

INITIAL TITLE V AIR PERMIT APPLICATION REVIEW

APPLICANT:	SITE LOCATION:	COUNTY:	
DSM Pharmaceuticals, Inc.	Greenville	Pitt	
TECHNICAL CONTACT:	PHONE:	RESPONSIBLE OFFICIAL:	TITLE:
Drew M. Reavis	(252) 707-2312	Greg Hinchman	Director, Site Services
REVIEW ENGINEER:	SIGNATURE:	DATE:	
William D. Willets, P.E.		October 9, 2003	
REGIONAL CONTACT:	REGIONAL OFFICE:	SIC CODE:	
Betsy Huddleston	Washington	2833/2834	
APPLICATION NUMBER:	EXISTING PERMIT NUMBER:	NEW PERMIT NUMBER:	
7400021A5.A	05754R75	05754T76	

I. Introduction

The U.S. Environmental Protection Agency (EPA) has given final approval to North Carolina's Title V operating permits program effective on October 1, 2001. This EPA approval triggered the requirements for Title V facilities to submit permit applications to the Division of Air Quality. Title V facilities are required to obtain an operating permit which addresses all applicable regulations under the State Implementation Plan, Federal Implementation Plan, and other provisions of the Clean Air Act (CAA). The Title V Operating Permit will define all of the facility's obligations under the CAA.

This Initial Title V Air Permit application Review intends to convey all pertinent emissions data, rules, policies, and engineering assumptions used to construct the DRAFT Title V operating permit. The primary source of information used to construct the DRAFT permit is the above referenced air permit application.

II. Background Information

The DRAFT Title V operating permit replaces an existing Air Quality Construction and Operation Permit No. 05754R75 which was issued on August 15, 2003 and is currently scheduled to expire on December 31, 2005.

Pursuant to 15A NCAC 2Q .0506, DSM Pharmaceuticals, Inc. submitted its initial Title V application to the Division of Air Quality on August 12, 1996. The initial application was considered complete for processing on October 11, 1996 and the last application update was received on July 30, 2003. Based on all of the submitted information in the Title V application, a DRAFT permit was completed. The DRAFT permit is required to go to public notice pursuant to 15A NCAC 2Q .0521. The DSM Pharmaceuticals, Inc. facility is subject to the Title V program due to potential emissions of hazardous air pollutants, nitrogen oxides, volatile organic compounds, and sulfur dioxide exceeding the major source thresholds.

III. Facility Description

DSM Pharmaceuticals, Inc. owns and operates a manufacturing facility in Greenville, North Carolina. The facility consists of several "plant areas" that produce a wide variety of products.

IV. Statement of Compliance

The DAQ has reviewed the compliance status of this facility. During the last inspection performed on August 22, 2002, the facility appeared to be operating in compliance with all permit conditions. The applicant has certified compliance with all applicable requirements. The applicant has also certified that the facility will be in compliance with any applicable requirements taking effect during the term of the permit and will meet such requirements on a timely basis.

V. Summary of Emission Sources and Control Devices

The following table contains a summary of all permitted emission sources and associated air pollution control devices and appurtenances:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Building Number 1			
Sterile Products Department (SPD)			
03829	closed chamber, pressure type, ethylene oxide/Freon sterilizer	CD-111462	Scrubber (6 gallons per minute injection rate)
46554	closed chamber, pressure type, ethylene oxide/Freon sterilizer (not currently in use)	NA	NA
	room fugitive emissions	63298	fabric filter (486 square feet of filter area)
	miscellaneous manufacturing operations (not currently in use)	66228	fabric filter (486 square feet of filter area)
SDS-1 MACT Subpart I	one spray dryer with six solution tanks (45.5 liters of methylene chloride per batch, tanks 75 liters each)	SRS-1	condenser (part of solvent recovery skid)
Solid Dose Formation			
	Accela Cota pans in Room No. M2-77A	41642	baffle-type wet scrubber (180 gallons per minute liquid injection rate)
	Groen Kettles in Room No. M2-77B	9156	impingement-type wet scrubber (30 gallons per minute liquid injection rate)
47819	fluid bed dryer	68194	packed tower type wet scrubber (58 gallons per minute liquid injection rate)
60223	fluid bed dryer (Glatt dryer) in Room M2-86	68221	packed tower type wet scrubber (43 gallons per minute liquid injection rate)

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45091, 08141, 08142, 00961, and 0960	five mixers room air exhaust of Room No. M2-84 (with HEPA filter) room M2-86 exhaust	111072	fabric filter (3,616 square feet of filter area)
67539, 67538 67536, and 67537	four coating pans (C-Room) 24517S-1, 24517S-2, 24517S-3, and 24517S-4	69665, 69666, 69667, and 69668	four impingement type wet scrubbers with mist eliminators (3.0 gallons per minute water injection rate each)
	Drug Room M2-79 mixing system	67541	fabric filter (486 square feet of filter area)
69680, 69681, 69682, and 69683	four coating pans (Film Coating Room, D-Room, M2-81)	67544, 67545, 67546, and 67547	four impingement type wet scrubbers (3.0 gallons per minute water injection rate each)
	active ingredient solution tank loading area exhaust (Film Coating Room D-Room, M2-81B)	69650	fabric filter (486 square feet of filter area)
26-011, 14-004, 14-006, 16-026 and 16-027	solution tank, granulation mixer, comill, and two tray dryers (Room M2-83)	111278	fabric filter (640 square feet of filter area)
16-024	fluid bed dryer (Room M2-83)	111278 and 106161	fabric filter (640 square feet of filter area) installed on a packed tower-type wet scrubber (58 gallons per minute of total liquid injection rate)
69872	small dose tablet printer (M2-98)	NA	NA
67807, 60656, and 49553	blending/sifting facility consisting of: blender, quadro mill, and Finex sifter	69798	Torit-type cartridge filter (904 square feet of filter area)
65613, 90914, 111578, 111579, and 111580	blending/sifting facility consisting of: blender, Finex sifter, and three sifters	69797	Torit-type cartridge filter (904 square feet of filter area)

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80501, 80502, 80503, and 80504	four coating pans	80505, 80506, 80507, and 80508	four venturi scrubbers (53 gallons per minute minimum liquid injection rate)
80509 and 80510	two solution tanks	80511	fabric filter (650 square feet of filter area, not currently in use)
125035	installed on a tablet coating pan (60 inches in diameter)	125036	impingement scrubber (9 gallons per minute water plate wash and 6 gallons per minute water spray)
GD-1	Glatt Dryer (400 kilogram maximum batch size)	GDIS-1	impingement tray scrubber (10 gallons per minute water flow to the trays and 5 gallons per minute water flow to the nozzles)
Small Scale Production			
32, 33, 34, 36, 37, 38, and U, V, and W	compression area, capsule filling, large two step granulation, toxic compression, regular filling, toxic filling, and Servac Room		seven HEPA filters installed one each on seven fabric filters (648 square feet of filter area each) installed one on each emission source
35	conventional granulation		HEPA filter installed on a cartridge filter (904 square feet of filter area each)
63951, 63953, and 63954	three drying ovens (dispatch dryers #1, #2, and #3)		three HEPA filters installed one on each emission source
61075 and 61076	two drying ovens (tray dryers)		two HEPA filters installed one on each emission source
68433	small scale tablet printer		HEPA panel filter
4114, 83362, 01089, 03906, 46558, 07485, 41494, 106471, and 111014	Mepron production room consisting of: tablet press operation, coating pan operation, Gemco blender, Double Cone blender, portable sifter, Fitzmill U, Fitzmill D, microwave dryer, and liquid ring vacuum pump installed on microwave dryer	111014	Torit pulse jet fabric filter (904 square feet filter surface area)
MD-1	microwave dryer		condenser system

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12836	toxic granulation room exhaust (small scale production area)	61196	cartridge type filter
Ointments, Creams, and Liquids Formulation Division			
	Room M2-178, tri-blender hopper	65127	fabric filter (486 square feet of filter area)
	Polysporin Production dust collection system for Rooms M1-3, M-180, and M0181	123256	HEPA filter installed on fabric filter (486 square feet of filter area)
	tri-blender/hopper in Room No. M2-174	69247	fabric filter (486 square feet of filter area)
	triblender/hopper in Room M2-172D	106259	cartridge filter (486 square feet of filter area)
	dust collection system for Rooms M2-172A, M2-172B and M2-172C	45177	fabric filter (904 square feet of filter area)
Drug Stock Department			
M1-24, M1-26, R1-10A, and R1-2, 49559	three ventilator hoods and fugitive emissions, Russel Sieve	61026, 61027, 61028, and 61029	four HEPA filters installed one each on four fabric filters (650 square feet of filter area each) installed one on each emission source
R1-9 and 08437	ventilator and large sifter	60220	HEPA filter installed on fabric filter (970 square feet of filter area)
49551 08885	room air from Room Nos. R1-3 (Russel Sieve) and R1-8 (Sifter)	125641 and 743	two HEPA filters installed one each on two fabric filters (905 and 650 square feet of filter area respectively) installed one on each emission source
47604	exhaust from Room Nos. R1-15 and R1-16 (Sifter)	66948	fabric filter (2,712 square feet of filter area)
47603, 00747	exhaust from Room Nos. R1-11 (sifters) and R1-12	66951	fabric filter (2,712 square feet of filter area)
	room exhaust from Weighing Room No. M2-13	65201	fabric filter (648 square feet of filter area)
Pharmaceutical Research and Development Laboratory			
05562	closed chamber, pressure type ethylene oxide/Freon sterilizer	NA	NA
Pharmaceutical Process Technology Support Department			
69697	electrically heated fluid bed drug dryer (600 pounds per hour capacity) equipped with an internal fabric filter (107.6 square feet of filter area)	106084	packed tower-type wet scrubber (43 gallons per minute minimum liquid injection rate)

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206-13, 206-1, and 206-8, 206-15	solution tank (60 gallons capacity) granulation mixer, and two comills	111317	Torit-type cartridge filter (1,356 square feet of filter area)
69754	Accela Cota tablet coater (205-1)	106083	impingement plate-type wet scrubber (7 gallons per minute liquid injection rate)
69753 and 69696	tri-blender (211-5) and 300 gallons capacity process tank	111316	Torit-type cartridge filter (904 square feet of filter area)
Building Number 2			
	four peracetic acid (La Calhene) Quality Assurance sterilization chambers		
Building Number 3			
Chemical Development Laboratories (CDL)			
	toxic module grinding and screening room exhausts	43586	carbon filter installed on HEPA filter installed on fabric filter (400 square feet of filter area)
883, 884, 885, 887, 27901, 27898, 27905, and 27902	eight reactors (not currently in use)	41703	venturi scrubber (22 gallons per minute 20 percent NaOH liquid injection rate)
	back draft hood and trunk exhaust at the first floor sink and all trunk exhaust lines on second floor toxic area		two carbon filters
68534	installed on a 200 gallons reactor		carbon block condenser
CD-1	water jacketed conical dryer (not currently in use)	CD-1-1	external condenser
RF-1 and DB-1	one Rosemund filter dryer and one dryer/blender (15 cubic feet)	RFC-1 (used during vacuum operation) and RFC-2 (used during all other operations)	two condensers
CDL-HW	hotwell		
	CDL pan drier (not currently in use)		

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R-21 and T-21	one reactor (200 gallon maximum capacity) and one receiver tank (100 gallon maximum capacity)	10911 CO-21	one venturi scrubber installed on one condenser
R-44 and T-44	one reactor (300 gallon maximum capacity) and one receiver tank (100 gallon maximum capacity)	41073 CO-44	one venturi scrubber installed on one condenser
Chemical Manufacturing Division, Module 1			
7073, 62590, and 44844C	Four Vessels (3rd Floor): 300 gallon Receiver, 300 gallon Mixing Tank, and 20 gallon Reactor	NA	NA
1266	200 gallon Reactor		Condenser
44786, 44788, 44787	Three Extraction Tanks, 200 gallons each T-6, T-9, and T-10	NA	NA
69268, T-4, T-12, 69263, 69266, 69267, 69265	Reactor R-4, 30 gallon (Mivacurium) Receiver T-4 Catch Pot T-12 Vacuum Pump VP-2 (Mivacurium) Reactor R-3, 50 gallon, with Condenser C-3 (Mivacurium) Reactor R-2, 50 gallon, with Condenser C-2 (Mivacurium) Reactor R-1, 100 gallon, with Condenser C-1 (Mivacurium)	69254 69262, 69261, and 69260	Venturi Scrubber (30 gpm caustic injection for control of acid gases, bromine, etc.) installed on R-4, T-4, T-12, VP-2, and three Condensers C-3, C-2, and C-1
69264	Vacuum Pump VP-1 (Mivacurium)		Condenser
123252	Reactor R-100, 100 gallon	NA	NA
60972	Pulse Sieve Columns M1-2, 3	NA	NA
69256	One Glitch/Karr Extraction Column EC-1 (Mivacurium)	NA	NA
111589, 111860	Two Vacuum Pumps installed on ovens		Condensers
69259, 44880, 111148, and 111149	Four vacuum shelf ovens 1, 2, 3, and 4	111147 and 44881	Torit cartridge filter (2,032 square feet of filter area) installed on one external condenser
111367	Drying ovens catch tank	NA	NA

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44842, 69269, 60972, 69272, 69271, 69273	Storage Tank T-105,5000 gallon Head Tank T-5, 30 gallon (Mivacurium) Toluene Storage Tank T8. Portable 100 gallon tank, T-7 (Mivacurium) Tank T-6, 20 gallon (Mivacurium) Tank T-11, 30 gallon (Mivacurium)	NA	NA
	Luwa Skid	44844-1	E5 Overhead Condenser
69604, 69257, 57344, 63375, 62319, 64060, 124314, 44789, 69253	Tank T-15, 100 gallon Neusche Filter Sparkler Filter #7 Receiver, 100 gallon Receiver, 100 gallon 50 gallon tank 50 gallon kettle Receiver, 100 gallon Niagara filter press	NA	NA
124326	Steam Ejector	NA	NA
Chemical Manufacturing Division, Module 2			
473, 123639, 62915, 5730, and 68426	Reactor R-232, 1000 gallon, with Condenser E-232 Reactor R-233, 1000 gallon, with Condenser 9516Z Reactor R-234, 2000 gallon, with Condenser 62933Z Reactor R-231, 1000 gallon, with Condenser E-321 Head Tank T-231B, 200 gallon (bromine)	124321, 4730Z, 9516Z, 62933Z, 5730Z	Venturi and Packed Tower Scrubber S-131 (110 gpm caustic injection to venturi, 8 gpm caustic injection to packed tower, for control of acid gases, bromine, etc.) installed on T-231B and four condensers: Condenser E-232 Condenser Condenser 62933Z Condenser E-321
67570, 67572, and 111432	Head Tank H-232, 300 gallon Head Tank H-231, 300 gallon Head Tank T-320 (ethylene glycol expansion tank)	NA	NA
1290, 1291, 9198, 9199	Receiver T-223 (R-231 East Receiver) Receiver T-224 (R-231 West Receiver) Receiver T-225 (X-225 Receiver Cooling Jacket 91982) Receiver T-226 (R-232 West Receiver)	NA	NA
68553, 111409, 111691, 111411	Centrifuge C-221 Centrifuge C-222 Catch Pot T-221 Catch Pot T-222	NA	NA

