Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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April 12, 2013

Keith Poirier, EHS Manager
Intel Massachusetts, Inc.
75 Reed Road
Hudson, MA 01749

RE: Hudson
Transmittal No.: X252068
Application No.: CE-12-032
FMF No.: 306108
Class: *SM80-7*
AIR QUALITY PLAN APPROVAL

Dear Mr. Poirier:

The Massachusetts Department of Environmental Protection ("MassDEP"), Bureau of Waste Prevention, has reviewed your Non-major Comprehensive Plan Application ("Application") listed above. This Application concerns the proposed consolidation of Air Quality Approvals at your semiconductor manufacturing facility located at 75 Reed Road in Hudson, Massachusetts ("Facility"). The Application bears the seal and signature of Christopher Walton, Massachusetts Registered Professional Engineer Number 39510.

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 "Air Pollution Control" regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-N, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP's review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator ("Permittee") must comply in order for the Facility to be operated in compliance with this Plan Approval.

1. DESCRIPTION OF FACILITY AND APPLICATION

The Permittee operates its Facility at 75 Reed Road in Hudson, Massachusetts to manufacture semiconductor devices. Over the years MassDEP has issued numerous Air Quality Plan Approvals to the Permittee. On November 6, 2012, MassDEP received the present application to consolidate the existing Plan Approvals into one single Approval under this Transmittal #X252068.

The existing active Plan Approvals are the following:

--Plan Approval Tr. #W001766 issued September 29, 1998, for the modification and operation of the entire Facility, including full build out of the new Fab 17 facility. This Approval set facility-wide emission limits for Volatile Organic Compounds ("VOC"), Hazardous Air Pollutants ("HAP"), and acid gases, as well as fuel use limitations for fuel burning equipment. Some of the equipment listed in this Approval has since been either decommissioned or derated in heat input capacity.

--Plan Approval Transmittal #W071354-Amd 1 issued March 8, 2006, for the installation and operation of a new emergency generator and an existing emergency generator.

--Plan Approval Transmittal #X250554 issued August 9, 2012, for the establishment of a facility-wide emission limit on greenhouse gases ("GHG").

This Plan Approval Transmittal #X252068 replaces and supersedes Plan Approvals Transmittal #W001766, #W071354-Amd 1, and #X250554. The underlying plan applications with supporting material remain applicable where not superseded by the present application.

The Facility has four different buildings with sources of air emissions: Fab 17, HD1, HD2, and HD3/CUB. Fab 17 is the building which houses the clean rooms and tools. Building HD1 has small cleanroom operations referred to as “C4/Sort/E-Test” that use acid etching and plating equipment which is vented to the scrubbers located in HD1. HD1 also has two boilers, one emergency generator, and one diesel fire pump. Building HD2 is primarily an office building, and has three boilers and two emergency generators. The HD3/CUB building houses three boilers, five emergency generators, and the scrubbers that serve inorganic exhaust from Fab 17. The Eisenmann RTO serving Fab 17 organic exhaust is located outdoors to the east of the HD3/CUB building.

The approved equipment at this Facility includes semiconductor manufacturing equipment with ancillary steam/hot water boilers and emergency engines (electric generators and one fire pump). The manufacturing equipment is contained in “clean rooms” and is referred to as “tools”. This equipment uses a wide variety of raw materials, and has the potential to generate a variety of air

emissions. The air emissions include various Volatile Organic Compounds ("VOC"), some of which are also listed Hazardous Air Pollutants ("HAP"). The VOC-containing exhaust streams from Building Fab 17 are vented to an Eisenmann regenerative thermal oxidizer ("RTO") for control. (Potential VOC emissions from building HD1 are less than 1 ton per year and remain unabated.) Other air emissions include various inorganic compounds (acids, etc.), some of which are listed HAP. The inorganic-containing exhaust streams are vented to wet scrubbers for control.

Certain tools use significant quantities of reactant gases that have high greenhouse gas potential, as determined by the United States Environmental Protection Agency ("USEPA"). These tools have add-on control devices called thermal processing units ("TPUs") to reduce the emissions of those gases. The exhaust streams from the TPUs are vented to the exhaust duct which conveys inorganic exhaust to the wet scrubbers.

