New York State Department of Environmental Conservation

Permit Review Report

Permit ID: 5-4140-00189/00003
04/08/2013

Facility Identification Data
Name: FAB 8
Address: LUTHER FOREST TECHNOLOGY CAMPUS |400 STONE BREAK ROAD EXTENSION
MALTA, NY 12020

Owner/Firm
Name: GLOBAL FOUNDRIES US INC
Address: 840 N MCCARTHY BLVD
MILPITAS, CA 95035, USA
Owner Classification: Corporation/Partnership

Permit Contacts
Division of Environmental Permits:
Name: MARC S MIGLIORE
Address: NYSDEC
232 GOLF COURSE RD
WARRENSBURG, NY 12885
Phone:5186231281

Division of Air Resources:
Name: MICHAEL R SUNDBERG
Address: 232 GOLF COURSE RD
WARRENSBURG, NY 12885
Phone:5186231212

Air Permitting Facility Owner Contact:
Name: BRIAN RALEY
Address: LUTHER FOREST TECHNOLOGY CAMPUS
400 STONE BREAK RD EXT
BALLSTON SPA, NY 12020
Phone:5183059211

Permit Description

Introduction

The Title V operating air permit is intended to be a document containing only enforceable terms and conditions as well as any additional information, such as the identification of emission units, emission points, emission sources and processes, that makes the terms meaningful. 40 CFR Part 70.7(a)(5) requires that each Title V permit have an accompanying "...statement that sets forth the legal and factual basis for the draft permit conditions". The purpose for this permit review report is to satisfy the above requirement by providing pertinent details regarding the permit/application data and permit conditions in a more easily understandable format. This report will also include background narrative and explanations of regulatory decisions made by the reviewer. It should be emphasized that this permit review report, while based on information contained in the permit, is a separate document and is not itself an enforceable term and condition of the permit.

Summary Description of Proposed Project

This project is to build a new facility called the Technology Development Center. It is primarily for research and development of semiconductor chip technology.

Attainment Status

FAB 8 is located in the town of MALTA in the county of SARATOGA.
The attainment status for this location is provided below. (Areas classified as attainment are those that meet all ambient air quality standards for a designated criteria air pollutant.)

Criteria Pollutant	Attainment Status
Particulate Matter (PM)	ATTAINMENT
Particulate Matter< 10µ in diameter (PM10)	ATTAINMENT
Sulfur Dioxide (SO2)	ATTAINMENT
Ozone*	MARGINAL NON-ATTAINMENT
Oxides of Nitrogen (NOx)**	ATTAINMENT
Carbon Monoxide (CO)	ATTAINMENT

* Ozone is regulated in terms of the emissions of volatile organic compounds (VOC) and/or oxides of nitrogen (NOx) which are ozone precursors.
** NOx has a separate ambient air quality standard in addition to being an ozone precursor.

Facility Description:
A semiconductor wafer fabrication clean room facility with associated manufacturing space and support facilities (such as boiler systems and backup power generation).

Permit Structure and Description of Operations
The Title V permit for FAB 8
is structured in terms of the following hierarchy: facility, emission unit, emission point, emission source and process. A facility is defined as all emission sources located at one or more adjacent or contiguous properties owned or operated by the same person or persons under common control. The facility is subdivided into one or more emission units (EU). Emission units are defined as any part or activity of a stationary facility that emits or has the potential to emit any federal or state regulated air pollutant. An emission unit is represented as a grouping of processes (defined as any activity involving one or more emission sources (ES) that emits or has the potential to emit any federal or state regulated air pollutant). An emission source is defined as any apparatus, contrivance or machine capable of causing emissions of any air contaminant to the outdoor atmosphere, including any appurtenant exhaust system or air cleaning device. [NOTE: Indirect sources of air contamination as defined in 6 NYCRR Part 203 (i.e. parking lots) are excluded from this definition]. The applicant is required to identify the principal piece of equipment (i.e., emission source) that directly results in or controls the emission of federal or state regulated air pollutants from an activity (i.e., process). Emission sources are categorized by the following types:
combustion - devices which burn fuel to generate heat, steam or power
incinerator - devices which burn waste material for disposal
control - emission control devices
process - any device or contrivance which may emit air contaminants
that is not included in the above categories.

FAB 8 is defined by the following emission unit(s):

Emission unit B00004 - Nine Boilers totaling approximately 350 million BTUs per hour of heat input remaining boilers are natural gas fired only. Three of the boilers are smaller than 10 mmBtu per hour and are exempt from permitting. All boilers are located in the MCUB building and can provide heat to the

TDC or Fab 8.1. Also included are 12 emergency generators which are exempt from permitting since they are limited to less than 500 operating hours per year.