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41049, 7183, 7184, 7177	Tank T-212, 2000 gallon Tank T-213, 2000 gallon Tank T-214, 500 gallon Tank T-215, 750 gallon	NA	NA
1378	Filter Press F211	NA	NA
111412, 111414	Pan Dryer and Cobra Vacuum Pump	111415, 111416	condenser E-212 and condensate receiver T-216
106063, 106062, 106061	Ejector (R-232, 233) Ejector (R-231) Ejector (Dryer)	NA	NA
Chemical Manufacturing Division, Module 3			
7004, 68383, 7005, 28065	Reactor R-331, 1000 gallon with Condenser E-331 Reactor R-332, 1000 gallon with Condenser E-332 Reactor R-333, 1000 gallon with Condenser E-333 R-334 (TMBA Tank), 500 gallon with Condenser E-334	7091, 7004Z, 7908Z, 7005Z, 28065Z	Venturi Scrubber S-321, ID No. 7091 (22 gpm caustic injection, for control of acid gases, bromine, etc.) installed on four condensers: Condenser E-331 (150/150sf) Condenser E-332 Condenser E-333 (150/150sf) Condenser E-334 (100/100sf)
7855, 7856, 62675, 7087	Receiver T-325 Receiver T-326 Receiver T-324 Receiver T-323	NA	NA
127454., 123990, 111693	Centrifuge C-321 One Catch Pot T-321 Wash Tank T-322 (not currently in use)	NA	NA
123683	Dryer Blender D-312 (107sf)	NA	NA
7158, 7159, 61295, 7160	Tank T-312, 2000 gallon (south storage tank) Tank T-313, 2000 gallon (north storage tank) Tank T-314, 2000 gallon Tank T-317, 500 gallon	NA	NA
1344	Filter Press F-311	NA	NA
124326, 124327	Ejector 3-1 Ejector #2	NA	NA
Chemical Manufacturing Division, Module 5A			

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1218, 1219, 1220	Reactor R-4, 500 gallon with Condenser 1253 Reactor R-5, 500 gallon with Condenser 7020 Reactor R-6, 500 gallon with Condenser 7123	43534, 1253, 7020, and 7123	Dual Venturi Scrubber S-521, (20 gpm caustic solution injection rate to each venturi, for control of acid gases, bromine, etc.) installed on three condensers
69315, 60357	Head Tank Head Tank T-535, 300 gallon	NA	NA
7099, 7100	Receiver, 100 gallon Receiver, 300 gallon	NA	NA
1304, 69311, 125703	Centrifuge 5A Wash Tank T-528, 250 gallons Catch Pot	NA	NA
1356	Dryer Blender, 107 cf	NA	NA
1364, 1365, 45737, 47646, 7173	Tank ST-4, 750 gallon Tank TK-3, 300 gallon Tank 5A, 2000 gallon Tank TK-2, 1000 gallon Tank TK-1, 500 gallon	NA	NA
1357	Filter Press	NA	NA
106060, 106056	Ejector 5-1 Ejector 5-2	NA	NA
Chemical Manufacturing Division, Module 5B			
1223, 1221, 1222, 123466	Reactor R-16, 500 gallon with Condenser 1252 Reactor R-534, 500 gallon with Condenser 7121 Reactor R-535, 500 gallon with Condenser 123463 Head Tank T-532, 50 gallon (Bromine)	123480, 1252, 7121, and 123463	Venturi Scrubber and Packed Tower Scrubber S-524 (98 gpm caustic injection rate to venturi and 8 gpm caustic injection rate to packed tower, for control of acid gases, bromine, etc.) installed on T-532 and three condensers
123483, 61294, 43507	Tank T-536, 150 gallon Tank T-531, , 250 gallon Tank, 500 gallon	NA	NA
7092, 7093	Receiver T-526B, 300 gallon Receiver T-526A, 100 gallon	NA	NA
123473	Extraction Tank R-511, 1000 gallon	123470	Condenser 1221-A
69312, 45235, 124103	Wash Tank T-527, 250 gallon Centrifuge 5B Catch Pot	NA	NA

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68394	Dryer Blender, 107 cf	NA	NA
43822, 1362, 47647, 7172	Tank ST-4, 2000 gallon Tank ST-5, 750 gallon Tank TK-7, 1000 gallon Tank TK-8, 500 gallon	NA	NA
106058, 106057, 106064	Ejector 5-3 Ejector 5-4 Ejector 5-5	NA	NA
Chemical Manufacturing Division, Module 6			
7605, 7765, 1318, 1329, 43505, 43506, 61291	Reactor R-31, 100 gallon with Condenser CO-31 Reactor R-37, 100 gallon with Condenser CO-37 Reactor R-36, 100 gallon with Condenser CO-36 Reactor R-20, 200 gallon with Condenser CO-20 Decomposition Tank T-7 (outside) Decomposition Tank T-6 (outside) Decontamination Heat Exchanger E-5	69310, 125594, 125595, 125608, 27069	Venturi Wet Scrubber T-370, (> 1gpm 20 % Caustic injection rate, for control of acid gases, bromine, etc.) installed on T-6, T-7, and four condensers CO-31, CO-37, and CO-36, CO-20
123969	Reactor R-21, 200 gallon	125597 and 125596	Condenser CO-21A and Condenser CO-21B
43366	NBL Reactor R-621, 100 gallon	NA	NA
1321	Reactor R-24, 200 gallon	125601	Condenser CO-24
1320	Reactor R-25, 200 gallon	125598	Condenser CO-25
69906, 69314, 69905, 41267, 69313	Head Tank T-631, 25 gallon Head Tank T-37 Head Tank 50 gallon Head Tank 50 gallon Head Tank	NA	NA
7652, 7116	Receiver V-31B, 50 gallon Receiver V-31A, 50 gallon	NA	Condenser CO-31B (TCE Cooled) (not currently in use)
7105, 7106, 7110, 7111	Receiver V-20A, 50 gallon Receiver V-20B, 50 gallon Receiver V-21B, 50 gallon Receiver V-21A, 50 gallon	NA	NA
7013	Extraction Tank 200 gallon	125600	Condenser CO-38

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43780, 43781, 43782, 43395	Extraction Tank T-13, 200 gallon Extraction Tank T-14, 300 gallon Extraction Tank T-15, 500 gallon Extraction Tank T-16, 750 gallon	NA	NA
43369, 7209	Tank T-39, 100 gallon Tank T-40, 100 gallon	125599	Condenser CO-39
62556, 7017	Solvent Chiller Tank TK-1, 100 gallon 100 gallon portable tank, 69309 Tank T-12	NA	NA
43370, 43390, 1391, 69062, 43355, 43391	Centrifuge C-631 Catch Pot Centrifuge C-612 (portable) Catch Pot Centrifuge C-611 Catch Pot	NA	NA
1407, 27959	Niagra Filter F-13 Niagra Filter F-14	NA	NA
43354	Dryer Blender DB-611	NA	NA
106054, 106053, 106052, 106051, 106050, 106048, 106049	EJV 6-1 EJV 6-2 EJV 6-3 EJV 6-4 EJV 6-5 EJV 6-6 EJV 6-7	NA	NA
47609	Portable sparkler filter	NA	NA
Chemical Development Pilot Plant, Module 7			

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51784,	100 gallon Reactor R-1 with Condenser CO-721	41703,	Venturi Scrubber (22 gallons per minute caustic injection rate, backup for scrubber 10911, for control of acid gases, bromine, etc.) installed on R-30 and nine condensers:
51785,	50 gallon Reactor R-2 with Condenser		
883,	10 gallon Portable Reactor R-30		
27898,	30 gallon Reactor R-40 with Condenser CO-40	128066,	Condenser CO-721
27890,	30 gallon Reactor R-41 with Condensers CO-41-D and CO-41-R		Condenser
27902,	100 gallon Reactor R-42 with Condenser CO-42	124162,	Condenser CO-40
27905,	100 gallon Reactor R-43 with Condenser CO-43	128064,	Condenser CO-41-D
125713,	200 gallon Reactor R-44 with Condenser CO-44	128065,	Condenser CO-41-R
27899,	20 gallon Receiver T-40 with Condenser CO-20	124163,	Condenser CO-42
279000,	20 gallon Receiver T-41 with Condensers CO-41-D and CO-41-R	124164,	Condenser CO-43
27903,	30 gallon Receiver T-42 with Condenser CO-42	125711,	Condenser CO-44
126312	100 gallon Receiver T-44 with Condenser CO-44	124156	Condenser CO-20

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54133, 68534, 126415, 883, 56958, 47617, 8992, 123717, Loc124155, 126414, 7604, 91458, 41552, 41553, 124161, 27904, 20001, 7189	10 gallon Reactor R-3 with Condenser 126567 200 gallon Reactor R-20 with Condenser CO-20 300 gallon Reactor R-21 with Condenser CO-21 10 gallon Portable Reactor R-30 50 gallon Reactor R-36 with Condenser CO-36 30 gallon Reactor R-37 with Condenser CO-37 50 gallon Reactor R-38 with Condenser 8891 100 gallon Reactor R-39 with Condenser CO-39 20 gallon receiver T-20 with Condenser CO-20 100 gallon Receiver T-21 with Condenser CO-21 20 gallon Receiver T-36 with Condenser CO-36 20 gallon Receiver T-37 with Condenser CO-37 Receiver for R-38 with Condenser 8891 Receiver for R-38 with Condenser 8891 50 gallon Receiver T-39 with Condenser CO-39 50 gallon Receiver T-43 with Condenser CO-43 200 gallon storage Tank T-50 100 gallon storage Tank T-51	10911 126567 124156 126413 126568 27199 8891 Loc3124160 124164	Venturi Scrubber (22 gallons per minute caustic injection rate, backup for scrubber 41703, for control of acid gases, bromine, etc.) installed on R-30, T-50, T-51, and eight condensers: Condenser Condenser CO-20 Condenser CO-21 (not currently in service) Condenser CO-36 Condenser CO-37 Condenser Condenser CO-39 Condenser CO-43
124805, 124804, 41347, 7015, 124159, 124599, 124991, 124992, 60-01	Portable Tanks: 100 gallon T-1 100 gallon T-2 30 gallon T-3 30 gallon T-4 10 gallon T-5 16 gallon T-6 5 gallon T-7 10 gallon T-8 15 gallon T-60-01	NA	NA
109337	Dryer/Blender DB-721 dryer/blender, DB-1 (15cf) Rosemund Dryer		two condensers RFC-1 (used during vacuum operation) and RFC-2 (used during all other operations)

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	One Hot Well, CDL-HW One Pan Dryer in Project Storage	NA	NA
124809, 41704	Centrifuge C-1 Centrifuge C-43	NA	NA
	trunk exhaust lines on second floor toxic area		Two carbon filters
	toxic module grinding and screening room exhausts.	43586	Carbon Filter installed on HEPA filter installed on fabric filter (400 sf of filter area)
Building 3, Columns			
61862H, 111783, 111782, 61862-G, 61289, 61862I, 61862F, 111786	AA Column consisting of: Tank T-2, 500 gallon Tank T-6, 3000 gallon Tank T-5, 1500 gallon Tank T-1, Reboiler, 1000 gallon Forecut Tank, 5000 gallon Tank T-3, 500 gallon C-1 Batch Still Column E-5 Heat Exchanger	111784, 111785, 61862B, 61862A	Condenser E3 Condenser E4 Condenser E-1 Falling Film Condenser
69046, 609311, 60931A, 124333, 124332, 60931G	THF Column consisting of: Tank V-2, 300 gallon Tank V-3, 500 gallon Reboiler, 1000 gallon Molecular Sieves C-100B Molecular Sieves C-100A V1 THF Column	60931D	E2 Distillation Condenser
43486, 43485, 43484, 124111, 43499	ACYB Column consisting of: Tank T-3, Hotwell Tank Tank T-2, 100 gallon Tank T-1, 300 gallon Reboiler V-1, 1000 gallon E-2 Product Cooler	43500	E-3 Receiver vent condenser
Building Number 4, Power Plant			
1, 2, and 3	three No. 2 fuel oil/No. 6 fuel oil/natural gas-fired boilers (38.0 million Btu per hour maximum permitted heat input rate each)	69777, 69778, and 69779	three spray baffle-type wet scrubbers (270 gallons per minute maximum caustic solution injection rate each)
4	No. 2 fuel oil/No. 6 fuel oil/natural gas-fired boiler (70.6 million Btu per hour maximum permitted heat input rate each)	69776	spray baffle-type wet scrubber (540 gallons per minute maximum caustic solution injection rate)

63165	No. 2 fuel oil-fired, emergency diesel generator (1,639 horsepower, 92 gallons per hour)	NA	NA
69775	soda ash slurry tank	69780	fabric filter (159 square feet of fabric filter surface area)
5617 NSPS, Subpart Kb	fixed roof No. 2 fuel oil storage tank (20,000 gallons capacity)	NA	NA
Building Number 5, Digitalis			
43684, 160, 7223	alcohol stripper column (7234, chloroform extraction), 200 gallon reactor (chloroform still), chloroform storage tank receiver to chloroform still	7234-A and 69867, 160-A and 69867, 69867, 69867	condenser and chloroform carbon adsorber, condenser and chloroform carbon adsorber, condenser and chloroform carbon adsorber, condenser and chloroform carbon adsorber
	finishing room fugitives	66954, 66956, 66955	dust collector pickups and fan, HEPA filter, fabric filter (904 square feet of filter area)
220, 213, 125, 7208, 69819, 7223, 7245	three chloroform extraction columns numbers 1, 2, and 3, alcohol recovery tank, vacuum pump for chloroform still, phase tank, chloroform head tank, recovery tank from extraction tank overflow	69867	chloroform carbon adsorber
159, MACT Subpart I 148, MACT Subpart I 47879 MACT Subpart I	200 gallon still, 200 gallon still, methylene chloride still (200 gallon)	7232 and 69668, 7231 and 69668 7244 and 69668	condenser and methylene chloride carbon adsorber, condenser and methylene chloride carbon adsorber, condenser and methylene chloride carbon adsorber

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<p>69820, 7247, 7218, 7248, 7233, 7227, 7246, 07221, 07223 and 07210, 7264, 7262 All MACT Subpart I</p>	<p>vacuum pump for methylene chloride stills, super cell head tank, methylene chloride wash tank, D3 head tank, receiver to D3 head tank, receiver to D3 head tank, D2 head tank, three fraction tanks, syrup mix tank, saturated methylene chloride storage tank (1000 gallon), two syrup storage tanks, two receivers to methylene chloride still, column top exhaust system for extraction columns 1 and 2, methylene chloride storage tank</p>	<p>69668</p>	<p>methylene chloride carbon adsorber</p>
<p>Building Number 7, Ointments, Creams, and Liquids Formulation Division</p>			
	<p>central vacuum system</p>		<p>tubular filter (102 square feet of filter area)</p>
	<p>tri-blend hopper</p>	<p>68861</p>	<p>fabric filter (486 square feet of filter area)</p>
<p>Building Number 8 - Analytical Development Laboratory and Pharmaceutical Research and Development Laboratory</p>			

