



west virginia department of environmental protection

Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone (304) 926-0475 • FAX: (304) 926-0479

Jim Justice, Governor
Austin Caperton, Cabinet Secretary
www.dep.wv.gov

ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-1291A
Plant ID No.: 033-00033
Applicant: Central Supply Company of West Virginia
Facility Name: Saltwell Plant
Location: Bridgeport, Harrison County
SIC Code: 3273 (Ready-mixed Concrete)
NAICS Code: 327320 (Ready-mix Concrete Manufacturing)
Application Type: Modification
Received Date: March 20, 2017
Engineer Assigned: Dan Roberts
Fee Amount: \$1,000
Date Received: March 21, 2017
Applicant Ad Date: March 23, 2017
Complete Date: April 18, 2017
Newspaper: *The Exponent Telegram*
UTM Coordinates: Easting: 566.811 km Northing: 4,356.183 km NAD83 Zone 17N
Lat/Lon Coordinates: Latitude: 39.352511 Longitude: -80.224579 NAD83
Description: The applicant proposes to construct a new concrete batch plant capable of producing 424 TPH and 881,920 TPY at their existing Saltwell Plant. When the new plant is operational, the old plant will be converted to a Bulk Aggregate Bagging Operation at its same throughput rates of 250 TPH and 54,250 TPY as currently permitted.

BACKGROUND

Central Supply Company of West Virginia (Central) is submitting this permit application for the Saltwell Plant (Saltwell), a ready-mix concrete batch facility. Saltwell was originally permitted as a 144 yd³/hr ready-mix concrete batch plant in November 1990. Central is proposing to replace the original facility with the equipment detailed in this permit application and increase the hourly production to 200 yd³/hr and yearly production to 416,000 yd³/yr. The currently permitted facility will continue to operate until the revised permit is issued and construction is complete. The currently permitted concrete plant will be converted to a Bulk Aggregate Bagging Operation.

PROCESS DESCRIPTION (taken directly from the application)

Concrete Plant

Aggregates (including sand) are transported to the site by truck and transferred (TP1/MD) to open stockpile SP1/WS. SP1/WS (aggregate stockpiling) consists of various stone and sand sizes in multiple piles. An endloader transfers (TP2/MD) material to aggregate feed hoppers H1/PE, H2/PE, H3/PE, H4/PE, H5/PE and H6/PE. Material transfers (TP3/PE) from H1/PE through H6/PE to belt conveyor BC1/N and then transfers (TP4/PE) to belt conveyor BC2/N, then to belt conveyor BC3/N (TP5/PE) and then to bins B1/PE, B2/PE, B3/PE, B4/PE, B5/PE, and B6/PE (TP6/PE). Material from B1/PE through B6/PE is transferred via a chute (TP7/PE) to Aggregate Batcher B7/PE. Cement, fly ash, and slag are delivered by truck and pneumatically transferred (TP13/BV) to silos S1/BV1, S2/BV2, and S3/BV3. Cement, fly ash, and/or slag can be stored in any of the three (3) silos at any time. S1/BV1, S2/BV2, and S3/BV3 transfer (TP9/BH) to Cement Batchers B8/BH. Cement, fly ash, and slag from B8/BH transfers (TP10/BH) to the Mixer or to a dry concrete truck (TP11/BH). Aggregate from B7/PE transfers (TP8/BH) to the Mixer or to a dry concrete truck (TP11/BH). Dry aggregate, cement, fly ash, and slag transferred (TP8/BH and TP10/BH) to the Mixer are mixed with water and transferred (TP12/WET) to a wet concrete truck.

The facility utilizes concrete add mixes that either contain a negligible volatile organic compound content or no regulated air pollutants. Safety Data Sheets are included in Attachment H for the add mixes and cement, fly ash, and slag. Here are a list of the approved concrete ad mixes for which MSDS sheets have already been provided.