Emission unit B00004 is associated with the following emission points (EP):
00105, 00106, 00107, 00108, 00109
Process: B41 is located at Building MCUB - Operation of dual fired boilers for the TDC using #2 fuel oil.

Process: B42 is located at Building MCUB - Operation of boilers for the TDC firing natural gas.

Emission unit F00004 - Various fabrication operations at the facility which utilize products containing acids, caustics, VOCs and HAPs. Acid and caustic emissions are controlled by scrubbers and VOCs are controlled by oxidizers.

Emission unit F00004 is associated with the following emission points (EP):
00118, 00119, 00120, 00121, 00122, 00123, 00124, 00125, 00126, 00127
Process: 401 is located at Building TDC - Fabrication processes consisting of assembly operations.

Process: 402 is located at Building TDC - Fabrication processes consisting of packaging BSI operations.

Process: 403 Fabrication processes consisting of Bump operations.

Process: 404 is located at Building TDC - Fabrication processes consisting of Lab operations.

Process: 405 is located at Building TDC - Fabrication processes consisting of Mask operations.

Process: 406 is located at Building TDC - Fabrication processes consisting of poly imide operations.

Process: 407 is located at Building TDC - Emission control devices for Fabrication processes. These incluse four acid scrubbers, three caustic scrubbers and three rotary concentrator thermal oxidizers.

Title V/Major Source Status
FAB 8 is subject to Title V requirements. This determination is based on the following information:
The facility is a major source of Greenhouse Gas emissions. No other contaminants are major either for this project or in combination with the main FAB 8 facility.

Program Applicability
The following chart summarizes the applicability of FAB 8 with regards to the principal air pollution regulatory programs:

Regulatory Program	Applicability
PSD	NO
NSR (non-attainment)	NO
NESHAP (40 CFR Part 61)	NO

NESHAP (MACT - 40 CFR Part 63)	NO
NSPS	YES
TITLE IV	NO
TITLE V	YES
TITLE VI	NO
RACT	NO
SIP	YES

NOTES:
PSD Prevention of Significant Deterioration (40 CFR 52) - requirements which pertain to major stationary sources located in areas which are in attainment of National Ambient Air Quality Standards (NAAQS) for specified pollutants.

NSR New Source Review (6 NYCRR Part 231) - requirements which pertain to major stationary sources located in areas which are in non-attainment of National Ambient Air Quality Standards (NAAQS) for specified pollutants.

NESHAP National Emission Standards for Hazardous Air Pollutants (40 CFR 61) - contaminant and source specific emission standards established prior to the Clean Air Act Amendments of 1990 (CAAA)
which were developed for 9 air contaminants (inorganic arsenic, radon, benzene, vinyl chloride, asbestos, mercury, beryllium, radionuclides, and volatile HAP's).

MACT Maximum Achievable Control Technology (40 CFR 63) - contaminant and source specific emission standards established by the 1990 CAAA. Under Section 112 of the CAAA, the US EPA is required to develop and promulgate emissions standards for new and existing sources. The standards are to
be based on the best demonstrated control technology and practices in the regulated industry, otherwise known as MACT. The corresponding regulations apply to specific source types and contaminants.

NSPS New Source Performance Standards (40 CFR 60) - standards of performance for specific stationary source categories developed by the US EPA under Section 111 of the CAAA. The standards apply only to those stationary sources which have been constructed or modified after the regulations have been proposed by publication in the Federal Register and only to the specific contaminant(s) listed in the regulation.

Title IV Acid Rain Control Program (40 CFR 72 thru 78) - regulations which mandate the implementation of the acid rain control program for large stationary combustion facilities.

Title VI Stratospheric Ozone Protection (40 CFR 82, Subparts A thru G) - federal requirements that apply to sources which use a minimum quantity of CFC's (chlorofluorocarbons), HCFC's (hydrofluorocarbons) or other ozone depleting substances or regulated substitute substances in equipment such as air conditioners, refrigeration equipment or motor vehicle air conditioners or appliances.

RACT Reasonably Available Control Technology (6 NYCRR Parts 212.10, 226, 227-2, 228, 229, 230, 232, 233, 234, 235, 236) - the lowest emission limit that a specific source is capable of meeting by application of control technology that is reasonably available, considering technological and economic feasibility. RACT is a control strategy used to limit emissions of VOC's and NOx for the purpose of attaining the air quality standard for ozone. The term as it is used in the above table refers to those state

air pollution control regulations which specifically regulate VOC and NOx emissions.