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	<p>air exhausts from rooms: P-17 (fluid bed dryer, 61924 and granulator, 8143) P-18 (weight room)</p> <p>P-19 (general manufacturing granulator/dryer) P-20 (general manufacturing)</p> <p>P-21 (general manufacturing)</p> <p>P-30 (general manufacturing, tray dryer) P-31 (general manufacturing)</p> <p>P-32 (general manufacturing)</p> <p>P-34 (general manufacturing)</p> <p>P-35 (general manufacturing)</p> <p>P-46 (general manufacturing)</p> <p>P-49 (general manufacturing granulator/dryer 30, 57680) P-59 (general manufacturing granulator/dryer 5) P-60 (prep room for solutions)</p> <p>Tote Blending/Drum Dumper (92641/109434) P-61 (weight room)</p> <p>P-51 (general manufacturing)</p> <p>P-62 (tray dryer 61927)</p> <p>P-81 (tray dryer 61932)</p> <p>P-53 (general manufacturing)</p> <p>P-85 (weight room)</p> <p>P-86 (general manufacturing)</p> <p>dust collection system for Room P-82 (H-T spray dryer solvent recovery, 109084/ 109085)</p>	<p>61936z and 61936 61937z and 61937 61938z and 61938 61939z and 61939 61958z and 61958 61940z and 61940 61941z and 61941 61942z and 61942 61935z and 61935 61943z and 61943 61944z and 61944 61946z and 61946 61947z and 61947 61948z and 61948 61949z and 61949 61950z and 61950 61951z and 61951 61952z and 61952 61953z and 61953 61954z and 61954 61956z and 61956 61957z and 61957 61955z and 61955</p>	<p>twenty-two HEPA filters installed one each on twenty two bagfilters (486 square feet of filter area each) installed one each on the air exhausts from each room</p>
	<p>fluid bed dryer in Room P-59</p>	<p>61959</p>	<p>fabric filter (CD-8-25, 2336 square feet of filter area)</p>

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61924	fluid bed dryer in Room P-17	61960	fabric filter (648 square feet of filter area)
	fluid bed dryer in Room P-49	57681	fabric filter (Torit DE-8-24, 2436 square feet of filter area)
41106	tablet coating operations and portable dryer in Room P-1 (note: the portable dryer may be used in either Room P-1 or P-2, not currently in operation)	62048	baffle-tower wet scrubber (50 gallons per minute water injection rate)
	tablet coating operations and portable dryer in Room P-2 (note: the portable dryer may be used in either Room P-1 or P-2)	SCR-1	baffle-tower wet scrubber (20 gallons per minute water injection rate)
83362	tablet coater in Room P-4		HEPA filter
SP-1 and MD-2	two microwave dryers	NA	NA
06143	24 " tablet coater in Room P-3	62050	wet scrubber
	Room P-5 (Toxic material room: tablet, granulate, blend)	62044	HEPA filter
	Lyden oven in Room P-56	27924	HEPA filter
01125	P-9 (toxic manufacture room, tablet press)	62035	HEPA filter
Building Number 8A			
	six peracetic acid (La Calhene) quality assurance sterilization chambers		
Building Number 9, Chemical Manufacturing Expansion (CME)			
CME North			
60680, 60681, 60682, 60683, 60674	Reactor R172, 1000 gallon Reactor R272, 1000 gallon Reactor R372, 1000 gallon Reactor R472, 1000 gallon Reactor R572, 1000 gallon	60723, 69224, 60725, 60726, 60727	Condenser CO-172 (100sf), Condenser CO-272 (100sf), Condenser CO-372 (100sf), Condenser CO-472 (100sf), Condenser CO-572 (100sf)
60691, 60692, 60693, 60694, 60696, 60695, 60698, 60697, 60740	Receiver T172A, 300 gallon Receiver T172B, 300 gallon Receiver T272A, 300 gallon Receiver T272B, 300 gallon Receiver T372B, 300 gallon Receiver T372A, 300 gallon Receiver T472B, 300 gallon Receiver T472A, 300 gallon Receiver T572A, 300 gallon	NA	NA

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62896, 62917, 62321, 62916, 62898, 62322	Caustic Head Tank Head Tank, 200 gallon Head Tank, 100 gallon Head Tank, 200 gallon Caustic Head Tank Head Tank, 100 gallon	NA	NA
60686, 60687, 60745, 60746, 60689, 60370, 60690	Storage Tank T171A, 2000 gallon Storage Tank T271A, 2000 gallon Storage Tank T171F, 500 gallon Storage Tank T271F, 500 gallon Storage Tank T471, 1000 gallon Storage Tank T471A, 300 gallon Storage Tank T471B, 1000 gallon	NA	NA
60709, 60710, 60742, 60743, 60751, 60752	Centrifuge C171 Centrifuge C271 Solvent Hold Tank T171C, 500 gallon Solvent Hold Tank T-271C, 500 gallon Catch Pot T171B Catch Pot T271B	NA	NA
60675	Dryer Blender 171, 100cf	NA	NA
60739	Filter Press FP-171	NA	NA
CME South			
62928, 62914, 123913, 62927	Reactor R1, 1000 gallon Reactor R2, 2000 gallon Reactor R3, 2000 gallon Reactor R4, 1000 gallon	62901, 62902, 62903, 62904	Condenser (100sf), Condenser (150sf), Condenser (150sf), Condenser (100sf)
62921, 62922, 62929, 62930, 62931, 62932, 62923, 62924	Receiver R1A, 300 gallon Receiver R1B, 300 gallon Receiver R2A, 300 gallon Receiver R2B, 300 gallon Receiver R3A, 300 gallon Receiver R3B, 300 gallon Receiver R4A, 300 gallon Receiver R4B, 300 gallon	NA	NA
62926, 62918, 62919, 62920	Head Tank 100 gallon tank Head Tank 300 gallon tank Head Tank 300 gallon tank Head Tank 100 gallon tank	NA	NA

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62907, 62908, 62925, 62913, 62936, 62937, 62938, 62939, 62934, 62935	Centrifuge C1 Centrifuge C2 Storage Tank 2000 gallon Storage Tank 2000 gallon Wash Tank C1 500 gallon Wash Tank C2 500 gallon Solvent Hold Tank 560 gallon Solvent Hold Tank 560 gallon 75 gallon Catch Pot 75 gallon Catch Pot	NA	NA
60676, 60677	Dryer Blender 271 (107cf) Dryer Blender 371 (107cf)	NA	NA
67558	Filter Press	NA	NA
CME 500 Gallon Area/West			
60679	Reactor R872, 500 gallon	60708, 63485, 60729	venturi and packed tower scrubber (98 gallon per minute caustic solution injection and an eight gallon per minute packed tower scrubber, for control of acid gases, bromine, etc.), 50 gallon scrubber pot installed on Condenser CO-872 (25sf)
123691	Reactor R972, 500 gallon	123878	Condenser CO-972
606702, 60684, 60685	Receiver T872C 200 gallon, Receiver T872F 200 gallon, Receiver T972A 200 gallon	NA	NA
60701	T872A, 50 gallon Bromine head tank	60708, 63485	venturi and packed tower scrubber (98 gallon per minute caustic solution injection and an eight gallon per minute packed tower scrubber, for control of acid gases, bromine, etc.), 50 gallon scrubber pot
123690, 60750	Toluene Head Tank, 300 gallon T-Butyl Head Tank, 200 gallon	NA	NA
60699	Storage Tank T371A, 1000 gallon	60708, 63485	venturi and packed tower scrubber (98 gallon per minute caustic solution injection and an eight gallon per minute packed tower scrubber, for control of acid gases, bromine, etc.), 50 gallon scrubber pot installed on Condenser CO-371
60688, 60700	Storage Tank T971A, 1000 gallon Storage Tank T371C, 1000 gallon	NA	NA

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60711, 60748, 60753	Centrifuge C371, Tank T371D, 150 gallon Catch Pot T371B	NA	NA
CME General			
60756, 60757, 60758, 60759, 60760, 60761, 60763, 60762, 62909, 62910, 62911, 62912	Ejector EJV 173 Ejector EJV 273 Ejector EJV 373 Ejector EJV 473 Ejector EJV 572 Ejector EJV 573 Ejector EJV 673 Ejector EJV 873 Ejector EJV 773 R1 Ejector R2 Ejector R3 Ejector R4 Ejector	NA	NA
Building Number 10, Hydrogenation Facility			
62365	50 gallon reactor		Condenser
Building Number 12, Fiber Production			
FL-1 and FL-2	two fiber lines (4480 pounds of fiber each per day)	NA	NA
Building Number 16, Sterile Products Facility			
	Cytotoxic Rooms Nos. 4F109 and 4F111 air cleaning systems	96587	fabric filter (904 square feet of filter area)
	Compounding Room Air Cleaning system for Room Nos. 4F014, 4F015, 4F117, 4F118, 4F119, 4F126, 4F127, and 4F131	96588	fabric filter (3,616 square feet of filter area)
	quality assurance sampling room air cleaning system for Room Nos. 1F420 and 1F419	96586	fabric filter (904 square feet of filter area)
	Cytotoxic Room exhaust from Room Nos. 2F318, 2F318A, 2F317, 2F316, 2F315, 2F319, 2F308, 2F308A, 2F313, 2F312, 2F311, 2F309, 2F310, 2F307, 2F306, 2F305, 2F304, 2F303, 4F111, 4F112, 4F117, 4F110, 4F109, 4F108, 4F108A, 4F106, 4F103, 4F105, 4F102, and 4M002	96859	HEPA filter (168 square feet of filter area)
	one portable peracetic acid sterilization chamber	NA	NA

97064, EG2, and EG3	three emergency generators: nominal rating of 1100 kW, nominal rating of 1100 kW, nominal rating of 1250 kW	NA	NA
Building Number 22, Chemical Manufacturing Division (CMD)			
CMD North			
68382, 68389, 68384, 68385, and 68386	five reactors (1,000 gallon capacity each)	68372 68268, 68269, 68270, 68271 and, 68272	packed tower scrubber T-370 (50 gallons per minute liquid injection rate, for control of acid gases, bromine, etc.) installed on five condensers (100/100 sf each) installed one on each emission source
68409, 68410, 68411, 68412, 68414, 68413, 68416, 68415, 68417, 68418	ten receivers (300 gallon capacity each) T- 172A, T-172B, T-272A, T-272B, T- 372A, T-372B, T-472A, T-472B, T- 572A, T-572B	NA	NA
68431, 68427, 68428, 68432	four head tanks: 100 gallon, 200 gallon, 200 gallon, 100 gallon	NA	NA
68397, 68398, 68403, 68327, 68402	storage tank T171A (2000 gallon), storage tank T271A (2000 gallon), storage tank T471 (1000 gallon), storage tank T471A (1000 gallon), storage tank T471B (1000 gallon)	NA	NA
68352, 68353, 68319, 68320, 68313, 68314, 68323, 68324	Centrifuge C171, Centrifuge C271, T-271C, 500 gallon solvent hold tank T-171C, 500 gallon solvent hold tank T-171B Catch Pot, 75 gallon T-271B, Catch Pot, 75 gallon T-171F, wash hold tank, 500 gallon T-271F, wash hold tank, 500 gallon	NA	NA

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111612 and 111616 111611 and 111456 124888 and 124891	Pan dryer 471 and Vacuum pump(VP-461) or ejector Pan dryer 571 and Vacuum pump (VP-561) or ejector Pan dryer 671 and Vacuum pump (VP-671) or ejector	111618 and 111617 111453 and 111455 E-671 and T-671C	condenser (29.7sf) and solvent tank , 83 gallon condenser (29.7sf) and solvent tank , 83 gallon condenser E-671 and solvent tank T-671C
68333	Filter Press	NA	NA
111613	Schenk Filter	NA	NA
CMD South			
68388, 68391, 80681	Reactor R1, 1000 gallon Reactor R3, 2000 gallon Reactor R4, 1000 gallon	68275, 124351, 68276	Condenser (100/100sf) Condenser (150/150sf) Condenser (100/100sf)
68390, 68422, 68405, and 68406, 68420	Reactor R2, 2000 gallon with CD-1A or CD-1B Receiver R1B, 300 gallon with CD-1B scrubber Receiver R2A and Receiver R2B with CD-1B condenser and scrubber Head Tank (300 gallon) with CD-1B scrubber	CD-1B 68277 or CD-1B	Scrubber CD-1B installed on: Condenser CD-1A (150/150sf) or Condenser CD-1B (28 sf)
68421, 68407, 68408, 68423, 68424	Receiver R1A, 300 gallon Receiver R3A, 500 gallon Receiver R3B, 500 gallon Receiver R4A, 300 gallon Receiver R4B, 300 gallon	NA	NA
68429, 68419, 68430	Head Tank 100 gallon Head Tank 300 gallon Head Tank 100 gallon	NA	NA
68249, 68250, 68325, 68400, 68326, 68401, 68321, 68322, 68317, 68318	Centrifuge C1, Centrifuge C2, 500 gallon wash hold tank, 2000 gallon storage tank, 500 gallon wash hold tank, 2000 gallon storage tank, Solvent Tank, 560 gallon Solvent Tank, 560 gallon Catch Pot CP1, 75 gallon Catch Pot CP2, 75 gallon Catch Pot (Auxiliary)	NA	NA
68395 and 111457 68396 and 111040	Dryer/blender DB-271,107 sf and vacuum pump or ejector Dryer/blender DB-371,107 sf and vacuum pump or ejector	111452, 111036	Condenser Condenser

68334	Filter Press	NA	NA
CMD 500 Gallon Area/West			
68392, 68393, 124880, 68425, 124234, 68387	Reactor R872, 500 gallon with Condenser 124864, Reactor R972, 500 gallon with Condenser 68274, Receiver T872C, 300 gallon, Receiver R872F 200 gallon, Head Tank 872A (Bromine), 100 gallon extraction tank, T371A, 1000 gallon with Condenser 124865	68372 124864, 68274, 124865	Packed tower scrubber T-370 (50 gpm liquid injection rate, for control of acid gases, bromine, etc.) installed on T872C, R872F, 872A, and three condensers (100/100sf)
124880	Receiver 872C (300 gallon)	NA	NA
124870, 124872, 124875, 124869	Head Tank 872B, 400 gallon Head Tank 872E, 600 gallon Head Tank 371D, 300 gallon knock out pot, T872D, 50 gallon	NA	NA
68354, 68355, 125158, 124885, 124877, 68399	Centrifuge C371, ID No. Centrifuge C471, ID No. Catch Pot 371B, 75 gallon Catch Pot 471D, 75 gallon T371C, 300 gallon storage tank T971A, 2000 gallon storage tank (outside)	NA	NA
124887	Schenk Filter F-211	NA	NA
124881	Vacuum Pump VP-973 can be used to provide vacuum to various pieces of process equipment		condenser E-973
CMD General			
68347 68340 68341 68342 68339 60760 68345 68346 68348 68350 68351 68349	Ejector E-873 EJV-273 EJV-373 EJV-473 EJV-173 EJV-573 EJV-673 EJV-773 Ejector R1 Ejector R2 Ejector R3 Ejector R4	NA	NA
CMD22 HW	hotwell system	NA	NA