The boilers at the Facility all burn natural gas as the only fuel. The emergency engines all burn ultra-low sulfur diesel fuel (15 parts per million sulfur) as the only fuel. The emergency engines are subject to the requirements of 40 CFR 63, Subpart ZZZZ for reciprocating internal combustion engines ("RICE"), which are administered by the USEPA. The products of combustion from the boilers and engines include carbon dioxide (CO_2) and other gases that are greenhouse gases ("GHG") as determined by the USEPA.

This Plan Approval contains limits on the emissions of air contaminants so that the Facility is not subject to Clean Air Act Title V permitting. The pertinent limits are less than 50 tons per year of nitrogen oxides ("NO_x") and less than 100 tons per year of GHG (as carbon dioxide equivalent).

2. EMISSION UNIT (EU) IDENTIFICATION

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval:

Table 1

EU#	Description	Design Capacity	Pollution Control Device (PCD)
1	Manufacturing Processes	Various	TPU (Three total) RTO (One with two canisters) Packed Bed Scrubbers (16 total)
2A	Boiler--Cleaver Brooks Model CB400-500 (1990)	20.922 MMBTU per hour	None
2B	Boiler--Cleaver Brooks Model CB400-500 (1990)	20.922 MMBTU per hour	None

Table 1			
EU#	**Description**	**Design Capacity**	**Pollution Control Device (PCD)**
2C	Boiler--Cleaver Brooks Model CB200-50 (1981)	2.8 MMBTU per hour	None
2D	Boiler--Cleaver Brooks Model CB200-50 (1981)	2.8 MMBTU per hour	None
2E	Boiler--Cleaver Brooks Model CB200-50 (1981)	2.8 MMBTU per hour	None
2F	Boiler--Cleaver Brooks Model CB400-500 (1993)	20.922 MMBTU per hour	None
2G	Boiler--Cleaver Brooks Model CB400-500 (1993)	20.922 MMBTU per hour	None
2H	Boiler--Cleaver Brooks Model CB400-500 (1993)	20.922 MMBTU per hour	None
2I	Boiler--Cleaver Brooks Model CB700-700	32.6585 MMBTU per hour	None
3A	Generator—Caterpillar Model 3508 DI (1988)	7.7 MMBTU per hour	None
3B	Generator—Caterpillar Model 3512 DITA (1993)	11 MMBTU per hour	None
3C	Generator—Caterpillar Model 3512 DITA (1993)	11 MMBTU per hour	None
3D	Generator—Caterpillar Model 3512 DITA (1993)	11 MMBTU per hour	None
3E	Generator—Caterpillar Model 3512 DITA (1993)	11 MMBTU per hour	None
3F	Generator—Caterpillar Model 3512B (1993)	12.48 MMBTU per hour	None
3G	Generator—Caterpillar Model 3512B (2003)	15.49 MMBTU per hour	None
3H	Generator—Caterpillar Model 3512 (1993)	14.6 MMBTU per hour	None
3I	Fire Pump—Cummins Model V-504-F2 (1993)	1.3386 MMBTU per hour	None

Table 1 Key:
TPU = Thermal Processing Unit
RTO = Regenerative Thermal Oxidizer
EU# = Emission Unit Number
MMBTU = Million British Thermal Units

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2:

Table 2

EU#	Operational / Production Limit	Air Contaminant	Emission Limit
1	1. Restrict raw material inputs as necessary to remain below emission limits after control.	VOC	24 TPY, 4 TPM
		Organic HAP	5 TPY, 1 TPM
		Inorganic HAP	5 TPY, 1 TPM
2A & 2B		PM10	0.1 lb/MMBTU
		NO_x	0.14 lb/MMBTU
2C-2H		PM10	0.1 lb/MMBTU
		NOx	0.1 lb/MMBTU
2I		PM10	0.1 lb/MMBTU
		NOx	0.04 lb/MMBTU
3A-3E and 3H		PM10	1.7 lb/MMBTU
		SO_2	2.1 lb/MMBTU
		NOx	17.2 lb/MMBTU
3F		PM10	0.02 lb/MMBTU
		SO_2	0.05 lb/MMBTU
		NOx	1.87 lb/MMBTU
		CO	0.12 lb/MMBTU
		VOC	0.08 lb/MMBTU
3G		PM10	0.064 lb/MMBTU
		SO_2	0.05 lb/MMBTU
		NOx	2.51 lb/MMBTU
		CO	1.02 lb/MMBTU
		VOC	0.14 lb/MMBTU
3I		PM10	0.31 lb/MMBTU
		SO_2	0.29 lb/MMBTU
		NOx	4.35 lb/MMBTU
		CO	0.94 lb/MMBTU
		VOC	0.35 lb/MMBTU
Facility-	2. Natural gas usage at the Facility not to	VOC	24 TPY, 4 TPM

Table 2			
EU#	**Operational / Production Limit**	**Air Contaminant**	**Emission Limit**
wide	exceed 5,000,000 therms per year and 1,000,000 therms per calendar month 3. Emergency generators shall not operate more than 300 hours per month and 300 hours per 12-month rolling period 4. OnlyULSD shall be used in emergency generators 5. Gallons of ULSD not to exceed 186,000 gallons per 12-month rolling total and 31,000 gallons per calendar month 6. Restrict raw material and fuel usage so that total GHG emissions remain below emission limits.	Organic HAP	5 TPY, 1 TPM
		Inorganic HAP	5 TPY, 1 TPM
		PM (Note 1)	10 TPY, 2 TPM
		SO_2 (Note 1)	2 TPY, 0.4 TPM
		NO_x (Note 1)	49.15 TPY, 10 TPM
		CO (Note 1)	15 TPY, 3 TPM
		CO_2e (Note 2)	96,019 TPY, 16,003 TPM (Note 2)

Table 2 Note:

Note 1: Emissions from products of combustion from fuel burning equipment, including RTO.
Note 2: The Permittee shall utilize the "tons CO2e" emission factors as approved by USEPA in 40 CFR 98 in calculating its GHG emissions. The carbon dioxide equivalent (CO_2e) of all of the perfluorinated carbons (PFC), sulfur hexafluoride (SF_6) and nitrous oxide (N_2O) shall be calculated according to Equation A-1 of 40 CFR 98.2.

Table 2 Key:

EU# = Emission Unit Number
CO = Carbon Monoxide
PM = Total Particulate Matter
PM10 = Particulate Matter less than 10 microns
HAP = Hazardous Air Pollutants.

Inorganic HAP = the total of all listed HAP compounds that are not VOC
TPY = tons per consecutive12-month period
lb/MMBTU = pounds per million British Thermal Units
GHG = Greenhouse Gases

NO_x = Nitrogen Oxides
SO_2 = Sulfur Dioxide
CO_2e = Carbon Dioxide Equivalent
VOC = Volatile Organic Compounds
Organic HAP = the total of all listed HAP compounds that are also VOC
TPM = tons per month

ULSD = ultra-low sulfur diesel
RTO = Regenerative Thermal Oxidizer

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5:

Table 3	
EU#	**Monitoring and Testing Requirements**
1	1. The Permittee shall install and operate a temperature monitor that continuously monitors operation temperature of each TPU. In the event that temperature falls below a minimum operating temperature, the TPUs will shut off automatically, an alarm system will engage, and the date and time of TPU downtime (and uptime) will be recorded on a continuous monitoring system. The monitor shall be maintained in an accurate operating condition at all times. 2. The Permittee shall keep a monthly running inventory of all GHG producing raw materials used at the Facility. 3. Every five (5) years, the Permittee shall conduct performance and emission testing on at least one TPU system to determine the capture and destruction efficiency of the control system and to determine compliance with the provisions of this Plan Approval. All TPUs shall be tested at least once every 10 years. 4. Monitoring of the RTO shall be accomplished primarily through continuous temperature monitoring of the RTO heat exchange bed and quarterly measurements of the effluent flow to the bed. The systems used for such monitoring shall be properly installed, calibrated, maintained and operated by this Permittee to ensure continuous and accurate operation at all times. 5. The Permittee shall within 180 days of the date of this Plan Approval, and every five (5) years thereafter, conduct performance and emission testing to determine the destruction efficiency of the RTO. 6. The pH of the large scrubbers shall be continuously monitored.
3A-3I	7. Monitor fuel oil purchases such that only fuel oil containing no greater than 0.0015 percent by weight is purchased for use in each unit. Fuel receipt sulfur content information may be used to document the fuel sulfur content.
Facility-wide	8. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	9. If and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and Regulation 310 CMR 7.13.

