baghouse as silo is being filled.

Perform regular inspections as described below. Inspections to be performed by management.

Monthly

Check baghouse pulsing system and compressed air pressure.

Visual emissions observations of each baghouse as silo is being filled.

Quarterly

Inspect each baghouse.
Check bag condition.
Record pulsing compressed air pressure.
Check baghouse case for corrosion.
Check seals between baghouse housing and silo.

Baghouses BV-5, BV- 6, & BV-7

These baghouses are located atop cement silos to control emissions created during cement transfer from tankers into silos. The transfer is accomplished using compressed air to pressurize tankers. Compressed air forces cement through the pipe into the top of the silo while displaced air from the silo if filtered by filtering media inside baghouses. After each transfer, bags are cleaned using compressed air using compressed air pulses above each bag. Actuation of pulsing action is triggered by a sensor sensing decrease of pressure in the silo when loading is stopped. Duration of pulsing cycle is controlled by a timer set to 10-15 minutes.

Monitoring

Following monitoring to be conducted during silo loading:

To protect flex hose connecting tanker to silo filling pipe and to protect bags inside the baghouse, compress air pressure during transfer of cement should be limited to 10 PSIG. Bonsal will post a sign at each silo to warn drivers not to exceed 10 PSIG pressure.

Observe visual emissions from each baghouse as silo is being filled.

Perform regular inspections as described below. Inspections to be performed by management.

Monthly

Check baghouse pulsing system and compressed air pressure.

Visual emissions observations of each baghouse as silo is being filled.

Quarterly

Inspect each baghouse.
Check bag condition.
Record pulsing compressed air pressure.
Check baghouse case for corrosion.
Check seals between baghouse housing and silo.

Records

Following records will be kept on site to assure that plant is operating within DEP Operation Permit requirements.

1. 1.Records of daily aggregate drying operation. Daily account of material will be kept by counting number of front loader buckets of sand and gravel loaded into dryer feed hopper. Each load of sand weighs approximately 3,960 lbs: each load of gravel weighs 4,560 lbs. These logs will then be summarized at the end of each month to
   calculate the amount of material dried that month. Rolling totals for previous 12 month will be calculated every month. Maximum total will not exceed 35,000 tons of aggregate (sand & gravel combined) per rolling 12 months. Operator will record daily baghouse BH 1 differential pressure on the same form.

   2. Daily log of packaged material will be kept by packaging supervisor. These logs will be summarized at the end of each month to calculate the amount of packaged material for given month. Rolling totals for previous 12 month will be calculated each month. Maximum total will not exceed 42,000 tons of packaged material per rolling 12 months. Operator will also record daily baghouse BH-2 differential pressure on the same form.

   3. Cement delivery tickets will be stored on site. Each month the total of cement delivered and unloaded into silos A & B and packaging line cement bin will be summarized. Monthly, total of all cement (Portland and Masonry) for last 12 months period of time shall not exceed 7,000 tons.

   4. Monthly records of purchased natural gas used in dryer operation will be kept in file. Rolling 12 months total shall not exceed 25 MM (million) CF purchased.

Also following documents will be kept on file on site:

Copy of current DEP construction and operations permit

Copy of this O & M Plan

Records of monthly and quarterly plant inspections

Maintenance records on the baghouse and associated equipment, structural repairs, bags and motor (s) replacements.

Records of malfunctions or failures of the above and corrective actions taken.

Results of last compliance test(s).

DAILY / WEEKLY INSPECTION

DATE: _____

DRYER BAGHOUSE (BH 1)

NORMAL MAGNEHELIC RANGE 2 - 6" WG.

START-UP: START ALL ELECTRICAL DRIVE COMPONENTS TO ENSURE PROPER ROTATION. RUN AIR COMPRESSOR TO ENSURE PROPER AIR PRESSURE IS REACHED FOR CLEANING CYCLE. RUN EXHAUST FAN AND CHECK DIFFERENTIAL PRESSURE MAGNEHELIC GAUGE. PREHEAT BH-1 TO 115-125 F BEFORE AGGREGATE IS DISCHARGED INTO DRYER. THIS SHOULD BE DONE FIRST THING IN THE MORNING AND THEN AGAIN ONLY AFTER PROLONGED SHUTDOWNS DURING THE DAY (60 MINUTES OR MORE). MINIMUM INLET TEMPERATURE TO BH-1 SHOULD NEVER BE ALLOWED TO FALL BELOW 115 F OR CONDENSATION MAY OCCUR INSIDE THE BAGHOUSE CAUSING BAG MUDDING OR BLINDING WITH A RESULT OF VERY HIGH STATIC PRESSURES AND LOSS OF ADEQUATE DRAFT FOR PROPER OPERATION.

DAILY: MAGNEHELIC READING [ ] (IF READING EXCEEDS 6" OR FALLS BELOW 2.0" WG, OPERATOR NEEDS TO RECTIFY THE PROBLEM IMMEDIATELY BY DETERMINING THE REASON FOR HIGH READING AND TAKE CORRECTIVE ACTIONS (REFER TO MAINTENANCE PLAN)).