124881, 111457, 111616, 124888	four Vacuum Pumps	NA	NA
	Portable Charging Box		panel filter
Building Number 28, Hydrogenation Facility			
124228, 124569, 124237, 124233, 124224, 111408	R-10, 2000 gallon hydrogenator with Condenser E-28013 R-25, 1000 gallon reactor with Condenser E-28125 R-50, 2000 gallon reactor with Condenser E-28130 Head/Charge Tank T-31, 300 gallon tank (V-28031) and Head/Charge Tank T-28, 300 gallon tank (V-28000) with Condenser E-28156 Filter Dryer, FD-41 with condenser 124427	124240, 124230, 124481, 124589, 125167, 124427	Venturi scrubber (110 gallons per minute caustic injection rate) installed on a packed tower scrubber (8 gallons per minute caustic injection rate) installed on four condensers: Condenser E-28013 (300sf), Condenser E-28125 (300sf), Condenser E-28130 (150sf), Condenser E-28156 (200sf), vacuum condenser
124235, 124236, 125166	V-40, 500 gallon receiver V-41, 500 gallon receiver V-42, 500 gallon receiver	NA	NA
27201	Mix Tank, T-42, 300 gallon	NA	NA
124232	Schenk Filter, FB-20	NA	NA
65826	storage tank T-37, 2000 gallon tank	NA	NA
64231	storage tank T-39, 2000 gallon tank	123905	Condenser (E-28149) (150/150sf)
MACT Subpart I 124575 MACT Subpart I	reactor condensers, head tank T-31, and waste methylene chloride truck loading station with Condenser E-28156 Vacuum Pump Condenser E-28133 with Condenser E-28165	125167 125464	Condenser E-28156 (200sf) used whenever the process equipment is in methylene chloride service Condenser E-28165 (50sf) used whenever vacuum is maintained on any of the equipment in methylene chloride service
124429, 124575	Vacuum pump, Vacuum pump	124427, 124574	Condenser E-28071 (7sf), Condenser E-28133 (14sf)
Environmental Service Complex			
MACT Subpart EEE	natural gas-fired, 500 pounds per hour capacity, byproduct gaseous/liquid/semi-liquid hazardous waste, single chamber (NAO) incinerator (6.0 million Btu per hour minimum heat input primary burner)	NA	NA

<p>MACT Subpart EEE</p>	<p>natural gas-fired, 300 pounds per hour capacity, byproduct gaseous/liquid/semi-liquid hazardous waste, single chamber (Prencu) incinerator (5.6 million Btu per hour minimum heat input primary burner)</p>	<p>NA</p>	<p>NA</p>
<p>60624 MACT Subpart EEE</p>	<p>natural gas-fired, 1,193 pounds per hour maximum capacity, byproduct gaseous/liquid/semi-liquid hazardous waste, single chamber (McGill No. 1) incinerator (14.0 million Btu per hour minimum heat primary burner)</p>	<p>NA</p>	<p>NA</p>
<p>MACT Subpart EEE</p>	<p>natural gas fired, 1,131 pounds per hour maximum capacity, byproduct gaseous/liquid/semi-liquid hazardous waste, single chamber (McGill No. 2) incinerator (8.0 million Btu per hour minimum heat input primary burner)</p>	<p>M62-3, M62-1, M62-2</p>	<p>wet scrubber system, including wet electrostatic precipitator (768 square feet of total collection plate area, ID No. M62-3), direct water quench venturi wet scrubber (60 gallons per minute dilute caustic injection rate, ID No. M62-1), and packed tower wet scrubber (65 gallons per minute dilute caustic injection rate, ID No. M62-2) installed in series</p>
	<p>natural gas fired, 2,500 pounds per hour maximum capacity, trash/rubbish/refuse/garbage/non-hazardous byproduct waste, multiple chamber (Joy Energy) incinerator equipped with two primary burners (1.85 million Btu per hour minimum heat input each), and secondary burner (6.05 million Btu per hour minimum heat input)</p>		<p>wet scrubber system, including direct water quencher, condenser/absorber, venturi wet scrubber (115 gallons per minute dilute caustic injection rate - NaOH) installed in series</p>
<p>60949</p>	<p>wastewater DMSO evaporator</p>	<p>NA</p>	<p>NA</p>

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<p>68909, 123943 NSPS, Subpart Kb, 123944 NSPS, Subpart Kb, 63620 NSPS, Subpart Kb, 123942, 106002, 68225, 68904, 68902, 68905, 68903, 68906, 68908, 68907, 111361 NSPS, Subpart Kb</p>	<p>sixteen liquid hazardous waste storage tanks: T-04 (8000 gallon), T-06 (19,800 gallon), T-07 (19,800 gallon), T-08 (15,000 gallon), T-09 (7000 gallon), T-10 (6500 gallon), T-12 (10,000 gallon), T-13 (10,000 gallon), T-14 (10,000 gallon), T-15 (10,000 gallon), T-16 (10,000 gallon), T-17 (10,000 gallon), T-18 (10,000 gallon), T-19 (10,000 gallon), T-20 (12,000 gallon)</p>	<p>NA</p>	<p>NA</p>
<p>T-125</p>	<p>spent caustic solution storage tank (10,000 gallon)</p>	<p>NA</p>	<p>NA</p>
<p>B19 Recovery Columns</p>			

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<p>68901 67626 67640 67628 67641 67619 67643 67624 67655 67659 67656 67620 67658 67638 67621 67625 67654</p>	<p>pyridine recovery unit consisting of: T-8 Distillate storage (10,000 gallon) E-4 reboiler T-3 Evaporator knock out drum C-6 High boiler condenser (NIU) T-4, AB, 2-sided tank (product recovery) C-1 Steam stripping column T-6 Hiboiler purge tank - (50 gal) E-2 Stripping column condenser T-7B Feed tank (12,500 gallon) T-9 Weak caustic storage (5800 gallon) T-12 Wastewater storage (11,200) gallon) C-2 Extraction column T-11 A&B Pyridine storage (11,200 gallon) T1 Azeotropic surge tank (off C1, 125 gallon) C-3 Final drying column E-3 Product column condenser T-7A Feed tank (12,500 gallon) Tank A (50 gal)</p>	<p>67642</p>	<p>packed tower type wet scrubber (GG-6532, 7.57 gallons per minute liquid injection rate - 30 percent Acetic Acid)</p>
<p>69011 69024 69515 69021 69516 69019 69514 69017 69022 69027 69518 69025 69026 69023 69517 69020</p>	<p>zidovudine recovery unit: T7C Pyridine mother liquor storage (24,000 gallon) J101 Vacuum pump (NIU) ZIDD Ethylacetate T-102 Decanter (NIU) T-51 Tank E101 Condenser (for C2) (NIU) T-52 Tank E-103 Vent condenser (NIU) T-50 ZIDL storage E-105 Feed preheater T-104 Knock out pot (NIU) C-101 Extraction column T-53B Raffinate waste (1500 gallon) T-101 Extraction surge tank C-102 Stripping column T-103 Ethyl Acetate Storage tank (stored cool) T-53A Raffinate waste (1500 gallon) E-102 Reboiler (NIU) Tank A (50 gal)</p>	<p>NA</p>	<p>NA</p>

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T43966	Acetic Anhydride recovery tank	NA	NA
T1103	Acetic Anhydride surge tank		
T1104	Toluene receiver		
T1105	Toluene receiver		
T1107A	Toluene recovery tank (2000 gallon)		
T1107B	Toluene recovery tank (2000 gallon)		
T1108A	Toluene recovery tank (2000 gallon)		
T1108B	Toluene recovery tank (2000 gallon)		
T1106	Acetic acid tank		
T1110A	Tank - 15,000 gallon mother liquid		
T1110B	Tank - 15,000 gallon mother liquid		
T1109	Tank - 15,000 gallon mother liquid		
C1101	Distillation column for T1103, T1104, T1105	E1100	Condenser
Chemical Development Laboratory (CDL) Research Complex			
CDLRC	CDL Research Complex	CDLRC-1	packed tower type scrubber (150 gallon per minute of 20% NaOH solution minimum injection rate) installed on natural gas-fired thermal oxidizer (20 million Btu per hour minimum heat input rate)
Chemical Manufacturing Division (DPC) Tank Farm			
66393	bromine tank (4,000 gallon capacity)	BRS-1	venturi scrubber (26 gallon per minute caustic solution injection rate, ID No. BRS-1) installed on packed tower scrubber (8 gallon per minute caustic solution injection rate, ID No. BRS-1)

09636	7800 gallon horizontal tank - Pyridine	NA	NA
09635	5300 gallon horizontal tank - MeCl2		
07434	6600 gallon horizontal tank - Formamide		
09638	12,000 gallon horizontal tank - Ethyl Acetate		
	3800 gallon horizontal tank - Sulfuric Acid		
	6000 gallon vertical tank - Dimethyl Sulfurxide		
	vertical tank - Acetic Anhydride		
	vertical tank - Acetic Anhydride		
28002	10,000 gallon vertical tank - Dimethyl		
28001	Formamide		
68914	5000 gallon tank - Forecut waste		
	22,000 gallon tank - Acetic anhydride		
44842			
43968			
NSPS,			
Subpart Kb			
07435	8800 gallon tank - Denatured Alcohol		
10924	8800 gallon tank - Denatured Alcohol		
2040-D	4000 gallon tank - Tri-methoprim waste		
	7500 gallon tank - Methyl Alcohol		
	7500 gallon tank - Sodium Methylate		
47854	5000 gallon tank - Chloroform		
47858	10,000 gallon tank - N,N Dimethyl formamide		
A			
C	5000 gallon tank - Ethyl Acetate		
	6400 gallon tank - Acetic Acid		
D	6100 gallon horizontal tank -		
T-124	Acetone/Toluene		
07436	10,472 gallon horizontal tank - Acetone		
	10,000 gallon horizontal tank - Acetone		
10131	9000 gallon vertical tank - SD3 Alcohol		
	8800 gallon vertical tank - SD3A PMD		
09325	8800 gallon vertical tank - SD3A Alcohol		
	4000 gallon horizontal tank - Chloroform		
B	4000 gallon horizontal tank - Chloroform		
	8000 gallon vertical tank - Methanol		
07435	10,000 gallon vertical tank - Acetic Anhydride		
07438	15,000 gallon vertical tank - Toluene		
	2000 gallon vertical tank - Acetic Anhydride		
07433			
	24,000 gallon horizontal tank - Acetic Anhydride		
07432			
08895			
61864	20,600 gallon horizontal tank - Mother Liquor (ZIDF M.L.)		
61865			
61863			

Cogeneration Facility			
CF-1 NSPS, Subpart GG/Dc	cogeneration unit consisting of a natural gas/No. 2 fuel oil-fired gas turbine and duct burner (maximum rated heat inputs of 73 and 64 million Btu per hour, respectively)		water injection system
CG-1, CG-2, and CG-3 NSPS, Subpart Kb	three fixed roof No. 2 fuel oil storage tanks (20,000 gallons capacity and two 120,000 gallons capacity each) equipped with conservation vents	NA	NA
10697	emergency generator	NA	NA
Polyethylene Fiber Processing			
FBL1 V1-1 to V1-8 EXTR1	Fiber Line 1 consisting of: eight vessels Polyethylene dosing operations one primary drying oven, one extruder (1150 kilograms of fiber extruded per hour)	DC-3 and DC-5 Cond1	two dust collectors (29 square feet of surface area each) one condenser (design flow rate of 3500 pounds per hour of water coolant, This control device is not required for compliance and is not considered when calculating emissions from this source.)
FBL2 V2-1 to V2-8 EXTR2	Fiber Line 2 consisting of: eight vessels Polyethylene dosing operations one primary drying oven, one extruder (1150 kilograms of fiber extruded per hour)	DC-4 and DC-6 Cond2	two dust collectors (29 square feet of surface area each) one condenser (design flow rate of 3500 pounds per hour of water coolant, This control device is not required for compliance and is not considered when calculating emissions from this source.)
PE Silo 1 and PE Silo 2	two Polyethylene Storage Silos (6851 cubic feet each)	DC-1 and DC-2	two fabric filters (194 square feet of surface area each)
Line 1 Boiler and Line 2 Boiler	two natural gas/No. 2 fuel oil-fired hot oil boilers (6 million Btu per hour each, maximum)	NA	NA

NSPS, Subpart Kb	Decaline Tank (200 cubic meters, maximum)	NA	NA
NSPS, Subpart Kb	Contaminated Decaline Tank (120 cubic meters, maximum)		
Waste Water Treatment Facility			
WW-BSN	wastewater neutralization tanks	CC-1	one carbon canister (1800 pounds of carbon, not required for operation)
WW-ST	one waste water shunt tank (125,000 gallons)	CC-2	one carbon canister (1800 pounds of carbon)

VI. Emission Source-by-Source Evaluation

A. No. 2 fuel oil/No. 6 fuel oil/natural gas-fired boilers (ID No. 1, 2, and 3) located in Building No. 4 - Power Plant and spray baffle type wet scrubber (ID No. 69777, 69778, and 69779)

1. Regulatory Analysis

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	0.32 pounds per million Btu (each boiler)	15A NCAC 2D .0503
sulfur dioxide	2.3 pounds per million Btu (each boiler)	15A NCAC 2D .0516
opacity	20% (each boiler)	15A NCAC 2D .0521

a. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

- I. Emissions of particulate matter from the combustion of No. 2 fuel oil, No. 6 fuel oil, and/or natural gas, that are discharged from these sources into the atmosphere shall not exceed 0.32 pounds per million Btu heat input.

Monitoring

- ii. Particulate matter emissions from the boilers shall be controlled by the spray baffle type wet scrubbers. To assure compliance, the Permittee shall perform monthly inspections and perform maintenance as recommended by the manufacturer. In addition to the manufacturer’s inspection and maintenance recommendations, or if there is no manufacturer’s inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include:
 - (a) inspection of spray nozzles to detect clogging or corrosion damage of nozzles and perform maintenance and repair when necessary to assure proper operation of the scrubber;
 - (b) inspection of packing material to assure proper packing depth and to check for clogging; and
 - (c) inspection, cleaning, and calibration of all associated instrumentation.

Recordkeeping

- iii. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each inspection;
 - (c) the results of any maintenance performed on the scrubber; and
 - (d) any variance from manufacturer's recommendations, if any, and corrections made.