Product Name	Material/ Product Code	Composition	CAS Number	Form
Eucon AEA92	011A 99	Sodium (C14-16) Olefin Sulfonate	68439-57-6	Pale Yellow Liquid - T2
Eucon WR	015 99	Triethanolamine	102-71-6	Brown Liquid - T3
Eucon MR	0267A 99	Calcium nitrate Sodium thiocyanate Sodium hydroxide	10124-37-5 540-72-7 1310-73-2	Brown Liquid - T4
Eucon 37	010 99	N/A	N/A	Brown Liquid - T5
Eucon WO	010W 99	Sodium hydroxide p-Dioxane	1310-73-2 123-91-1	Brown Liquid - T6
Accelguard 80	019 99	Calcium nitrate	10124-37-5	Colorless Liquid - T7
Accelguard HE	025 99	Calcium chloride	10043-52-4	Dark Blue Liquid - T8
Barrior One Concrete Admixture	N/A	Silicates, Hydroxides, Orthophenylphenates	N/A	Colorless Liquid
Plastol SPC	704 99	Methacrylic acid	79-41-4	Light Brown Liquid
Penetron, Penecrete Mortar, Penepug, Penetron Plus	N/A	Cement, portland, chemicals Quartz CTS-15-1	65997-15-1 14808-60-7 Trade Secret	Gray Powder
Eucon MSA	300 99	Amorphous silica Crystalline Silica (Quartz)/Silica Sand	69012-64-2 14808-60-7	Gray Powder

Eucon SRA Floor	010CF 99	Glycol ether solvent sodium hydroxide	112-34-5 1310-73-2	Dark Brown Liquid
Eucon CIA	19C 99	Water Calcium nitrate Calcium nitrate	7732-18-5 13780-06-8 10124-37-5	Yellow Liquid

- 1) Eucon AEA-92 - Tank T2
- 2) Eucon WR - Tank T3
- 3) Eucon MR - Tank T4
- 4) Eucon 37 - Tank T5
- 5) Eucon WO - Tank T6
- 6) Accelguard 80 - Tank T7
- 7) Accelguard HE - Tank T8
- 8) Barrier One Concrete Admixture
- 9) Plastol SPC
- 10) Penetron, Penecrete Mortar, Peneplug, Penetron Plus
- 11) Eucon MSA
- 12) Eucon SRA Floor
- 13) Eucon CIA

Bulk Aggregate Bagging Operation

Aggregates (including sand) are transported to the site by truck and transferred (TP14/MD) to open stockpile SP2/WS. An endloader transfers (TP15/MD) to feed hopper H7/PE and then transfers (TP16/FE) to belt conveyor BC4/N. BC4/N transfers (TP17/FE) to bins B9/FE, B10/FE, B11/FE and B12/FE which transfer (TP18/FE) to weigh hopper H8/FE. Weigh hopper H8/FE transfers (TP19/FE) to belt conveyor BC5/BN which then transfers (TP20) either to a bulk sack or a truck. The bagging operation's hourly and yearly throughput will remain the same as the original permit's aggregate handling rates of 250 tons per hour (TPH) and 54,250 tons per year (TPY). Three (3) silos (1S, 2S, and 3S) will be removed or retired in place and no longer used.

The facility shall be modified and operated in accordance with the following equipment and control device information taken from permit application R13-1291A and any amendments thereto:

Table 1: Emission Units Summary

Equipment ID No.	Date of Construction, Reconstruction or Modification	Description	Maximum Capacity		Control Device	Associated Transfer Points		
			TPH	TPY		Location: B -Before A -After	ID. No.	Control Device
New Concrete Batch Plant - Aggregate Circuit								
SP1	C 2017	Aggregate and Sand Open Storage Pile Area - combined maximum 20,000 tons capacity and 0.23 acre base area - receives various stone and sand sizes from trucks, stores it in individual open storage piles and then a front end-loader transfers it to H1 through H6	900	644,800	WS	B A	TP-1 TP-2	MD MD
H1	C 2017	Feed Hopper 1 - 80 tons maximum capacity -receives stone and sand from SP1 via an endloader, stores it temporarily and then drops it onto BC1	900 combined	644,800 combined	PE	B A	TP-2 TP-3	MD PE
H2	C 2017	Feed Hopper 2 - 80 tons maximum capacity - receives stone or sand from SP1 via an endloader, stores it temporarily and then drops it onto BC1			PE	B A	TP-2 TP-3	MD PE
H3	C 2017	Feed Hopper 3 - 80 tons maximum capacity - receives stone or sand from SP1 via an endloader, stores it temporarily and then drops it onto BC1			PE	B A	TP-2 TP-3	MD PE
H4	C 2017	Feed Hopper 4 - 80 tons maximum capacity - receives stone or sand from SP1 via an endloader, stores it temporarily and then drops it onto BC1			PE	B A	TP-2 TP-3	MD PE
H5	C 2017	Feed Hopper 5 - 80 tons maximum capacity - receives stone or sand from SP1 via an endloader, stores it temporarily and then drops it onto BC1			PE	B A	TP-2 TP-3	MD PE
H6	C 2017	Feed Hopper 6 - 80 tons maximum capacity - receives stone or sand from SP1 via an endloader, stores it temporarily and then drops it onto BC1			PE	B A	TP-2 TP-3	MD PE
BC1	C 2017	Belt Conveyor No. 1 - receives stone or sand from H1 through H6 and transfers it onto BC2	900	644,800	N	B A	TP-3 TP-4	PE PE
BC2	C 2017	Belt Conveyor No. 2 - receives stone or sand from BC1 and transfers it onto BC3	900	644,800	N	B A	TP-4 TP-5	PE PE
BC3	C 2017	Belt Conveyor No. 3 - receives stone or sand from BC2 and transfers it into B1 through B6	900	644,800	N	B A	TP-5 TP-6	PE PE
B1	C 2017	Bin 1 - 200 tons maximum capacity - receives stone or sand from BC3, stores it temporarily and then drops it through a chute into B7	900 in 310 out combined	644,800 combined	PE	B A	TP-6 TP-7	PE PE
B2	C 2017	Bin 2 - 200 tons maximum capacity - receives stone or sand from BC3, stores it temporarily and then drops it through a chute into B7			PE	B A	TP-6 TP-7	PE PE
B3	C 2017	Bin 3 - 200 tons maximum capacity - receives stone or sand from BC3, stores it temporarily and then drops it through a chute into B7			PE	B A	TP-6 TP-7	PE PE