VISUAL INSPECTION: (BAGHOUSE EXHAUST PLUME) CLEAR [ ] DUSTING** [ ]

PULSATING SYSTEM CHECK: COMPRESSED AIR PRESSURE READING [ ]

RECLAIM OPERATIONAL (AUGER CONVEYOR - CHECK) [ ] **SOCK INSPECTION

WEEKLY:

APPLY GREASE TO ALL GREASE FITTINGS.	[ ]	CHECK DUCTWORK FOR BUILDUP.	[ ]
CHECK BELT TENSION.	[ ]	CHECK ACCESS DOOR SEALS FOR LEAKS.	[ ]
EMPTY COMPRESSED AIR FILTER / WATER TRAP.	[ ]	CHECK DOOR SEALS FOR DETERIORATION.	[ ]
CHECK THAT HOPPER IS EMPTY.	[ ]	CHECK ALL BOLTS AND WELDS.	[ ]
CHECK FAN.	[ ]		
CHECK CASE SUPPORT FOR CORROSION.	[ ]		

MONTHLY INSPECTING RECORD COMPRESSED AIR READING. [ ]

QUARTERLY INSPECTION

DATE: _____

DRYER BAGHOUSE (BH 1)

NORMAL MAGNEHELIC RANGE 2 - 6" WG.

SOCKS / CAGES INSPECTION

NOTES:

INSPECT BAG	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}
CONDITION	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}
(DIRTY SIDE)	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}
QUARTERLY	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}
	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}
	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}
	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}
	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}
	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}
	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}
	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}
	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}	{}

			YES	NO	
PULSE DURATION	[ ]				
PULSE DELAY	[ ]	CASE SUPPORT	[ ]	[ ]	*CORROSION*
FAN OPERATION	[ ]	BOLTS & WELDS	[ ]	[ ]	*GOOD CONDITION*
BELT TENSION	[ ]	DUCTWORK	[ ]	[ ]	*DUST BUILD-UP*

SURPLUS INVENTORY

SOCKS [ ] CAGES [ ] DIFFUSER [ ]

ADDITIONAL COMMENTS:

_____

COMPLETED BY _____

DATE _____

DAILY / WEEKLY INSPECTION

DATE: _____

INHOUSE BAGHOUSE (BH 2)

NORMAL MAGNEHELIC RANGE 2 - 8" WG.

STARTUP: START ALL ELECTRICAL DRIVE COMPONENTS TO ENSURE PROPER ROTATION. RUN AIR COMPRESSOR TO ENSURE PROPER AIR PRESSURE IS REACHED FOR CLEANING CYCLE. RUN EXHAUST FAN AND CHECK DIFFERENTIAL PRESSURE MAGNEHELIC GAUGE.

DAILY: MAGNEHELIC READING [ ] (IF READING EXCEEDS 8" OR FALLS BELOW 2.0" WG. OPERATOR NEEDS TO RECTIFY THE PROBLEM IMMEDIATELY BY DETERMINING THE REASON FOR HIGH READING AND TAKE CORRECTIVE ACTIONS (REFER TO MAINTENANCE PLAN)).

VISUAL INSPECTION: (BAGHOUSE EXHAUST PLUME) **CLEAR** [ ] **DUSTING**** [ ]

PULSATING SYSTEM CHECK: **COMPRESSED AIR PRESSURE READING** [ ]

RECLAIM OPERATIONAL (AUGER CONVEYOR - CHECK) [ ]

**SOCK INSPECTION

WEEKLY:

APPLY GREASE TO ALL GREASE FITTINGS.	[ ]	CHECK DUCTWORK FOR BUILDUP.	[ ]
CHECK BELT TENSION.	[ ]	CHECK ACCESS DOOR SEALS FOR LEAKS.	[ ]
EMPTY COMPRESSED AIR FILTER / WATER TRAP.	[ ]	CHECK DOOR SEALS FOR DETERIORATION.	[ ]
CHECK THAT HOPPER IS EMPTY.	[ ]	CHECK ALL BOLTS AND WELDS.	[ ]
CHECK FAN.	[ ]		
CHECK CASE SUPPORT FOR CORROSION.	[ ]		

MONTHLY INSPECTING RECORD COMPRESSED AIR READING. [ ]

QUARTERLY INSPECTION

DATE: _____

INHOUSE BAGHOUSE (BH 2)

NORMAL MAGNEHELIC RANGE 2 - 6" WG.