Reporting

- iv. Within 30 days of a request from the DAQ, the Permittee shall submit a report of any maintenance and repairs performed on the scrubber system.
- v. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

b. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

- I. Emissions of sulfur dioxide from these sources shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Monitoring/Recordkeeping

- ii. No monitoring/recordkeeping is required for sulfur dioxide emissions from the firing of natural gas/No. 2 fuel oil in these sources for purposes of compliance with 15A NCAC 2D .0516.
- iii. The maximum sulfur content of the No. 6 fuel oil received and burned in the boilers shall not exceed VI. percent by weight.
- iv. To assure compliance, the Permittee shall monitor the sulfur content of the No. 6 fuel oil by using fuel oil supplier certification per shipment received. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a quarterly basis and include the following information:
 - (a) the name of the fuel oil supplier;
 - (b) the maximum sulfur content of the fuel oil received during the quarter;
 - (c) the method used to determine the maximum sulfur content of the fuel oil; and
 - (d) a certified statement signed by the responsible official that the records of fuel oil supplier certification submitted represent all of the No. 6 fuel oil fired during the period.

Reporting

- v. The Permittee shall submit a summary report of the fuel oil supplier certifications postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

c. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- I. Visible emissions from these boilers (**ID Nos. 1, 2, and 3**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring

- ii. To assure compliance, once a day the Permittee shall observe the emission points of these sources for any visible emissions above normal. The daily observation must be made for each day of the calendar year period to ensure compliance with this requirement. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission sources is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation. The Permittee shall establish “normal” for the source in the first 30 days following the effective date of the permit. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given in Section VI. A. c. I. above. If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping

- iii. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
 - (c) the results of any corrective actions performed.

Reporting

- iv. The Permittee shall submit a summary report of the observations postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

B. No. 2 fuel oil/No. 6 fuel oil/natural gas-fired boiler (ID No. 4) located in Building No. 4 - Power Plant and spray baffle type wet scrubber (ID No. 69776)

1. Regulatory Analysis

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	0.28 pounds per million Btu	15A NCAC 2D .0503
sulfur dioxide	2.3 pounds per million Btu	15A NCAC 2D .0516
opacity	20%	15A NCAC 2D .0521
nitrogen oxides	40 tons per consecutive twelve month period	15A NCAC 2D .0530
sulfur dioxide	40 tons per consecutive twelve month period	15A NCAC 2D .0530

a. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

- I. Emissions of particulate matter from the combustion of No. 2 fuel oil, No. 6 fuel oil, and/or natural gas, that are discharged from this source into the atmosphere shall not exceed 0.28 pounds per million Btu heat input.

Monitoring

- ii. Particulate matter emissions from the boiler shall be controlled by the spray baffle type wet scrubber. To assure compliance, the Permittee shall perform monthly inspections and perform maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include:
 - (a) inspection of spray nozzles to detect clogging or corrosion damage of nozzles and perform maintenance and repair when necessary to assure proper operation of the scrubber;
 - (b) inspection of packing material to assure proper packing depth and to check for clogging; and
 - (c) inspection, cleaning, and calibration of all associated instrumentation.

Recordkeeping

- iii. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each inspection;
 - (c) the results of any maintenance performed on the scrubber; and
 - (d) any variance from manufacturer's recommendations, if any, and corrections made.

Reporting

- iv. Within 30 days of a request from the DAQ, the Permittee shall submit a report of any maintenance and repairs performed on the scrubber system.
- v. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

b. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

- I. Emissions of sulfur dioxide from this source shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Monitoring/Recordkeeping

- ii. No monitoring/recordkeeping is required for sulfur dioxide emissions from the firing of natural gas/No. 2 fuel oil in this source for purposes of compliance with 15A NCAC 2D .0516.
- iii. The maximum sulfur content of the No. 6 fuel oil received and burned in the boiler shall not exceed VI. percent by weight. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516 if the sulfur content of the fuel oil exceeds this limit.
- iv. To assure compliance, the Permittee shall monitor the sulfur content of the No. 6 fuel oil by using fuel oil supplier certification per shipment received. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a quarterly basis and include the following information:
 - (a) the name of the fuel oil supplier;
 - (b) the maximum sulfur content of the fuel oil received during the quarter;
 - (c) the method used to determine the maximum sulfur content of the fuel oil; and
 - (d) a certified statement signed by the responsible official that the records of fuel oil supplier certification submitted represent all of the No. 6 fuel oil fired during the period.

Reporting

- v. The Permittee shall submit a summary report of the fuel oil supplier certifications postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

c. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- I. Visible emissions from this boiler (**ID No. 4**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring

- ii. To assure compliance, once a day the Permittee shall observe the emission points of this source for any visible emissions above normal. The daily observation must be made for each day of the calendar year period to ensure compliance with this requirement. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission sources is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given in Section VI. 1. c. I. above. If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping

- iii. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
 - (c) the results of any corrective actions performed.

Reporting

- iv. The Permittee shall submit a summary report of the observations postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

d. 15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

- I. In order to avoid applicability of 15A NCAC 2D .0530 (g) for major sources and major modifications, this boiler (**ID No. 4**) shall discharge into the atmosphere less than 40 tons of nitrogen oxides and less than 40 tons of sulfur dioxide, per consecutive 12-month period.

Monitoring/Recordkeeping

- ii. The Permittee shall keep monthly records of the amount of fuel used and the sulfur content, including certification of the fuel, in a logbook (written or in electronic format).
- iii. The use of fuel in this boiler (**ID No. 4**) shall be limited such that neither nitrogen oxides nor sulfur dioxide emissions shall exceed 250 tons for any consecutive 12-month period. Calculations shall be made monthly

and recorded in a logbook (written or in electronic format), according to the following formulae:

$$SO_2 = Y \times \frac{0.6 \text{ lbs sulfur dioxide}}{\text{million cubic feet}} \cdot (Z2 \times S2 + Z6 \times S6) \times \frac{157 \text{ lbs sulfur dioxide}}{1000 \text{ gallon fuel oil}}$$

Where: SO₂ is the total actual emissions of sulfur dioxide in pounds
 Y is the total amount of natural gas used in the boilers in cubic feet
 Z2 is the amount of No. 2 fuel oil used in the boilers in gallons
 S2 is the percent sulfur in the No. 2 fuel oil
 Z6 is the amount of No. 6 fuel oil used in the boilers in gallons
 S6 is the percent sulfur in the No. 6 fuel oil

and

$$NO_x = Y \times \frac{100 \text{ lbs nitrogen oxides}}{\text{million cubic feet}} \cdot Z2 \times \frac{20 \text{ lbs nitrogen oxides}}{1000 \text{ gallon fuel oil}} + Z6 \times \frac{55 \text{ lbs sulfur dioxide}}{1000 \text{ gallon fuel oil}}$$

Where: NO_x is the total actual emissions of sulfur dioxide in pounds
 Y is the total amount of natural gas used in the boilers in cubic feet
 Z2 is the amount of No. 2 fuel oil used in the boilers in gallons
 Z6 is the amount of No. 6 fuel oil used in the boilers in gallons

Reporting

- iv. The Permittee shall submit a summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. The report shall contain the following:
 - (a) The monthly nitrogen oxides and sulfur dioxide emissions for the previous 14 months. The emissions must be calculated for each of the 12-month periods over the previous 14 months;
 - (b) The monthly quantities of natural gas and No. 6 fuel oil consumed for the previous 14 months and the average sulfur content for the fuel oil; and
 - (c) The average sulfur content for the fuel oil.

C. Cogeneration Unit consisting of the Cogeneration Turbine and associated Duct Burners (ID CF-1) located at the Cogeneration Facility

1. Regulatory Analysis

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation

particulate matter	0.26 pounds per million Btu	15A NCAC 2D .0503
opacity	20%	15A NCAC 2D .0521
opacity	20%	15A NCAC 2D .0524 Subpart Dc
sulfur dioxide	0.5 pounds per million Btu	15A NCAC 2D .0524 Subpart Dc
fuel sulfur content	0.5 percent by weight	15A NCAC 2D .0524 Subpart Dc
nitrogen oxides	150 parts per million volume	15A NCAC 2D .0524 Subpart GG
fuel sulfur content	0.8 percent by weight	15A NCAC 2D .0524 Subpart GG
nitrogen oxides	39.9 tons per consecutive twelve month period	15A NCAC 2D .0530
sulfur dioxide	39.9 tons per consecutive twelve month period	15A NCAC 2D .0530
sulfur dioxide	No more than 1.12 million gallons of 0.5 weight percent No. 2 fuel oil per consecutive twelve month period	15A NCAC 2D .0530

a. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

- I. Emissions of particulate matter from the combustion of natural gas/No. 2 fuel oil that are discharged from the duct burners into the atmosphere shall not exceed 0.26 pounds per million Btu heat input.

Monitoring/Recordkeeping/Reporting

- ii. No monitoring/recordkeeping/reporting is required for the firing of natural gas/No. 2 fuel oil in this source for purposes of compliance with 15A NCAC 2D .0503.

b. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- I. Visible emissions from this source (**ID No. CF-1**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring/Recordkeeping/Reporting

- ii. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas/No. 2 fuel oil in this source for purposes of compliance with 15A NCAC 2D .0521.

c. 15A NCAC 2D .0524: NSPS 40 CFR PART 60 SUBPART Dc

- I. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC

2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart Dc, including Subpart A "General Provisions."

Emission Limitations

- ii. The maximum sulfur content of any fuel oil received and burned in the Duct Burners shall not exceed 0.5 percent by weight.
- iii. Visible emissions from this source shall not be more than 20 percent opacity when averaged over a six-minute period, except for one six-minute period per hour of not more than 27 percent opacity.

Monitoring

- iv. Fuel sulfur content shall be monitored as follows:
Distillate Oil - Fuel supplier certification shall be used to demonstrate compliance as described under 40 CFR § 60.46c(e).

Recordkeeping

- v. In addition to any other recordkeeping required by 40 CFR § 60.48c or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during each month.

Reporting

- vi. In addition to any other reporting required by 40 CFR § 60.48c or notification requirements to the EPA, the Permittee is required to **NOTIFY** the DAQ in **writing** of the following:
 - (a) a summary report , acceptable to the Regional Air Quality Supervisor, of the sulfur content of the distillate or residual fuel oil fired, by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June as follows:
Fuel supplier certification shall include the following information:
 - (I) the name of the oil supplier;
 - (II) a statement from the oil supplier that the oil complies with the specification under the definition of distillate oil in 40 CFR § 60.41c; and
 - (III) a certified statement signed by the owner or operator of an affected facility that the records of fuel supplier certification submitted represents all of the fuel fired during the semi annual period.
 - (b) All instances of deviations from the requirements of this permit must be clearly identified.

d. 15A NCAC 2D .0524: NSPS 40 CFR PART 60 SUBPART GG

- I. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart GG, including Subpart A "General Provisions."

Emission Limitations

- ii. The maximum sulfur content of any fuel oil received and burned in the Combustion Turbine shall not exceed 0.8 percent by weight.
- iii. Nitrogen oxide emissions from this source shall not exceed 150 parts per million by volume.

Monitoring/Recordkeeping

- iv. Fuel sulfur content shall be monitored as follows:
Fuel supplier certification shall be used to demonstrate compliance as described under 40 CFR § 60.333(b).
- v. Nitrogen oxide emissions shall be monitored as follows:
The owner or operator of any stationary gas turbine subject to the provisions of NSPS Subpart GG and using water injection to control NOx emissions shall install and operate a continuous monitoring system to

monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine. This system shall be accurate to within ±5.0 percent and shall be approved by the Administrator.

Reporting

vi. In addition to any other reporting required by 40 CFR § 60.48c or notification requirements to the EPA, the Permittee is required to **NOTIFY** the DAQ in **writing** of the following:

(a) a summary report, acceptable to the Regional Air Quality Supervisor, of the sulfur content of the distillate or residual fuel oil fired, by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June as follows:

Fuel supplier certification shall include the following information:

- (I) the name of the oil supplier;
- (II) a statement from the oil supplier that the oil complies with the specification under the definition of distillate oil in 40 CFR § 60.41c; and
- (III) a certified statement signed by the owner or operator of an affected facility that the records of fuel supplier certification submitted represents all of the fuel fired during the semi annual period.

(b) All instances of deviations from the requirements of this permit must be clearly identified.

e. **15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION**

I. In order to avoid applicability of this regulation, the Cogeneration Unit (**ID No. CF-1**) shall discharge into the atmosphere less than 39.9 tons of nitrogen oxides and less than 39.9 tons of sulfur dioxide, per consecutive 12-month period.

Monitoring/Recordkeeping

ii. The Permittee shall keep monthly records of the amount of fuel used and the sulfur content, including certification of the fuel, in a logbook (written or in electronic format).

iii. The use of fuel in this source (**ID No. CF-1**) shall be limited such that neither nitrogen oxides nor sulfur dioxide emissions shall exceed 40 tons for any consecutive 12-month period. Calculations shall be made monthly and recorded in a logbook (written or in electronic format), according to the following formulae:

$$X = X1 + X2$$

$$X1 = Y1 \times S1 \times \frac{0.94 \text{ lbs sulfur dioxide}}{\text{million Btu heat input}} + Y2 \times \frac{0.6 \text{ lbs sulfur dioxide}}{\text{million cubic feet}}$$

$$X2 = Z2 \times S2 \times \frac{1.01 \text{ lbs sulfur dioxide}}{\text{million Btu heat input}} + Z3 \times S3 \times \frac{142 \text{ lbs sulfur dioxide}}{1000 \text{ gallon fuel oil}}$$

Where: X is the total actual emissions of sulfur dioxide in pounds

X1 is the actual emissions of sulfur dioxide from natural gas combustion in pounds

X2 is the actual emissions of sulfur dioxide from fuel oil combustion in pounds

Y1 is the heat input from natural gas used in the turbine in million Btus

S1 is the percent sulfur in the natural gas

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Y2 is the amount of natural gas used in the duct burners in cubic feet
Z2 is the heat input from No. 2 fuel oil used in the turbine in million Btus
S2 is the percent sulfur in the No. 2 fuel oil used in the turbine
Z3 is the amount of No. 2 fuel oil used in the duct burners in gallons
S3 is the percent sulfur in the No. 2 fuel oil used in the duct burners

Reporting

- iv. The Permittee shall submit a summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. The report shall contain the following:
 - (a) The monthly nitrogen oxides and sulfur dioxide emissions for the previous 14 months. The emissions must be calculated for each of the 12-month periods over the previous 14 months;
 - (b) The monthly quantities of natural gas and No. 6 fuel oil consumed for the previous 14 months and the average sulfur content for the fuel oil; and
 - (c) The average sulfur content for the fuel oil.