B4	C 2017	Bin 4 - 200 tons maximum capacity - receives stone or sand from BC3, stores it temporarily and then drops it through a chute into B7			PE	B A	TP-6 TP-7	PE PE
B5	C 2017	Bin 5 - 200 tons maximum capacity - receives stone or sand from BC3, stores it temporarily and then drops it through a chute into B7			PE	B A	TP-6 TP-7	PE PE
B6	C 2017	Bin 6 - 200 tons maximum capacity - receives stone or sand from BC3, stores it temporarily and then drops it through a chute into B7			PE	B A	TP-6 TP-7	PE PE
B7	C 2017	Aggregate Batcher - 12 yd ³ (approx. 20 tons) maximum capacity - receives stone and sand from B1 through B6, stores it temporarily and then loads it into dry concrete trucks or into the Mixer	310	644,800	PE	B A	TP-7 TP-8 TP-11	PE BH BH
New Concrete Batch Plant - Cement Circuit								
S1	C 2017	Cement Silo - 200 tons maximum capacity - receives cement pneumatically loaded from trucks, stores it and then drops it into B8	40 in 88 out	183,040 combined	BV1	B A	TP-13 TP-9	BV1 BH
S2	C 2017	Flyash Silo - 110 tons maximum capacity - receives flyash pneumatically loaded from trucks, stores it and then drops it into B8	40 in 88 out		BV2	B A	TP-13 TP-9	BV2 BH
S3	C 2017	Slag Silo - 110 tons maximum capacity - receives slag pneumatically loaded from trucks, stores it and then drops it into B8	40 in 88 out		BV3	B A	TP-13 TP-9	BV3 BH
BV1	C 2017	Batcher Vent 1 - Stephens Manufacturing Co. Model SOS-1020 - guaranteed minimum 99% collection efficiency - minimizes emissions from S1 as it is pneumatically loaded by trucks						
BV2	C 2017	Batcher Vent 2 - Stephens Manufacturing Co. Model SOS-1020 - guaranteed minimum 99% collection efficiency - minimizes emissions from S2 as it is pneumatically loaded by trucks						
BV3	C 2017	Batcher Vent 3 - Stephens Manufacturing Co. Model SOS-1020 - guaranteed minimum 99% collection efficiency - minimizes emissions from S3 as it is pneumatically loaded by trucks						
B8	C 2017	Cement Batcher - 12 yd ³ (approx. 20 tons) maximum capacity - receives cement, flyash and slag from S1 through S3, stores it temporarily and then loads it into dry concrete trucks or into the Mixer	88	183,040	DC1	B A	TP-9 TP-10 TP-11	BH BH BH
Mixer	C 2017	Mixer - receives aggregate/sand from B7 and cement/flyash/slag from B8 and mixes it with water and then loads it into wet concrete trucks	424	881,920	PE	B B A	TP-8 TP-10 TP-12	BH BH WET
DC1	C 2017	Dust Collector - Stephens Manufacturing Co. Model SV-20 Cement Batcher Vent - guaranteed minimum 99% collection efficiency - minimizes emissions from B8 as it is loaded from Silos S1, S2 and S3 at transfer point TP9						