SOCKS / CAGES INSPECTION

NOTES:

INSPECT BAG CONDITION (DIRTY SIDE) QUARTERLY

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

			YES	NO	
PULSE DURATION	[ ]				
PULSE DELAY	[ ]	CASE SUPPORT	[ ]	[ ]	*CORROSION*
FAN OPERATION	[ ]	BOLTS & WELDS	[ ]	[ ]	*GOOD CONDITION*
BELT TENSION	[ ]	DUCTWORK	[ ]	[ ]	*DUST BUILD-UP*

SURPLUS INVENTORY

SOCKS [ ] CAGES [ ] DIFFUSER [ ]

ADDITIONAL COMMENTS:

_____

_____

COMPLETED BY _____ *DATE* _____

DAILY / WEEKLY INSPECTION

DATE: _____

SILO TYPE 1 (P)	BH-3
SILO TYPE 2 (M)	BH-4

START-UP: START ALL ELECTRICAL DRIVE COMPONENTS TO ENSURE PROPER ROTATION. RUN AIR COMPRESSOR TO ENSURE PROPER AIR PRESSURE IS REACHED FOR CLEANING CYCLE.

DAILY:

"P"	VISUAL INSPECTION: (BIN VENT)	CLEAR	[ ]	DUSTING**	[ ]
"M"	VISUAL INSPECTION: (BIN VENT)	CLEAR	[ ]	DUSTING**	[ ]

**SOCK INSPECTION

WEEKLY:

APPLY GREASE TO ALL GREASE FITTINGS.	[ ]	CHECK DUCTWORK FOR BUILDUP.	[ ]
CHECK BELT TENSION.	[ ]	CHECK ACCESS DOOR SEALS FOR LEAKS.	[ ]
EMPTY COMPRESSED AIR FILTER / WATER TRAP.	[ ]	CHECK DOOR SEALS FOR DETERIORATION.	[ ]
CHECK THAT HOPPER IS EMPTY.	[ ]	CHECK ALL BOLTS AND WELDS.	[ ]
CHECK FAN.	[ ]		
CHECK CASE SUPPORT FOR CORROSION.	[ ]		

QUARTERLY INSPECTION

DATE: _____

SOCKS / CAGES INSPECTION

NOTES:

	SILO 1 (P)			BH 3	SILO 2 (M)			BH 4
INSPECT BAG	{}	{}	{}	{}	{}	{}	{}	{}
CONDITION	{}	{}	{}	{}	{}	{}	{}	{}
(DIRTY SIDE)	{}	{}	{}	{}	{}	{}	{}	{}
QUARTERLY	{}	{}	{}	{}	{}	{}	{}	{}

			YES	NO	
PULSE DURATION					
PULSE DELAY		CASE SUPPORT			*CORROSION*
FAN OPERATION		BOLTS & WELDS			*GOOD CONDITION*
BELT TENSION		DUCTWORK			*DUST BUILD-UP*

SURPLUS INVENTORY

SOCKS [ ] CAGES [ ] DIFFUSER [ ]

ADDITIONAL COMMENTS:

_____

_____

COMPLETED BY _____ *DATE* _____

DAILY / WEEKLY INSPECTION

DATE: _____

BIN VET 5	BV-5
BIN VET 6	BV-6
BIN VET 7	BV-7

START-UP: START ALL ELECTRICAL DRIVE COMPONENTS TO ENSURE PROPER ROTATION. RUN AIR COMPRESSOR TO ENSURE PROPER AIR PRESSURE IS REACHED FOR CLEANING CYCLE.

DAILY:

BV-5	VISUAL INSPECTION: (BIN VENT)	CLEAR	[ ]	DUSTING**	[ ]
BV-6	VISUAL INSPECTION: (BIN VENT)	CLEAR	[ ]	DUSTING**	[ ]
BV-7	VISUAL INSPECTION: (BIN VENT)	CLEAR	[ ]	DUSTING**	[ ]

**SOCK INSPECTION

WEEKLY:

APPLY GREASE TO ALL GREASE FITTINGS.	[ ]	CHECK DUCTWORK FOR BUILDUP.	[ ]
ADJUST BELT TENSION(S) IF NECESSARY.	[ ]	CHECK ACCESS DOOR SEALS FOR LEAKS.	[ ]
CLEAN COMPRESSED AIR FILTER / WATER TRAP.	[ ]	CHECK DOOR SEALS FOR DETERIORATION.	[ ]
	[ ]	CHECK BELT TENSION.	[ ]
	[ ]	CHECK ALL BOLTS AND WELDS.	[ ]
CHECK CASE SUPPORT FOR CORROSION.	[ ]		

QUARTERLY INSPECTION

DATE: _____

SOCKS / CAGES INSPECTION

NOTES:

	BIN VENT 5 (SAND)			BIN VENT 6 (GRAVEL)			BIN VENT 7 (MORTAR)		
INSPECT BAG									
CONDITION									
(DIRTY SIDE)									
QUARTERLY									

			YES	NO	
PULSE DURATION					
PULSE DELAY		CASE SUPPORT			*CORROSION*
FAN OPERATION		BOLTS & WELDS			*GOOD CONDITION*
BELT TENSION		DUCTWORK			*DUST BUILD-UP*

ADDITIONAL COMMENTS:

_____

COMPLETED BY

3/24/2004
DATE