D. Chemical Development Laboratory Research Complex (ID No. CDLRC) including one packed tower type scrubber installed on one natural gas-fired thermal oxidizer (ID No. CDLRC-1)

1. Regulatory Analysis

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
opacity	20%	15A NCAC 2D .0521
nitrogen oxides	3.0 tons per consecutive twelve month period	15A NCAC 2D .0530
VOCs	2.0 tons per consecutive twelve month period	15A NCAC 2D .0530

a. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- I. Visible emissions from this source (ID No. CDLRC) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring/Recordkeeping/Reporting

- ii. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas in this source for purposes of compliance with 15A NCAC 2D .0521.

b. 15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

- I. In order to avoid applicability of this regulation, the Chemical Development Laboratory Research Complex (ID

No. CDLRC) shall discharge into the atmosphere less than 3.0 tons of nitrogen oxides and less than 2.0 tons of VOCs, per consecutive 12-month period.

Monitoring/Recordkeeping

- ii. Calculations of nitrogen oxide and VOC emissions per month shall be made at the end of each month. The
- iii. Calculations and the total amount of nitrogen oxide and VOC emissions shall be recorded monthly in a logbook (written or electronic format). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the nitrogen oxide or VOC emissions exceed the limits given in Section VI. D. b. I. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Reporting

- iv. The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. The report shall contain the following:
 - (a) The monthly nitrogen oxides and VOCs emissions for the previous 14 months. The emissions must be calculated for each of the 12-month periods over the previous 14 months; and
 - (b) The monthly quantities of natural gas consumed for the previous 14 months.

E. Storage Tanks (ID Nos. 61864, 43966, 61865, CG-1, CG-2, CG-3, T-06, T-07, T-08, T-20, T-7A, T-7B, T-11, T-7C, T-7D, T-1110A, T-1110B, T-1109, 43967,65617, Decaline Tank, and Contaminated Decaline Tank)

1. Regulatory Analysis

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
VOCs	The Permittee shall keep readily accessible records showing the dimensions of each storage vessel and an analysis showing the capacity of each storage vessel.	15A NCAC 2D .0524 Subpart Kb

a. 15A NCAC 2D .0524: NSPS 40 CFR PART 60 SUBPART Kb

- I. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart Kb, including Subpart A "General Provisions."

Recordkeeping

- ii. In addition to any other recordkeeping requirements of the Environmental Protection Agency (EPA), the Permittee is required to maintain records as specified in 40 CFR 60, Subpart Kb.

F. Fiber Plant Line 1 and Line 2 Boilers

1. Regulatory Analysis

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	0.26 pounds per million Btu (each boiler)	15A NCAC 2D .0503
sulfur dioxide	2.3 pounds per million Btu (each boiler)	15A NCAC 2D .0516
opacity	20% (each boiler)	15A NCAC 2D .0521

a. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

I. Emissions of particulate matter from the combustion of natural gas/No. 2 fuel oil that are discharged from these sources into the atmosphere shall not exceed 0.26 pounds per million Btu heat input.

Monitoring/Recordkeeping/Reporting

ii. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas/No. 2 fuel oil in this source.

b. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

I. Emissions of sulfur dioxide from these sources shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Monitoring/Recordkeeping/Reporting

ii. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas/No. 2 fuel oil in these sources for purposes of compliance with 15A NCAC 2D .0516.

c. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

I. Visible emissions from these boilers shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring

ii. To assure compliance, once a day the Permittee shall observe the emission points of these sources for any visible emissions above normal. The daily observation must be made for each day of the calendar year period to ensure compliance with this requirement. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission sources is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given in Section VI. F. c. I. above. If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping

iii. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
(a) the date and time of each recorded action;

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- (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
- (c) the results of any corrective actions performed.

Reporting

- iv. The Permittee shall submit a summary report of the observations postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

H. Solid Waste Incinerators (Joy Energy incinerator and, when not firing hazardous waste, NAO, Prencos, and Mc Gill Nos. 1 and 2 incinerators)

1. Regulatory Analysis

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM	emissions shall not exceed 70 milligrams per dry standard cubic meter (0.0306 grains per cubic foot) corrected to seven percent oxygen (dry basis)	15A NCAC 2D .1210(c)(1)
visible emissions	emissions shall not exceed 10 percent opacity	15A NCAC 2D .1210(c)(2)
sulfur dioxide	emissions shall not exceed 20 ppmv corrected to seven percent oxygen (dry basis)	15A NCAC 2D .1210(c)(3)
nitrogen oxides	emissions shall not exceed 368 ppmv corrected to seven percent oxygen (dry basis)	15A NCAC 2D .1210(c)(4)
carbon monoxide	emissions shall not exceed 157 ppmv corrected to seven percent oxygen (dry basis)	15A NCAC 2D .1210(c)(5)
odor	Comply with 'Control and Prohibition of Odorous Emissions" 15A NCAC 2D .1086 “STATE ENFORCEABLE ONLY”	15A NCAC 2D .1210(c)(6)
hydrogen chloride	emissions shall not exceed 62 ppmv corrected to seven percent oxygen (dry basis)	15A NCAC 2D .1210(c)(7)
mercury	emissions shall not exceed 470 micrograms per dry standard cubic meter (2.05 x 10 ⁻⁵ grains per cubic foot) corrected to seven percent oxygen (dry basis)	15A NCAC 2D .1210(c)(8)
lead	emissions shall not exceed 40 micrograms per dry standard cubic meter (1.748 x 10 ⁻⁵ grains per cubic foot) corrected to seven percent oxygen (dry basis)	15A NCAC 2D .1210(c)(9)

Regulated Pollutant	Limits/Standards	Applicable Regulation
cadmium	emissions shall not exceed 4 micrograms per dry standard cubic meter (1.748×10^{-6} grains per cubic foot) corrected to seven percent oxygen (dry basis)	15A NCAC 2D .1210(c)(10)
dioxins/furans	toxic equivalent emissions shall not exceed 410 picograms per dry standard cubic meter (1.792×10^{-10} grains per cubic foot) corrected to seven percent oxygen (dry basis)	15A NCAC 2D .1210(c)(11)
toxic air pollutants	Comply with "Control of Toxic Air Pollutants" 15A NCAC 2D .1100 and "Toxic Air Pollutant Procedures" 15A NCAC 2Q .0700 "STATE ENFORCEABLE ONLY"	15A NCAC 2D .1210(c)(12)
arsenic beryllium cadmium chromium	Annual average ambient concentration standards for all incinerators at the facility shall not exceed those allowable ambient levels set forth in "Control of Toxic Air Pollutants" 15A NCAC 2D .1100. "STATE ENFORCEABLE ONLY"	15A NCAC 2D .1210(c)(13)

a. 15A NCAC 2D .1210: COMMERCIAL AND INDUSTRIAL SOLID WASTE INCINERATION (CISWI) UNITS

Emissions Standards/Control Requirements

- i. Emissions of particulate matter from a CISWI unit shall not exceed 70 milligrams per dry standard cubic meter corrected to seven percent oxygen (dry basis).
- ii. Visible emissions from the stack of a CISWI unit shall not exceed 10 percent opacity (6-minute block average).
- iii. Emissions of sulfur dioxide from a CISWI unit shall not exceed 20 parts per million by volume corrected to seven percent oxygen (dry basis).
- iv. Emissions of nitrogen oxides from a CISWI unit shall not exceed 368 parts per million by volume corrected to seven percent oxygen (dry basis).
- v. Emissions of carbon monoxide from a CIWI unit shall not exceed 157 parts per million by volume, corrected to seven percent oxygen (dry basis).
- vi. Emissions of hydrogen chloride from a CISWI unit shall not exceed 62 parts per million by volume, corrected to seven percent oxygen (dry basis).
- vii. Emissions of mercury from a CISWI unit shall not exceed 0.47 milligrams per dry standard cubic meter, corrected to seven percent oxygen.
- viii. Emissions of lead from a CISWI unit shall not exceed 0.04 milligrams per dry standard cubic meter, corrected to seven percent oxygen.
- ix. Emissions of cadmium from a CISWI unit shall not exceed 0.004 milligrams per dry standard cubic meter, corrected to seven percent oxygen.
- x. Emissions of dioxins and furans from a CISWI unit shall not exceed 0.41 nanograms per dry standard cubic meter (toxic equivalency basis as presented in Table 4 of 40 CFR 60, Subpart DDDD), corrected to seven percent oxygen.
- xi. Emissions from the Joy Energy and McGill No. 2 incinerators shall be controlled by wet scrubber systems.

Operational Standards

- xii. The feed rate to the Joy Energy incinerator shall not exceed 2,000 pounds per hour.

Testing

- xiii. The test methods and procedures described in 15A NCAC 2D .0501, in 40 CFR Part 60 Appendix A, 40 CFR Part 61 Appendix B, and 40 CFR 60.2690 shall be used to determine compliance with emission standards in Section VI. H. 1 .i. through j. Method 29 of 40 CFR Part 60 shall be used to determine emission standards for metals. However, Method 29 shall be used to sample for chromium (VI), and SW 846 Method 0060 shall be used for the analysis.
- xiv. All performance tests shall consist of a minimum of three test runs conducted under conditions representative of normal operations. Compliance with emissions standards for particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, hydrogen chloride, mercury, lead, cadmium, and dioxins/furans shall be determined by averaging three one-hour emission tests. These tests shall be conducted within twelve month following the initial performance test and within every twelve month following the previous annual performance test after that.
- xv. The Permittee shall conduct an initial performance test as specified in 40 CFR 60.8 (reference to the Administrator shall mean the DAQ) to determine compliance with the emission standards Section VI. H. a. i. through j and to establish operating standards using the procedures in Section VI. H. a. l. The initial performance test must be conducted no later than July 1, 2006.
- xvi. The Permittee shall conduct an annual performance test for particulate matter, hydrogen chloride, and opacity as specified in 40 CFR 60.8 (reference to the Administrator shall mean the DAQ) to determine compliance with the emission standards for the pollutants in Section VI. H. 1 .i. through j.
- xvii. If the Permittee has shown, using performance tests, compliance with particulate matter, hydrogen chloride, and opacity for three consecutive years, the DAQ may allow the Permittee to conduct performance tests for these three pollutants every third year. However, each test shall be within 36 months of the previous performance test. If the each TPA incinerator (ID No. P21) continues to meet the emission standards for these three pollutants the DAQ may allow the Permittee to continue to conduct performance tests for these three pollutants every three years.
- xviii. If a performance test shows a deviation from the emission standards for particulate matter, hydrogen chloride, or opacity, the Permittee shall conduct annual performance tests for these three pollutants until all performance tests for three consecutive years show compliance for particulate matter, hydrogen chloride, or opacity.
- xix. The Permittee may conduct a repeat performance test at any time to establish new values for the operating limits.
- xx. The Permittee shall repeat the performance test if the feed stream is different than the feed streams used during any performance test used to demonstrate compliance.
- xxi. If the DAQ has evidence that an incinerator is violating a standard in Section VI. H. 1 .a through j., or that the feed stream or other operating conditions have changed since the last performance test, the DAQ may require the Permittee to test the incinerator to demonstrate compliance with the emission standards listed in Section VI. H. a. a through j. at any time.

Monitoring

- xxii. The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 15A NCAC 2D .0605 "General Recordkeeping and Reporting Requirements; .0611 "Monitoring Emissions from the Incinerator P21", and .0613 "Quality Assurance Plan for Continuous Monitoring Systems".
- xxiii. The Permittee shall establish, install, calibrate to manufacturers specifications, maintain, and operate;
 - (a) devices or methods for continuous temperature monitoring and recording for the primary chamber and, where there is a secondary chamber, for the secondary chamber;
 - (b) scrubber inspection and maintenance as follows. The Permittee shall perform monthly inspections and perform maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include:
 - (I) inspection of spray nozzles to detect clogging or corrosion damage of nozzles and

- perform maintenance and repair when necessary to assure proper operation of the scrubber;
- (II) inspection of packing material to assure proper packing depth and to check for clogging; and
- (III) inspection, cleaning, and calibration of all associated instrumentation.
- xxiv. The Permittee shall install, operate, and maintain continuous monitors for oxygen or for carbon monoxide or both as necessary to determine proper operation of the TPA incinerator (ID No. P21).
- xxv. The Permittee shall conduct all monitoring at all times the CISWI unit is operating except;
 - (a) malfunctions and associated repairs;
 - (b) required quality assurance or quality control activities including calibrations checks and required zero and span adjustments of the monitoring system.
- xxvi. The data recorded during monitoring malfunctions, associated repairs, and required quality assurance or quality control activities shall not be used in assessing compliance with the operating standards in Section VI. H. a. l.

Recordkeeping

- xxvii. The Permittee shall maintain records of required monitoring on site in either paper copy or electronic format that can be printed upon request for a period of at least five years.
- xxviii. The Permittee shall maintain the following records.
 - (a) The calendar date of each record.
 - (b) The CISWI unit charge dates, times, weights, and hourly charge rates.
 - (c) Identification of calendar dates and times for which monitoring systems used to monitor operating limits were inoperative, inactive, malfunctioning, or out of control (except for downtime associated with zero and span and other routine calibration checks). Identify the operating parameters not measured, the duration, reasons for not obtaining the data, and a description of corrective actions taken.
 - (d) Identification of calendar dates, times, and durations of malfunctions, and a description of the malfunction and the corrective action taken.
 - (e) The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and/or to establish operating limits, as applicable. Retain a copy of the complete test report including calculations.
 - (f) Records showing the names of CISWI unit operators who have completed review of the information in Section VI. H. a. ll. as required by Section VI. H. a. mm., including the date of the initial review and all subsequent annual reviews.
 - (g) Records showing the names of the CISWI operators who have completed the operator training and qualification requirements under Section VI. H. a. hh. and maintained or renewed their qualification under Sections VI. H. a. jj. or kk.. Records must include documentation of training, the dates of the initial and refresher training, and the dates of their qualification and all subsequent renewals of such qualifications.
 - (h) For each qualified operator, the phone and/or pager number at which they can be reached during operating hours.
 - (i) Records of calibration of any monitoring devices as required under Section VI. H. a. w.
 - (j) Equipment vendor specifications and related operation and maintenance requirements for the incinerator, emission controls, and monitoring equipment.
 - (k) The information listed in Section VI. H. a. kk. (a) (I) through (X).
 - (l) On a daily basis, keep a log of the quantity of waste burned and the types of waste burned (always required).