Table 3 Key:

EU# = Emission Unit Number
TPU = Thermal Processing Unit
RTO = Regenerative Thermal Oxidizer

Table 4	
EU#	**Record Keeping Requirements**
1	1. RTO Operating Hours: A log of all RTO startups and shutdowns shall be kept to document that the RTO is operating at all times that Fab 17 is exhausting VOC emissions except during times of maintenance or malfunction. 2. The Permittee shall continuously monitor and record pH of the large scrubbers.
2 and 3	3. The Permittee will calculate PM/PM_{10}, SO_2, NO_X, and CO emissions from fuel burning units based on time of operation and heat input rating weighted approach. 4. Individual fuel use will be calculated from the overall fuel usage based on the hours of operation and the heat input rating of the unit.
	5. The Permittee shall maintain oil analysis results and/or fuel receipt sulfur content information used to demonstrate compliance with fuel oil sulfur content requirements.
Facility-wide	6. The Permittee shall maintain adequate records on-site to demonstrate compliance with all operational, production, and emission limits contained in Table 2 above. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve-month period (current month plus prior eleven months). These records shall be compiled no later than the 15th day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at http://www.mass.gov/dep/air/approvals/aqforms.htm#report .
	7. The Permittee shall maintain records of monitoring and testing as required by Table 3.
	8. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the EU(s) and PCD(s) approved herein on-site.
	9. The Permittee shall maintain a record of routine maintenance activities performed on the approved EU(s), PCD(s) and monitoring equipment. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.
	10. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU(s) and PCD(s) and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation.
	11. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.

Table 4	
EU#	**Record Keeping Requirements**
	12. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.
	13. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.
	14. In support of the GHG emission calculation records, the Permittee will maintain records of process GHG use, emergency generator hours of operation, diesel fuel usage, and natural gas usage. The Permittee will calculate GHG emissions as CO_2e on a monthly and 12-month rolling period.

Table 4 Key:

EU# = Emission Unit Number
SOMP = Standard Operating and Maintenance Procedure
RTO = Regenerative Thermal Oxidizer
CO = Carbon Monoxide
PM = Total Particulate Matter
PM10 = Particulate Matter less than 10 microns
GHG = Greenhouse Gases
PCD = Pollution Control Device
USEPA = United States Environmental Protection Agency
NO_x = Nitrogen Oxides
SO_2 = Sulfur Dioxide
CO_2e = Carbon Dioxide Equivalent
VOC = Volatile Organic Compounds