Equipment ID No.	Date of Construction, Reconstruction or Modification	Description	Maximum Capacity		Control Device	Associated Transfer Points		
			TPH	TPY		Location: B -Before A -After	ID. No.	Control Device
DC2	C 2017	Dust Collector - C & W Manufacturing and Sales Co. Model RA-200 Baghouse - guaranteed minimum 99% collection efficiency - minimizes emissions from the dry mix being loaded to trucks or the mixer at transfer points TP-8, TP-10 and TP-11						
New Concrete Batch Plant - Water and Additives Circuit								
HWH1	C 2017	Pearson P-20-2-20W Hot Water Heater - 5.6 MMBtu/hr (two burners at 2.8 MMBtu/hr each) - No. 2 Diesel Fuel at 40 gal/Vhr or Natural Gas at 5,600 scf/hr or Propane at 61 gal/hr - heats water as needed						
T1	C 2017	Diesel Fuel Tank - maximum capacity 8,000 gallons - 350,400 gallons per year throughput						
T2	C 2017	Eucon AEA-92 Tank - maximum capacity 550 gallons - Material 011A 99 - Chemical Identity: Sodium (C14-16) Olefin Sulfonate CAS number: 68439-57-6						
T3	C 2017	Eucon WR Tank - maximum capacity 1,650 gallons - Material 015 99 - Chemical Identity: Triethanolamine - CAS number: 102-71-6						
T4	C 2017	Eucon MR Tank - maximum capacity 550 gallons - Material 026A 99 - Chemical Identity: Calcium Nitrate - CAS number: 10124-37-5; Sodium Thiocyanate - CAS number: 540-72-7; Sodium Hydroxide - CAS number: 1310-73-2						
T5	C 2017	Eucon 37 Tank - maximum capacity 550 gallons - Material 019 99						
T6	C 2017	Eucon WO Tank - maximum capacity 550 gallons - Material 010W 99 - Chemical Identity: Sodium Hydroxide - CAS number: 1310-73-2; p-Dioxane - CAS number: 123-91-1						
T7	C 2017	Accelguard 80 Tank - maximum capacity 2,000 gallons - Material 019 99 - Chemical Identity: Calcium Nitrate - CAS number: 10124-37-5						
T8	C 2017	Accelguard HE Tank - maximum capacity 1,000 gallons - Material 025 99 - Chemical Identity: Calcium Chloride - CAS number: 10043-52-4						
Bulk Aggregate Bagging Operation								
SP-2	C 1990	Bulk Aggregate and Sand Open Storage Pile Area - maximum 20,000 tons capacity and 0.08 acre base area - receives various stone and sand sizes from trucks, stores it in individual open storage piles and then a front end-loader transfers it to H7	250	54,250	WS	B A	TP-14 TP-15	MD MD
H7	C 1990	Feed Hopper 7 - 25 tons maximum capacity -receives stone or sand from SP1 via an endloader, stores it temporarily and then drops it onto BC1	250	54,250	PE	B A	TP-15 TP-16	MD FE
BC4	C 1990	Belt Conveyor No. 4 - receives stone or sand from H7 and transfers it into B9 through B12	250	54,250	N	B A	TP-16 TP-17	FE FE
B9	C 1990	Bin 9 - 20 tons maximum capacity - receives stone or sand from BC4, stores it temporarily and then drops it through a chute into H8	250 combined	54,250 combined	FE	B A	TP-17 TP-18	FE FE
B10	C 1990	Bin 10 - 20 tons maximum capacity - receives stone or sand from BC4, stores it temporarily and then drops it through a chute into H8			FE	B A	TP-17 TP-18	FE FE
B11	C 1990	Bin 11 - 50 tons maximum capacity - receives stone or sand from BC4, stores it temporarily and then drops it through a chute into H8			FE	B A	TP-17 TP-18	FE FE
B12	C 1990	Bin 12 - 50 tons maximum capacity - receives stone or sand from BC4, stores it temporarily and then drops it through a chute into H8			FE	B A	TP-17 TP-18	FE FE
H8	C 1990	Weigh Hopper - 11 yd³ (approx. 16.5 tons) maximum capacity - receives stone or sand from B9 through B12, stores it temporarily and then drops it onto BC5	250	54,250	FE	B A	TP-18 TP-19	FE FE
BC5	C 1990	Belt Conveyor No. 5 - receives stone or sand from H8 and loads it into trucks or bulk sacks	250	54,250	N	B A	TP-19 TP-20	FE N