Reporting

- xxix. The Permittee shall submit the following reports.
 - (a) Waste management Plan on or before December 1, 2003.
 - (b) The initial test report including;

- (I) a complete test report not later than August 30, 2006, and
- (II) documentation that wet scrubber inspection and maintenance are conducted in accordance with VI. H. a. y. (c)
- (c) An annual report including the following information.
 - (I) The company name and address.
 - (II) A statement by Mr Leroy Butler, Plant Manager (i.e., the responsible official), with that official's name, title, and signature, certifying the accuracy of the content of the report.
 - (III) The date of report and beginning and ending dates of the reporting period.
 - (IV) If no deviation from any emission limitation or operating limit that applies has been reported, a statement that there was no deviation from the emission limitations or operating limits during the reporting period, and that no monitoring system used to determine compliance with the operating limits was inoperative, inactive, malfunctioning or out of control.
 - (V) The date, time, and duration of each filter bag leak alarm and the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken.
 - (VI) The percent of operating time during each 6-month period that the filter bag leak alarm sounds, calculated as specified in Section VI. H. a. 1.
 - (VII) Identification of calendar dates and times for which monitoring systems for filter bag leak detection were inoperative, inactive, malfunctioning, or out of control (except for downtime associated with zero and span and other routine calibration checks). Identify the operating parameters not measured, the duration, reasons for not obtaining the data, and a description of corrective actions taken.
 - (VIII) Identification of calendar dates, times, and durations of malfunctions of filter bag leak detection systems, and a description of the malfunction and the corrective action taken.
 - (IX) If a performance test was conducted during the reporting period, the results of that test.
 - (X) If you met the requirements of Section VI. H. a. r., and did not conduct a performance test during the reporting period, you must state that you met the requirements of Section VI. H. a. r. and, therefore, you were not required to conduct a performance test during the reporting period.
 - (XI) Documentation of periods when all qualified CISWI unit operators were unavailable for more than eight hours, but less than two weeks.
- (d) Emission limitation or operating limit deviation report for any pollutant or parameter that deviated from the emission limitations or operating limits specified in this subpart, include the six items described below (I) through (VI).
 - (I) The calendar dates and times your unit deviated from the emission limitations or operating limit requirements.
 - (II) The averaged and recorded data for those dates.
 - (III) Duration and causes of each deviation from the emission limitations or operating limits and your corrective actions.
 - (IV) A copy of the operating limit monitoring data during each deviation and any test report that documents the emission levels.
 - (V) The dates, times, number, duration, and causes for monitoring downtime incidents (other than downtime associated with zero, span, and other routine calibration checks).
 - (VI) Whether each deviation occurred during a period of startup, shutdown, or malfunction, or during another period.
- (e) If all qualified operators are not accessible for two weeks or more, The Permittee must submit a notification of the deviation within 10 days that includes:
 - (1) a statement of what caused the deviation,
 - (2) a description of what you are doing to ensure that a qualified operator is accessible, and

- (3) the date when you anticipate that a qualified operator will be available;
 - (II) submit a status report to the DAQ every four weeks that includes
 - (1) a description of what you are doing to ensure that a qualified operator is accessible,
 - (2) the date when you anticipate that a qualified operator will be accessible, and
 - (3) a request for approval from the DAQ to continue operation of the CISWI unit; and
 - (III) if your unit was shut down by the DAQ due to a failure to provide an accessible qualified operator, you must notify the DAQ that you are resuming operation once a qualified operator is accessible.
- xxx. The Permittee shall submit a deviation report if:
- (a) the bag leak detection system alarm sounds for more than five percent of the operating time for the six-month reporting period; or
 - (b) a performance test was conducted that deviated from any emission standards in Section VI. H. 1 .i. through j.
- The deviation report shall be submitted by August 1 of the year for data collected during the first half of the calendar year (January 1 to June 30), and by February 1 of the following year for data collected during the second half of the calendar year (July 1 to December 31).
- xxxi. Reports shall be submitted electronically or in paper format, postmarked on or before the submittal due dates.

Excess Emissions and Start-up and Shut-down.

- xxxii. All incinerators subject to this Rule shall comply with 15A NCAC 2D .0535, Excess Emissions Reporting and Malfunctions, of this Subchapter.

Operator Training and Certification.

- xxxiii. The Permittee shall not allow the CISWI unit to operate at any time unless a fully trained and qualified CISWI unit operator is accessible, either at the facility or available within one hour. The trained and qualified CISWI unit operator may operate the CISWI unit directly or be the direct supervisor of one or more CISWI unit operators.
- xxxiv. Operator training and qualification shall be obtained by completing the following requirements (a) through (c) by the later of December 1, 2005; six month after CISWI unit startup, or; six month after an employee assumes responsibility for operating the CISWI unit or assumes responsibility for supervising the operation of the CISWI unit.
 - (a) Training must be obtained by completing an incinerator operator training course that includes, at a minimum training on the eleven subjects listed below in (I) through (XI).
 - (I) Environmental concerns, including types of emissions.
 - (II) Basic combustion principles, including products of combustion.
 - (III) Operation of the specific type of incinerator to be used by the operator, including proper startup, waste charging, and shutdown procedures.
 - (IV) Combustion controls and monitoring.
 - (V) Operation of air pollution control equipment and factors affecting performance (if applicable).
 - (VI) Inspection and maintenance of the incinerator and air pollution control devices.
 - (VII) Actions to correct malfunctions or conditions that may lead to malfunction.
 - (VIII) Bottom and fly ash characteristics and handling procedures.
 - (I) Applicable Federal, State, and local regulations, including Occupational Safety and Health Administration workplace standards.
 - (X) Pollution prevention.
 - (XI) Waste management practices.
 - (b) Passing an examination designed and administered by the instructor.

- (c) Maintaining written material covering the training course topics that can serve as reference material following completion of the course.
- xxxv. Operator qualification shall be valid from the date on which the training course is completed and the operator successfully passes the examination required in Section VI. H. a. hh. (b)
- xxxvi. Operator qualification shall be maintained by completing an annual review or refresher course covering, at a minimum:
 - (a) update of regulations;
 - (b) incinerator operation, including startup and shutdown procedures, waste charging, and ash handling;
 - (c) inspection and maintenance;
 - (d) responses to malfunctions or conditions that may lead to malfunction; and
 - (e) discussion of operating problems encountered by attendees.
- xxxvii. Lapsed operator qualification shall be renewed by:
 - (a) completing a standard annual refresher course as specified above in Section VI. H a. (b) for a lapse less than three years, and
 - (b) repeating the initial qualification requirements as specified above in Section VI. H. a. hh. for a lapse of three years or more.
- xxxviii. The Permittee shall maintain the following documentation at the facility that is accessible for all CISWI unit operators and suitable for inspection upon request by the DAQ.
 - (a) Documentation that addresses the ten topics described below in (I) through (X). The Permittee must maintain this information and the training records required in (b) below in a manner that they can be readily accessed and are suitable for inspection upon request.
 - (I) Summary of the applicable standards under this subpart.
 - (II) Procedures for receiving, handling, and charging waste.
 - (III) Incinerator startup, shutdown, and malfunction procedures.
 - (IV) Procedures for maintaining proper combustion air supply levels.
 - (V) Procedures for operating the incinerator and associated air pollution control systems within the standards established under this permit.
 - (VI) Monitoring procedures for demonstrating compliance with the incinerator operating limits.
 - (VII) Reporting and recordkeeping procedures.
 - (VIII) The waste management plan.
 - (IX) Procedures for handling ash.
 - (X) A list of the wastes burned during the performance test.
 - (b) The Permittee must also maintain the information specified below in (I) through (III)
 - (I) Records showing the names of CISWI unit operators who have completed review of the information in (a) above, including the date of the initial review and all subsequent annual reviews.
 - (II) Records showing the names of the CISWI operators who have completed the operator training requirements and met the criteria for qualification under Section VI. H. a. hh. and maintained or renewed their qualification under Sections VI. H. a. ii. and jj. Records must include documentation of training, the dates of the initial refresher training, and the dates of their qualification and all subsequent renewals of such qualifications.
 - (III) For each qualified operator, the phone and/or pager number at which they can be reached during operating hours.
- xxxix. The Permittee shall establish a program for reviewing the documentation specified in section VI. F.1.II. above with each CISWI unit operator:
 - I the initial review of the documentation specified in Section VI. H.1.II. shall be conducted by the later of the three dates:
 - (I) December 1, 2005
 - (II) six month after CISWI unit startup, or
 - (III) six month after an employee assumes responsibility for operating the CISWI unit or

- assumes responsibility for supervising the operation of the CISWI unit; and
- (b) subsequent annual reviews of the documentation specified in Section VI. H. a. II. shall be conducted no later than twelve month following the previous review.
- xl. When all qualified operators are not accessible for more than eight hours, but less than two weeks, the CISWI unit may be operated by other plant personnel familiar with the operation of the CISWI unit who have completed a review of the information specified in Section VI. F.1.hh. within the past 12 months. However, you must record the period when all qualified operators were not accessible and include this deviation in the annual report as specified under Section VI. F.1.aa.(e), depending on the length of time, if all qualified operators are temporarily not at the facility and not able to be at the facility within one hour.

Waste Management Plan

- xli. The Permittee shall submit a waste management plan that identifies in writing the feasibility and the methods used to reduce or separate certain components of solid waste from the waste stream in order to reduce or eliminate toxic emissions from incinerated waste. A waste management plan shall be submitted to the Director before December 1, 2003. The waste management plan shall include:
 - (a) consideration of the reduction or separation of waste stream elements such as paper, cardboard, plastics, glass, batteries, or metals; and the use of recyclable materials;
 - (b) identification of any additional waste management measures; and
 - (c) implementation of those measures considered practical and feasible, based on the effectiveness of waste management measures already in place, the costs of additional measures and the emissions reductions expected to be achieved and the environmental or energy impacts that the measures may have.

Compliance Schedule.

- xlii. The Permittee, which plans to achieve compliance after November 30, 2003, shall submit before December 1, 2003, along with the permit application, the final control plan for the CISWI unit. The final compliance shall be achieved no later than December 1, 2005. The final control plan shall contain the information specified below in (I) through (IV) and a copy shall be maintained on site.
 - (I) 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 Section VI. H. a.
 - (II) The type(s) of waste to be burned.
 - (III) The maximum design waste burning capacity.
 - (IV) The anticipated maximum charge rate.
- xliii. The Permittee shall notify the DAQ within five days after the CISWI unit is to be in final compliance whether the final compliance have been achieved. The final compliance is achieved by completing all process changes and retrofitting construction of control devices, as specified in the final control plan, so that, if the affected CISWI unit is brought on line, all necessary process changes and air pollution control devices would operate as designed. If the final compliance has not been achieved, the owner or operator of the CISWI unit shall submit a notification informing the DAQ that the final compliance has not been met and submit reports each subsequent calendar month until the final compliance is achieved.
- xliv. The Permittee that closes the CISWI unit and restarts it:
 - (a) before December 1, 2005, shall submit along with the permit application, the final control plan for the CISWI unit, and the final compliance shall be achieved by December 1, 2005.
 - (b) after December 1, 2005 shall complete emission control retrofits and meet the emission limitations and operating limits on the date the CISWI unit restarts operation.
- xlv. The Permittee that plans to close it rather than comply with the requirements of Section VI. H. a. shall submit a closure notification including the date of closure to the Director by December 1, 2003, and shall cease operation by December 1, 2005.

VII. Multiple Emission Source Limits

A. VOC sources

The following table provides a summary of limits and standards for the emission source(s) describe above:

Emission Source(s)	Limits/Standards	Applicable Regulation
Building No. 28, Hydrogenation Facility Operations (<i>cond 12, 3/8/98</i>)	10.0 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 8, Analytical Development Laboratory and Pharmaceutical Research and Development Laboratory Operations (<i>cond 13</i>)	30.5 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 1, Solid Dose Formulation, Tablet Coating Pan (ID No. 125035) and associated operations in the DMS Suite (ID No. DMS Suite) (<i>cond 14, 8/6/99</i>)	10.0 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 1, Small Scale Production, Five Drying Ovens (ID Nos. 63951, 63953, 63954, 61075, and 61076) (<i>cond 15</i>)	5.0 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 22, Chemical Manufacturing Division (<i>cond 16</i>)	20.0 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 1, Solid Dose Formulation Division, Three Fluid Bed Dryers (ID Nos. 47819, 60223, and 00965) (<i>cond 17</i>)	10.0 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 8A, Sterilization Chambers (<i>cond 18</i>)	0.14 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 3, Chemical Manufacturing Division, Module 3, TMBA tank (ID No. R334) (<i>cond 19</i>)	0.13 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 1, Solid Dose Formulation, Room M2-83, Fluid Bed Dryer and Two Tray Dryers (ID Nos. 16-024, 16-026, and 16-027) (<i>cond 21, 2/23/96</i>)	10.0 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 16, New Sterile Products Facility (<i>cond 22, 1/31/91</i>)	0.70 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 8, Portable Dryers in Rooms P-1 and P-2 (<i>cond 22, 1/31/91</i>)	0.11 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 3, Chemical Development Laboratories, 200 Gallon Capacity Reactor (<i>cond 22, 1/31/91</i>)	1.0 tons per consecutive 12-month period	15A NCAC 2D .0530

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Building No. 1, Solid Dose Formulation Division, Four Coating Pans with Scrubbers (ID Nos 24517S-1 through 24517S-4) (<i>cond 22, 1/31/91</i>)	5.2 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 1 (PSD condition created prior to 12/89), Solid Dose Formulation Division, Film Coating Room, Four Coating Pans with Scrubbers (ID Nos. 69680 through 69683) (<i>cond 22, 1/31/91</i>)	5.2 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 3, Chemical Manufacturing Division, Mivacurium Chloride Facility (<i>cond 22, 1/31/91</i>)	1.19 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 3, Chemical Development Laboratories, Conical Dryer (ID No. CD-1) (<i>cond 23, 1/31/92</i>)	0.24 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 3, Chemical Development Laboratories, Rosemund Dryers (ID Nos. RF-1) (<i>cond 24, 1/11/93</i>)	2.0 tons per consecutive 12-month period	15A NCAC 2D .0530
Joy Energy Solid Waste Incinerator, incineration of type 0, 1, 2, 3, 5, and 6 wastes (<i>cond 25, 1/31/92</i>)	0.35 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 1, Pharmaceutical Process Technology Support Department (<i>cond 26, 3/27/92</i>)	5.0 tons per consecutive 12-month period	15A NCAC 2D .0530
Building 3, Chemical Manufacturing Division, Module 1, Vacuum Shelf Oven (ID No. 111149) (<i>cond 27, 2/17/94</i>)	40.0 tons per consecutive 12-month period	15A NCAC 2D .0530
Building 3, Chemical Manufacturing Division, Module No. 2, two receivers (ID Nos. T217 and T216), dryer (ID No. D211), centrifuge and catch pot (ID Nos. C222 and T222), ethylene glycol expansion tank (ID No. T230); Module No. 3, pressure filter (ID No. F321), dryer (ID No. D311), two receivers (ID Nos. T315 and T311), centrifuge and catch pot (ID Nos. C322 and T322), ethylene glycol expansion tank (ID No. T330), and head tank (ID No. H331) (<i>cond 32, 3/30/94</i>)	18.0 tons per consecutive 12-month period	15A NCAC 2D .0530

Building No. 1, Small Scale Production Facility, Microwave Dryer (ID No. MD-1) (<i>cond 32, 3/30/94</i>)	2.0 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 8, Analytical Development Laboratory and Pharmaceutical Research and Development Laboratory, Microwave Dryer (ID No. MD-2) (<i>cond 32, 3/30/94</i>)	0.5 tons per consecutive 12-month period	15A NCAC 2D .0530
Toluene Recovery Unit (<i>cond 32, 3/30/94</i>)	2.0 tons per consecutive 12-month period	15A NCAC 2D .0530
Building 3, Chemical Development Laboratories, Pan Dryer (<i>cond 34, 2/20/95</i>)	40.0 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 9, Chemical Manufacturing Expansion, Bupropion production (<i>cond 35, 12/2/96</i>)	10.0 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 3, Module 5 (<i>cond 36, 12/2/96</i>)	10.0 tons per consecutive 12-month period	15A NCAC 2D .0530
Building No. 3, Chemical Development Laboratory, Two Reactors (ID Nos. R-21 and R-44) and Dryer Blender (ID No. DB-1) (<i>cond 37, 7/14/00</i>)	6.0 tons per consecutive 12-month period	15A NCAC 2D .0530
Fiber Line Processing Operations (<i>cond 39, 12/9/02</i>)	40.0 tons per consecutive 12-month period	15A NCAC 2D .0530

a. 15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

- i. In order to avoid applicability of this regulation, the above emission sources shall discharge into the atmosphere less than the tabulated tons of VOCs per consecutive 12-month period. [15A NCAC 2D .0530]

Monitoring/Recordkeeping

- ii. Calculations of VOC emissions per month shall be made at the end of each month. VOC emissions shall be determined by using an appropriate calculation method such as the number of batches processed times the per batch VOC emission factor or, in the case of the Fiber Line Processing Operations, a mass balance. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the VOC emissions are not monitored and recorded.
- iii. Calculations and the total amount of VOC emissions shall be recorded monthly in a logbook (written or electronic format). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the VOC emissions exceed this limit.