Table 5	
EU#	**Reporting Requirements**

Table 5	
EU#	**Reporting Requirements**
1	1. In the event of a breakdown of the RTO, the Permittee will: a) Provide verbal notification within 24 hours and meet with the MassDEP to discuss appropriate next steps, if requested by the MassDEP. b) Provide to MassDEP within 5 days after the RTO has returned to operational status, a written report outlining the cause(s) of the breakdown and any corrective measure taken or planned to be taken to prevent a recurrence. 2. The Permittee is not required to report a breakdown of one RTO chamber, provided that all emissions are treated using the other chamber and provided that the RTO maintains the performance requirements described in Table 6, item 7. 3. The Bureau of Waste Prevention, Permit Section need not be notified of any upsets, malfunctions, or planned shutdown of a TPU or scrubber provided that the system is not in violation of permitted emission levels. 4. Within sixty (60) days of performing the TPU compliance test required in Table 3, the Permittee shall supply MassDEP with a copy of the final test report.
Facility-wide	5. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a "Responsible Official" as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	6. The Permittee shall notify the Central Regional Office of MassDEP, BWP Permit Chief by telephone: 508-767-2845, email: CERO.Air@massmail.state.ma.us, or fax : 508-792-7621, as soon as possible, but no later than one (1) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to Permit Chief at MassDEP within three (3) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).
	7. The Permittee shall report to MassDEP, in accordance with 310 CMR 7.12, all information as required by the Source Registration/Emission Statement Form. Source Registration shall be submitted to MassDEP once every three years provided the Facility remains not subject to the annual reporting requirements of 310 CMR 7.12(2)(a). The Permittee shall note therein any minor changes (under 310 CMR 7.02(2)(e), 7.03, 7.26, etc.), which did not require Plan Approval.
	8. The Permittee shall provide a copy to MassDEP of any record required to be maintained by this Plan Approval within 30 days from MassDEP's request.
	9. The Permittee shall submit to MassDEP for approval a stack emission pretest protocol, at least 30 days prior to emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.
	10. The Permittee shall submit to MassDEP a final stack emission test results report, within 60 days after emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.

Table 5 Key:

EU# = Emission Unit Number
TPU = Thermal Processing Unit
ppmv = parts per million by volume
≤ = less than or equal to
RTO = Regenerative Thermal Oxidizer
VOC = Volatile Organic Compounds
% = percent

4. SPECIAL TERMS AND CONDITIONS

A. The Permittee is subject to, and shall comply with, the Special Terms and Conditions as contained in Table 6 below:

Table 6

EU#	Special Terms and Conditions
1 (equipment controlled by TPUs)	1. The Permittee shall ensure that all LRC etch tools emitting SF_6, and the DSE tool emitting SF_6 and CF_4, are equipped with an emission capture system that provides for 100% capture via a permanent total enclosure (or equivalent); that said system is maintained in good operating condition at all times; and that captured emissions are directed to properly functioning TPUs. 2. In the event of a malfunction of a TPU, the Permittee shall document the quantity of GHG emitted as a result of the malfunction. The total amount of CO_2e released shall be added to the Facility total CO_2e amount for that period. 3. The minimum operating temperature of each TPU shall be 1382°F (750°C). 4. The minimum destruction efficiency of the TPUs on the LRC etch tools shall be 95% for SF6 emissions. 5. The minimum destruction efficiency of the TPU on the DSE tool shall be 95% for SF_6 and 90% for CF_4 emissions.
1 (equipment controlled by RTO)	6. All sources of VOC and organic HAP emissions from Fab 17 semiconductor manufacturing operations shall be vented to the Regenerative Thermal Oxidizer (RTO), unless the Permittee determines that connecting a source of VOC emissions to the RTO would result in dilution of the stream to the extent that overall VOC emissions would not be reduced. Sources of VOC and organic HAP emissions from building HD1 shall remain unabated as long as their potential to emit VOC is less than 1 ton per year. 7. The RTO shall achieve VOC removal efficiencies of at least 95% by volume, averaged over a minimum two-hour period, when the inlet concentration is 100 ppmv or higher. Under other operating conditions, the RTO shall either (when averaged over a minimum two-hour period): a) Achieve a destruction removal efficiency of 95%, or b) Maintain an outlet concentration of $\leq$ 5 ppmv total VOCs 8. The RTO combustion chamber shall operate at a minimum of 1400 °F or at the temperature necessary to assure attainment of the above destruction efficiency requirement, as determined by the most recent approved compliance test.