¹ Control Device Abbreviations: FE - Full Enclosure; PE - Partial Enclosure; WS - Water Sprays; BH - Baghouse; BV - Bin Vent; MD - Minimize Drop Height; and N - None.

SITE INSPECTION

On February 8, 2017, Kirk Powroznik of the DAQ's Compliance and Enforcement Section located in the North Central Regional Office performed a targeted full on site inspection of this facility. Mr. Kolb entered the following notes from the inspection into the database: "Facility inspection conducted on 2/8/17. Historical records received on 2/22/17 to complete the inspection report." The facility was found to be in compliance at the time of the inspection and given a status code of 30: In Compliance.

Directions to the facility from Charleston are to take I-79 North, take Exit 125 for Saltwell Road, take Secondary Route 73 North for approximately 1 mile and turn left into the plant.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

The estimated emission calculations were performed by the applicants' consultant and were checked for accuracy and completeness by the writer. All emission factors are based on AP-42, Fifth Edition, Revised 6/2006 for concrete batch plants (Section 11.12-2, updated and corrected 8/2011); aggregate handling and storage piles (Section 13.2.4, Revised 11/2006) and Revision 1/2011 for industrial paved roads (Section 13.2.1).

The proposed modification will result in a new facility-wide potential to discharge controlled particulate matter emissions of 143.89 lb/hour and 74.53 TPY of particulate matter (PM), of which 36.86 lb/hour and 19.03 TPY will be particulate matter less than 10 microns in diameter (PM₁₀) and 3.33 lb/hour and 2.54 TPY will be particulate matter less than 2.5 microns in diameter (PM_{2.5}). Refer to the following table for a complete summary of the modified facility's new potential to discharge:

- New Facility-wide Emissions - Central Supply Company of WV Saltwell Plant	Controlled PM Emissions		Controlled PM₁₀ Emissions		Controlled PM_{2.5} Emissions	
	lb/hour	TPY	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions						
Open Storage Pile Emissions	0.65	2.87	0.31	1.37	0.05	0.21
Unpaved Haulroad Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Paved Haulroad Emissions	109.06	51.43	21.27	10.04	0.71	0.34
<i>Fugitive Emissions Total</i>	<i>109.71</i>	<i>54.30</i>	<i>21.58</i>	<i>11.41</i>	<i>0.76</i>	<i>0.55</i>
Point Source Emissions						
Equipment Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Transfer Point Emissions	34.04	19.64	15.14	7.03	2.43	1.40
Hot Water Heater HWH1	0.14	0.59	0.14	0.59	0.14	0.59
<i>Point Source Emissions Total (PTE)</i>	<i>34.18</i>	<i>20.23</i>	<i>15.28</i>	<i>7.62</i>	<i>2.57</i>	<i>1.99</i>
FACILITY EMISSIONS TOTAL	143.89	74.53	36.86	19.03	3.33	2.54

Hot Water Heater HWH1 is rated for 5.6 MMBtu/hr (two burners at 2.8 MMBtu/hr each) and may use No. 2 Diesel Fuel at 40 gal/hr or Natural Gas at 5,600 scf/hr or Propane at 61 gal/hr to heat water as needed.

The applicant's consultant used emission factors from AP-42 5th Edition Section 1.3 Fuel Oil Combustion (September 1999, corrected May 2010) - Tables 1.3-1, 1.3-2, 1.3-3, 1.3-9 and 1.3-10 to calculate the criteria and other pollutant emissions from HWH1 when burning No. 2 diesel fuel. The maximum permitted emissions from Central Supply Company of West Virginia's Hot Water Heater HWH1 when burning No. 2 diesel fuel are summarized in the following table:

Hot Water Heater HWH1 - Diesel Fuel			
Criteria Pollutants	Emission Factor (lb/10³ gallons) ¹	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (TPY)
PM Filterable	2	0.08	0.36
PM Condensable ²	1.3	0.06	0.23
Total PM/PM ₁₀ /PM _{2.5}	NA	0.14	0.59
CO	5	0.20	0.88
NO _x	18	0.72	3.16
SO ₂	7.1	0.29	1.25
VOC ³	0.34	0.02	0.06
Total HAPs ⁴	various ³	0.0021	0.0073

¹ Filterable PM, SO₂, CO and NO_x emission factors from AP 42 Table 1.3-1.

² Condensable PM emission factor from AP 42 Table 1.3-2.

³ For Fuel Oils, the VOC's exclude Methane AP 42 Table 1.3-3.

⁴ HAPs from AP 42 Table 1.3-9.

The applicant's consultant used emission factors from AP-42 5th Edition Section 1.4 Natural Gas Combustion (July 1998) - Tables 1.4-2, 1.4-3 and 1.4-4 to calculate the criteria and other pollutant emissions from HWH1 when burning pipeline quality natural gas. The maximum permitted emissions from Central Supply Company of West Virginia's Hot Water Heater HWH1 when burning pipeline quality natural gas are summarized in the following table:

Hot Water Heater HWH1 - Natural Gas ¹			
Criteria Pollutants	Emission Factor (lb/10⁶ scf) ²	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (TPY)
PM Filterable	1.9	0.01	0.05
PM Condensable ²	5.7	0.03	0.14
Total PM/PM ₁₀ /PM _{2.5}	7.6	0.04	0.19
CO	84	0.47	2.06
NO _x	100	0.56	2.45
SO ₂	0.6	0.01	0.01
VOC ³	5.5	0.03	0.13
Total HAPs ³	various ³	0.01	0.05

¹ Burner gas consumption at high fire is 2,800 cubic feet per hour for each of the two (2) burners.