Reporting

- iv. The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding

three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. The report shall contain the monthly VOC emissions for the previous 14 months. The emissions shall be calculated for each of the 12-month periods over the previous 14 months.

B. Diesel Generators (ID Nos. 63165, 97064, 10697, SPFEG2, and SPF EG-3)

The following table provides a summary of limits and standards for the emission source(s) describe above:

Emission Source(s)	Limits/Standards	Applicable Regulation
Building No. 4, Power Plant, Emergency Generator (ID No. 63165) (<i>cond 29, 12/7/92</i>)	39.9 tons of nitrogen oxides and 181,986 gallons of diesel fuel per consecutive 12-month period @ 0.438 pounds NO _x per gallon of fuel	15A NCAC 2D .0530
Building No. 16, Sterile Products Facility, Emergency Generator (ID No. 97064) and Cogeneration Facility, Emergency Generator (ID No. 10697) (<i>cond 30, 3/30/94</i>)	6.4 tons of nitrogen oxides and 29,191 gallons of diesel fuel per consecutive 12-month period @ 0.438 pounds NO _x per gallon of fuel	15A NCAC 2D .0530
Building No. 16, Emergency Generator (ID No. SPFEG2) (<i>cond 31, 10/9/98</i>)	10.0 tons of nitrogen oxides and 44,326 gallons of diesel fuel per consecutive 12-month period @ 0.451 pounds NO _x per gallon of fuel	15A NCAC 2D .0530
Diesel Generator (ID No. SPF EG-3) (<i>cond 38, 3/8/02</i>)	40.0 tons of nitrogen oxides and 181,986 gallons of diesel fuel per consecutive 12-month period @ 0.438 pounds NO _x per gallon of fuel	15A NCAC 2D .0530

a. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

- i. Emissions of sulfur dioxide from this source shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Monitoring/Recordkeeping

- ii. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from No. 2 fuel oil combustion for these sources for purposes of compliance with 15A 2D .0516.

b. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- i. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring/Recordkeeping/Reporting

- ii. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of No. 2 fuel oil in these sources for purposes of compliance with 15A NCAC 2D .0515.

c. 15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

- i. In order to avoid applicability of this regulation, the above emission sources shall discharge into the atmosphere less than the tabulated tons of nitrogen oxides per consecutive 12-month period.

Monitoring/Recordkeeping

- ii. The Permittee shall keep monthly records of the amount of fuel used in a logbook (written or in electronic format).
- iii. The use of fuel in these generators shall be limited in accordance with the tabulated values such that the tabulated nitrogen oxides emissions shall not be exceeded. Calculations shall be made monthly and recorded in a logbook (written or in electronic format), showing nitrogen oxide emissions from each generator.

Reporting

- iv. The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. The report shall contain the following:
 - (a) The monthly nitrogen oxides and VOCs emissions for the previous 14 months. The emissions must be calculated for each of the 12-month periods over the previous 14 months; and
 - (b) The monthly quantities of natural gas consumed for the previous 14 months.

C. Particulate Matter Sources (ID Nos. room fugitives; miscellaneous manufacturing operations; 45091, 08141, 00961, 0960, room M2-84 exhaust, room M2-86 exhaust; room M2-79 mixing system; room M2-81B; 26-011, 14-004, 14-006, 16-026, 16-027, 16-024; 67807, 60656, 49553; 65613, 90914, 111578, 111579, 111580; 80509, 80510; small scale production area PM sources; ointments, creams, and liquids formulation division PM sources; M1-24, M1-26, R1-10A, R1-2, 49559; R1-9, 08437; 49551, 08885; 47604; 47603, 00747; NA; 206-13, 206-1, 206-8, 206-15; 69753, 69696; 69259, 44880, 111148, 111149; toxic module grinding and screening room exhaust; 69775; finishing room fugitives; building number 7 central vacuum system; tri-blend hopper; building number 8 room exhausts; room P-59 fluid bed dryer; 61924; room P-49 fluid bed dryer; 83362, room P-5 exhaust, room P-56 Lyden oven, 01125; air cleaning systems for room nos. 4F109 and 4F111; air cleaning systems for room nos. 4F014, 4F015, 4F117, 4F118, 4F119, 4F126, 4F127 and 4F131; air cleaning systems for room nos. 4F420 and 4F419; building number 16 cytotoxic room exhausts; CMD general portable charging box; polyethylene dosing operations; PE Silo 1 and PE Silo 2) including fabric/cartridge filters (ID Nos. 63298; 66228; 111072; 67541; 69650; 111278; 69798; 69797; 80511; NA; 65127, 123256, 69247, 106259, 45177; 61026, 61027, 61028, 61029; 60220; 125641, 743; 66948; 66951; 65201; 111317; 111316; 111147; 43586; 69780; 66954, 66956, 66955; tubular filter; 68861; 61935z through 61944z, 61946z through 61957z, 61935 through 61944, 61946 through 61957; 61959; 61960; 57681; NA, 62050, 62044, 27924, 62035; 96587; 96588; 96586; 96859; panel filter; DC-3 through DC-6; DC-1, DC-2)

a. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- i. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \quad \text{Where } E = \text{allowable emission rate in pounds per hour}$$
$$P = \text{process weight in tons per hour}$$

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Monitoring/Recordkeeping

- ii. Particulate matter emissions from the listed emission sources shall be controlled by the fabric/cartridge filters. To assure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
 - (a) a monthly visual inspection of the system ductwork and material collection unit for leaks; and
 - (b) an annual (for each 12 month period following the initial inspection) internal inspection of the bagfilter's structural integrity.
- iii. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each inspection;
 - (c) the results of any maintenance performed on the bagfilters; and
 - (d) any variance from manufacturer's recommendations, if any, and corrections made.

Reporting

- iv. The Permittee shall submit the results of any maintenance performed on the bagfilters within 30 days of a written request by the DAQ.
- v. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

b. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- i. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring

- ii. To assure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of permit. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given in Section 2.2 C. b. i. above. If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping

- iii. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
 - (c) the results of any corrective actions performed.

Reporting

- iv. The Permittee shall submit a summary report of the observations postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

D. Particulate Matter Sources (ID Nos. room M2-77A Accela Cota pans; room M2-77B Groen kettles; 47819; 60223; 67539, 67538, 67536, 67537; 69680, 69681, 69682, 69683; 16-204; 80510, 80502, 80503, 80504; 125035; GD-1; 69697; 69754; 41106; room P-2 tablet coating operations and portable dryer; 06143) including wet scrubbers (ID Nos. 41642; 9156; 68194; 68221; 69665, 69666, 69667, 69668; 67544, 67545, 67546, 67547; 106161; 80505, 80506, 80507, 80508; 125036; GDIS-1; 106084; 106083; 62048; SCR-1; 62050)

a. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- i. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \quad \text{Where } E = \text{allowable emission rate in pounds per hour}$$

$$P = \text{process weight in tons per hour}$$

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Monitoring/Recordkeeping

- ii. Particulate matter emissions from the listed emission sources shall be controlled by the wet scrubbers. To assure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer’s inspection and maintenance recommendations, or if there is no manufacturer’s inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
 - (a) a monthly visual inspection of the system ductwork and material collection unit for leaks; and
 - (b) annual internal inspection will include inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation annually.
- iii. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each inspection;
 - (c) the results of any maintenance performed on the bagfilters; and
 - (d) any variance from manufacturer’s recommendations, if any, and corrections made.

Reporting

- iv. The Permittee shall submit the results of any maintenance performed on the wet scrubbers within 30 days of

a written request by the DAQ.

- v. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

b. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- i. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Monitoring

- ii. To assure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The Permittee shall establish “normal” for the source in the first 30 days following the effective date of permit. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given in Section 2.2 D. b. i. above. If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping

- iii. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each recorded action;
 - (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
 - (c) the results of any corrective actions performed.

Reporting

- iv. The Permittee shall submit a summary report of the observations postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

E. Toxic Air Pollutant (TAP) Sources

STATE-ONLY REQUIREMENT:

a. 15A NCAC 2D .1100 TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REPORTING

REQUIREMENT - Pursuant to 15A NCAC 2D .1100 and in accordance with the approved application for an air toxic compliance demonstration, the emission limits contained in Attachment II to this permit "Maximum Allowable TAP Emission Rates" shall not be exceeded. In order to ensure compliance with these regulations the permittee shall maintain records of production rates, throughput, material usage, and other process operational information as is necessary to determine compliance with the air toxic emission limits specified above for a minimum of five years from the date of recording.

F. Facility-wide

1. 15A NCAC 2D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS

- i. Pursuant to 15A NCAC 2D .0958, for all sources that use volatile organic compounds (VOC) as solvents, carriers, material processing media, or industrial chemical reactants, or in similar uses that mix, blend, or manufacture volatile organic compounds, or emit volatile organic compounds as a product of chemical reactions, and whose emissions of VOC are greater than 15 pounds per day; the Permittee shall:
 - (1) store all material, including waste material, containing volatile organic compounds in tanks or in containers covered with a tightly fitting lid that is free of cracks, holes, or other defects, when not in use,
 - (2) clean up spills of volatile organic compounds as soon as possible following proper safety procedures,
 - (3) store wipe rags containing volatile organic compounds in closed containers,
 - (4) not clean sponges, fabric, wood, paper products, and other absorbent materials with volatile organic compounds,
 - (5) transfer solvents containing volatile organic compounds used to clean supply lines and other coating equipment into closable containers and close such containers immediately after each use, or transfer such solvents to closed tanks, or to a treatment facility regulated under section 402 of the Clean Water Act,
 - (6) clean mixing, blending, and manufacturing vats and containers containing volatile organic compounds by adding cleaning solvent and close the vat or container before agitating the cleaning solvent. The spent cleaning solvent shall then be transferred into a closed container, a closed tank or a treatment facility regulated under section 402 of the Clean Water Act. [15A NCAC 2D .0958(c)]
- ii. When cleaning parts with a solvent containing a volatile organic compound, the Permittee shall:
 - (1) flush parts in the freeboard area,
 - (2) take precautions to reduce the pooling of solvent on and in the parts,
 - (3) tilt or rotate parts to drain solvent and allow a minimum of 15 seconds for drying or until all dripping has stopped, whichever is longer,
 - (4) not fill cleaning machines above the fill line,
 - (5) not agitate solvent to the point of causing splashing. [15A NCAC 2D .0958(d)]

Monitoring

- iii. To assure compliance with paragraphs (a) and (b) above, the Permittee shall, at a minimum, perform a visual inspection once per month of all operations and processes utilizing volatile organic compounds. The inspections shall be conducted during normal operations.

Recordkeeping

- iv. The results of the inspections shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - (a) the date and time of each inspection; and
 - (b) the results of each inspection noting whether or not noncompliant conditions were observed.

Reporting

- v. The Permittee shall submit a summary report of the observations by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

G. MACT Sources

- a. **15A NCAC 2D .1111 MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY** - For production processes using methylene chloride, the Permittee shall comply with all applicable provisions, including the notification, testing, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .1111 as promulgated in 40 CFR 63, Subpart I, including Subpart A "General Provisions."
- b. **15A NCAC 2D .1111 MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY** - For the hazardous waste incinerators (upon recommencement of incinerating hazardous waste), the Permittee shall comply with all applicable provisions, including the notification, testing, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR 63, Subpart EEE, including Subpart A "General Provisions."
- c. **15A NCAC 2D .1111 MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY** - For the pharmaceutical manufacturing process units (PMPUs), the Permittee shall comply with all applicable provisions, including the notification, testing, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR 63, Subpart GGG(including the pollution prevention (P2) alternative as applicable), including Subpart A "General Provisions."

VIII. MACT Applicability and Requirements

Based on a review of the facility's current operations and emission sources, the facility may be subject to the aforementioned NESHAPs.

IX. Permit Shield (including non-applicable requirements)

In accordance with 2Q .0512 the permit will contain a provision stating that compliance with the terms, conditions, and limitations of the Title V permit shall be deemed in compliance with applicable requirements specifically identified in the permit, as of the date of permit issuance. If the permit does not expressly state that a permit shield exists then it shall be presumed not to provide such a shield.

XI. General Conditions

The "General Conditions" section of the Title V Operating Permits lists additional applicable rule requirements that the permittee must adhere to, as with any other permit condition. These requirements in general are common to all Title V facilities. The general conditions include provisions such as annual fee payment, permit renewal and expiration, transfer of ownership or operation, property rights, submission of documents, inspections and entry procedures, reopen for cause, and severability.

XII. Insignificant Activities

The insignificant activity (packaging department) listed in the application has been reviewed and verified. Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement.

XIII. Public Notice

Pursuant to 15A NCAC 2Q .0521, a notice of the draft Title V Operating Permit shall be placed in a newspaper of general circulation in the area where the facility is located. The notice will provide for a 30 day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list, the following affected state - South Carolina, and EPA.

draft

XIV. Recommendations

The initial Title V application for DSM Pharmaceuticals, Inc. has been reviewed by the DAQ to determine compliance with all procedures and requirements under 15A NCAC 2Q .0500 and 40 CFR Part 70. The DAQ has made a preliminary determination that the facility is complying or will achieve compliance as specified in the draft permit with all applicable requirements. Therefore, the DAQ is proposing to issue the Title V Operating Permit upon completion of the public comment period and the EPA review.