Table 6	
EU#	**Special Terms and Conditions**
1 (equipment controlled by scrubbers)	9. The Permittee shall install, operate, and maintain scrubbers to control inorganic HAPs that are emitted from the Facility. All sources of inorganic HAPs from semiconductor manufacturing operations shall be vented to the scrubbers, unless the Permittee determines that connecting a source of inorganic HAP emissions to the scrubbers would result in dilution of the stream to the extent that overall inorganic HAP emissions would not be reduced. 10. The scrubber units shall achieve removal efficiencies of, or equivalent to, at least 90% by volume of hydrogen chloride, averaged over a minimum two-hour period, when the hydrogen chloride gas inlet concentration is 10 ppmv or higher. Under other operating conditions, the scrubbers shall either: a) Achieve a removal efficiency of 90%, or b) Maintain an outlet concentration of ≤ l ppmv HCl and ≤ l ppmv HF
2	11. Natural Gas - The Permittee shall only burn natural gas in any boiler located at the Facility.
3	12. The Permittee shall only burn ULSD fuel oil in any emergency engines located at the Facility. 13. The Permittee shall only operate the diesel engines under the following conditions: a) During normal maintenance and testing procedure as recommended by the manufacturer, and b) During periods when the primary power source for the Facility has been lost during an emergency as defined by the Air Pollution Control regulations.
Facility-wide	14. Changes, additions or relocations of equipment (excluding add-on controls and new emission points) or process modifications used for semiconductor manufacturing operations are allowed without prior notification to the Department provided they do not result in emissions increases which exceed relevant emission limits.

Table 6 Key:

EU# = Emission Unit Number

DSE = A proprietary Intel designation for certain tools

CF_4 = carbon tetrafluoride

GHG = Greenhouse gas

°F = degree Fahrenheit

CO_2e = Carbon Dioxide Equivalent

HAP = Hazardous Air Pollutants

Inorganic HAP = the total of all listed HAP compounds that are not VOC

ULSD = ultra low sulfur diesel

≤ = less than or equal to

°C = degree Centigrade

LRC = A proprietary Intel designation for certain tools

SF_6 = sulfur hexafluoride

TPU = Thermal Processing Unit

VOC = Volatile Organic Compounds

% = percent

HCl = hydrogen chloride

HF = hydrogen fluoride

ppmv = parts per million by volume

HAP = Hazardous Air Pollutants

RTO = Regenerative Thermal Oxidizer

B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including but not limited to rain protection devices known as “shanty caps” and “egg beaters.”

C. The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7, for the Emission Units that are regulated by this Plan Approval:

Table 7				
EU#	**Stack Height Above Ground (feet)**	**Stack Inside Exit Dimensions Feet**	**Stack Gas Exit Velocity Range (feet per second)**	**Stack Gas Exit Temperature Range (°F)**
1 (HD3/CUB/Fab 17) (Notes 1 & 3)	63	5	22	70
1 (HD1) (Note 2)	40	3	39-89	70-80
1 (RTO)	55	5	46	176
2A, 2B, & 2C	55	2	15-33	400
2D & 2E	51	1	15	387
2F	63	2.5	31	400
2G	63	2.5	31	400
2H	63	2.5	31	400
2I	63	2.5	31	400
3A	35	0.8	10	800
3B, 3C, 3D, & 3E	63	1.5	89	980
3F & 3G	46	1.2	10-11	762
3H	56	1.5	17	876
3I	21	0.5	80	880

Table 7 Notes:
Note 1: For the HD3, CUB, and Fab 17 buildings, inorganic emissions are sent through 10 scrubbers which exhaust to seven different stacks.
Note 2: For the HD1 building, inorganic emissions are sent through five scrubbers which exhaust to four different stacks.
Note 3: TPU emissions are exhausted to the HD3/CUB/Fab 17 scrubbers, prior to emission to the ambient air.

Table 7 Key:

EU# = Emission Unit Number
RTO = Regenerative Thermal Oxidizer
°F = Degree Fahrenheit

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).

B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.

C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.

D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.

E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.

F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.

G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.

H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.

I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.

J. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain "Fail-Safe Provisions," which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

7. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars ($100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Enclosed is a stamped approved copy of the application submittal.

Should you have any questions concerning this Plan Approval, please contact Paul Dwiggins by telephone at (508)767-2760, or in writing at the letterhead address.

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

Roseanna E. Stanley
Acting Permit Chief
Bureau of Waste Prevention

Enclosure
ecc: Hudson Board of Health
Hudson Fire Department
MassDEP/Boston - Yi Tian
Capaccio Associates
Kim McCoy, CERO