² Emission factors from AP 42 Table 1.4-2

³ Emission factors from AP 42 Table 1.4-3 and 1.4-4

The applicant's consultant used emission factors from AP-42 5th Edition Section 1.5 Liquefied Petroleum Gas Combustion (July 2008) - Tables 1.5-1 to calculate the criteria and other pollutant emissions from HWH1 when burning propane. The maximum permitted emissions from Central Supply Company of West Virginia's Hot Water Heater HWH1 when burning propane are

summarized in the following table:

Hot Water Heater HWH1 - Propane			
Criteria Pollutants	Emission Factor (lb/10³ gallons) ¹	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (TPY)
PM Filterable	0.2	0.02	0.06
PM Condensable ²	0.5	0.03	0.14
Total PM/PM ₁₀ /PM _{2.5}	0.8	0.05	0.21
CO	7.5	0.46	2.02
NO _x	13	0.80	3.49
SO ₂	0.071	0.01	0.02
VOC ³	1.0	0.07	0.27

¹ Emission factors from AP 42 Table 1.5-1.

REGULATORY APPLICABILITY

NESHAPS and PSD have no applicability to the proposed modification of this existing concrete batch plant. The modification of Central Supply Company of West Virginia's existing Saltwell Plant is subject to the following state and federal rules:

45CSR2 To Prevent and Control Particulate Matter Air Pollution From Combustion of Fuel in Indirect Heat Exchangers

In accordance with Section §45-2-3.1, visible emissions from the hot water heater HWH1 shall not exceed 10% opacity based on a six minute block average.

In accordance with Section §45-2-11.1, any fuel burning unit(s) having a heat input under ten (10) million B.T.U.'s per hour will be exempt from sections 4, 5, 6, 8 and 9. However, failure to attain acceptable air quality in parts of some urban areas may require the mandatory control of these sources at a later date. Hot water heater HWH1 is only rated for a maximum of 5.6 MMBtu/hr (two burners rate for 2.8 MMBtu/hr each) and is therefore exempt from the sections 4, 5, 6, 8 and 9.

45CSR7 To Prevent and Control Particulate Matter Air Pollution From Manufacturing Processes and Associated Operations

The facility is subject to the requirements of 45CSR7 because it meets the definition of "Manufacturing Process" found in subsection 45CSR7.2.20. The facility should be in compliance with Subsection 3.1 (no greater than 20% opacity), Subsection 3.7 (no visible emissions from any storage structure pursuant to subsection 5.1 which is required to have a full enclosure and be equipped with a control device), Subsection 4.1 (PM emissions shall not exceed those allowed under Table 45-7A), Subsection 5.1 (manufacturing process and

storage structures must be equipped with a system to minimize emissions) and Subsection 5.2 (minimize PM emissions from haulroads and plant premises) when the particulate matter control methods and devices proposed within application are in operation.

According to Table 45-7B, for a type 'a' source with a maximum process weight rate of 2,300,000 lb/hour, the maximum allowable emission rate is approximately 50 lb/hour of particulate matter. The maximum emission rate is 34.18 lb/hour of particulate matter from point sources according to the estimated emissions in the permit application.

45CSR10 To Prevent and Control Air Pollution From the Emission of Sulfur Oxides

In accordance with Section §45-10-4.1, no person shall cause, suffer, allow or permit the emission into the open air from any source operation an in-stack sulfur dioxide concentration exceeding 2,000 parts per million by volume from existing source operations. §45-10-4.2 states that compliance with the allowable sulfur dioxide concentration limitations from manufacturing process source operation(s) set forth in this rule shall be based on a block three (3) hour averaging time.

In accordance with Section §45-10-10.1, any fuel burning units having a design heat input under ten (10) million BTU's per hour will be exempt from section 3 and sections 6 through 8. However, failure to attain acceptable air quality in parts of some urban areas may require the mandatory control of these sources at a later date. Hot water heater HWH1 is only rated for a maximum of 5.6 MMBtu/hr (two burners rate for 2.8 MMBtu/hr each) and is therefore exempt from the sections 3 and 6 through 8.

45CSR13 Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation

The proposed modification is subject to the requirements of 45CSR13 because it will result in an increase in emissions greater than six (6) pounds per hour and ten (10) tons per year of a regulated pollutant (PM). The applicant has submitted an application for a modification to their Rule 13 individual permit. The applicant published a Class I legal advertisement in *The Exponent Telegram* on March 23, 2017 and submitted the \$1,000 application fee for a modification to a Rule 13 individual permit.

45CSR17 To Prevent and Control Particulate Matter Air Pollution from Materials Handling, Preparation, Storage and Other Sources of Fugitive Particulate Matter

Per §45-17-3.1 no person shall cause, suffer, allow or permit fugitive particulate matter to be discharged beyond the boundary lines of the property on which the discharge originates or at any public or residential location, which causes or contributes to statutory air pollution.

45CSR22 Air Quality Management Fee Program

In accordance with 45CSR22 – Air Quality Management Fee Program, the permittee shall

not operate nor cause to operate the permitted facility or other associated facilities on the same or contiguous sites comprising the plant without first obtaining and having in current effect a Certificate to Operate (CTO). Such Certificate to Operate (CTO) shall be renewed annually, shall be maintained on the premises for which the certificate has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.

The proposed modification of Central Supply Company of West Virginia's existing concrete batch plant is not subject to the following state and federal rules:

45CSR16 *Standards of Performance for New Stationary Sources*
40 CFR 60 *Subpart Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984*

The proposed storage tanks T1 through T8 will not be subject to 40 CFR 60 Subpart Kb. Subpart Kb applies to each storage vessel with a capacity greater than or equal to 75 cubic meters (m³) (19,813 gallons) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification commenced after July 23, 1984. The application indicates that the largest storage tank is T1 for diesel fuel and it will have a maximum capacity of 30.28 cubic meters (m³) (8,000 gallons), and therefore, all of the proposed tanks will be exempt from the General Provisions (part 60, subpart A) and from the provisions of Subpart Kb.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

A toxicity analysis was not performed because the primary pollutants that will be emitted from this facility are PM (particulate matter) and PM₁₀ (particulate matter less than 10 microns in diameter), which are non-toxic pollutants. Various VOC/non-criteria regulated pollutants are emitted from the incomplete combustion of diesel fuel, natural gas and/or propane. However, these emissions are generally small and are not expected to adversely impact the quality of the surrounding ambient air.

AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the size and location of this facility and the extent of the proposed modification. This facility is located in Harrison County, WV, which is currently in attainment for PM (particulate matter) and PM₁₀ (particulate matter less than 10 microns in diameter). This modified facility will remain a minor source as defined by 45CSR14, therefore, an air quality impact analysis is not required.

RECOMMENDATION TO DIRECTOR

The information contained in this modification application indicates that compliance with all applicable regulations should be achieved when all proposed particulate matter control methods are in operation. Due to the location, nature of the process, and control methods proposed, adverse air quality impacts on the surrounding area should be negligible. Therefore, the granting of a Rule 13 permit to Central Supply Company of West Virginia for the modification of their existing concrete batch plant located near Bridgeport, Harrison County, WV is hereby recommended.

Daniel P. Roberts, Engineer Trainee
NSR Permitting Section

July 2, 2017
Date