SIP State Implementation Plan (40 CFR 52, Subpart HH) - as per the CAAA, all states are empowered and required to devise the specific combination of controls that, when implemented, will bring about attainment of ambient air quality standards established by the federal government and the individual state. This specific combination of measures is referred to as the SIP. The term here refers to those state regulations that are approved to be included in the SIP and thus are considered federally enforceable.

Compliance Status
Facility is in compliance with all requirements.

SIC Codes
SIC or Standard Industrial Classification code is an industrial code developed by the federal Office of Management and Budget for use, among other things, in the classification of establishments by the type of activity in which they are engaged. Each operating establishment is assigned an industry code on the basis of its primary activity, which is determined by its principal product or group of products produced or distributed, or services rendered. Larger facilities typically have more than one SIC code.

SIC Code	Description
3674	SEMICONDUCTORS & RELATED DEVICES

SCC Codes
SCC or Source Classification Code is a code developed and used" by the USEPA to categorize processes which result in air emissions for the purpose of assessing emission factor information.Each SCC represents a unique process or function within a source category logically associated with a point of air pollution emissions. Any operation that causes air pollution can be represented by one or more SCC's.

SCC Code	Description
1-02-005-02	EXTERNAL COMBUSTION BOILERS - INDUSTRIAL INDUSTRIAL BOILER - DISTILLATE OIL 10-100MMBTU/HR **
1-02-006-02	EXTERNAL COMBUSTION BOILERS - INDUSTRIAL INDUSTRIAL BOILER - NATURAL GAS 10-100 MMBtu/Hr
3-13-065-00	ELECTRICAL EQUIPMENT ELECTRICAL EQUIPMENT - SEMICONDUCTOR MANUFACTURING INTEGRATED CIRCUIT MANUFACTURING - GENERAL

Facility Emissions Summary
In the following table, the CAS No. or Chemical Abstract Service code is an identifier assigned to every chemical compound. [NOTE: Certain CAS No.'s contain a 'NY' designation within them. These are not true CAS No.'s but rather an identification which has been developed by the department to identify groups of contaminants which ordinary CAS No.'s do not do. As an example, volatile organic compounds or VOC's are identified collectively by the NY CAS No. 0NY998-00-0.] The PTE refers to the Potential to Emit. This is defined as the maximum capacity of a facility or air contaminant source to emit any air contaminant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or air contamination source to emit any air contaminant , including air pollution control equipment and/or restrictions on the hours of operation, or on the type or amount or material combusted, stored, or processed, shall be treated as part of the design only if the limitation is contained in

federally enforceable permit conditions. The PTE Range represents an emission range for a contaminant. Any PTE quantity that is displayed represents a facility-wide emission cap or limitation for that contaminant. If no PTE quantity is displayed, the PTE Range is provided to indicate the approximate magnitude of facility-wide emissions for the specified contaminant in terms of tons per year (tpy). The term 'HAP' refers to any of the hazardous air pollutants listed in section 112(b) of the Clean Air Act Amendments of 1990. Total emissions of all hazardous air pollutants are listed under the special NY CAS No. 0NY100-00-0. In addition, each individual hazardous air pollutant is also listed under its own specific CAS No. and is identified in the list below by the (HAP) designation.

Cas No.	Contaminant Name	PTE lbs/yr	PTE Range
000120-80-9	1,2-BENZENEDIOL		> 0 but < 10 tpy
000107-21-1	1,2-ETHANEDIOL		> 0 but < 10 tpy
007664-41-7	AMMONIA		>= 10 tpy but < 25 tpy
007784-42-1	ARSINE		> 0 but < 10 tpy
000124-38-9	CARBON DIOXIDE		>= 100,000 tpy
0NY750-00-0	CARBON DIOXIDE EQUIVALENTS		>= 75,000 tpy but < 100,000 tpy
000630-08-0	CARBON MONOXIDE	180000	
007782-50-5	CHLORINE	19000	
068188-85-2	FLUORIDES		> 0 but < 2.5 tpy
0NY100-00-0	HAP	48000	
007647-01-0	HYDROGEN CHLORIDE	19000	
007664-39-3	HYDROGEN FLUORIDE	19000	
007439-92-1	LEAD		> 0 but < 10 tpy
010024-97-2	NITROUS OXIDE		>= 250 tpy but < 75,000 tpy
0NY210-00-0	OXIDES OF NITROGEN	75000	
0NY075-00-0	PARTICULATES		>= 2.5 tpy but < 10 tpy
007803-51-2	PHOSPHINE		> 0 but < 10 tpy
0NY075-02-5	PM 2.5	18000	
0NY075-00-5	PM-10		>= 10 tpy but < 25 tpy
007446-09-5	SULFUR DIOXIDE	75000	
010026-04-7	TETRACHLORO SILANE		> 0 but < 2.5 tpy
007783-63-3	TITANIUM FLUORIDE		>= 2.5 tpy but < 10 tpy
013283-01-7	TUNGSTEN HEXACHLORIDE		> 0 but < 2.5 tpy
007783-82-6	TUNGSTEN HEXAFLUORIDE		> 0 but < 2.5 tpy
0NY998-00-0	VOC		>= 10 tpy but < 25 tpy

NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS

Item A: Emergency Defense - 6 NYCRR 201-1.5

An emergency constitutes an affirmative defense to an action brought for noncompliance with emissions limitations or permit conditions for all facilities in New York State.

(a) The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An emergency occurred and that the facility owner and/or operator can identify the cause(s) of the emergency;

(2) The equipment at the permitted facility causing the emergency was at the time being properly operated;

(3) During the period of the emergency the facility owner and/or operator took

all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
(4) The facility owner and/or operator notified the Department within two working days after the event occurred. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
(b) In any enforcement proceeding, the facility owner and/or operator seeking to establish the occurrence of an emergency has the burden of proof.
(c) This provision is in addition to any emergency or upset provision contained in any applicable requirement.

Item B: Public Access to Recordkeeping for Title V Facilities - 6 NYCRR 201-1.10(b)
The Department will make available to the public any permit application, compliance plan, permit, and monitoring and compliance certification report pursuant to Section 503(e) of the Act, except for information entitled to confidential treatment pursuant to 6 NYCRR Part 616 - Public Access to records and Section 114(c) of the Act.

Item C: Timely Application for the Renewal of Title V Permits -6 NYCRR Part 201-6.3(a)(4)

Owners and/or operators of facilities having an issued Title V permit shall submit a complete application at least 180 days, but not more than eighteen months, prior to the date of permit expiration for permit renewal purposes.

Item D: Certification by a Responsible Official - 6 NYCRR Part 201-6.3(d)(12)
Any application, form, report or compliance certification required to be submitted pursuant to the federally enforceable portions of this permit shall contain a certification of truth, accuracy and completeness by a responsible official.This certification shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Item E: Requirement to Comply With All Conditions - 6 NYCRR Part 201-6.5(a)(2)
The permittee must comply with all conditions of the Title V facility permit. Any permit non-compliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

Item F: Permit Revocation, Modification, Reopening, Reissuance or Termination, and Associated Information Submission Requirements - 6 NYCRR Part 201-6.5(a)(3)
This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Item G: Cessation or Reduction of Permitted Activity Not a Defense - 6 NYCRR 201-6.5(a)(5)
It shall not be a defense for a permittee in an enforcement action to claim that a cessation or reduction in the permitted activity would have been necessary in order to maintain compliance with the conditions of this permit.

Item H: Property Rights - 6 NYCRR 201-6.5(a)(6)

This permit does not convey any property rights of any sort or any exclusive privilege.

Item I: Severability - 6 NYCRR Part 201-6.5(a)(9)

If any provisions, parts or conditions of this permit are found to be invalid or are the subject of a challenge, the remainder of this permit shall continue to be valid.

Item J: Permit Shield - 6 NYCRR Part 201-6.5(g)

All permittees granted a Title V facility permit shall be covered under the protection of a permit shield, except as provided under 6 NYCRR Subpart 201-6. Compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that such applicable requirements are included and are specifically identified in the permit, or the Department, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the major stationary source, and the permit includes the determination or a concise summary thereof. Nothing herein shall preclude the Department from revising or revoking the permit pursuant to 6 NYCRR Part 621 or from exercising its summary abatement authority. Nothing in this permit shall alter or affect the following:

i. The ability of the Department to seek to bring suit on behalf of the State of New York, or the Administrator to seek to bring suit on behalf of the United States, to immediately restrain any person causing or contributing to pollution presenting an imminent and substantial endangerment to public health, welfare or the environment to stop the emission of air pollutants causing or contributing to such pollution;

ii. The liability of a permittee of the Title V facility for any violation of applicable requirements prior to or at the time of permit issuance;

iii. The applicable requirements of Title IV of the Act;

iv. The ability of the Department or the Administrator to obtain information from the permittee concerning the ability to enter, inspect and monitor the facility.

Item K: Reopening for Cause - 6 NYCRR Part 201-6.5(i)

This Title V permit shall be reopened and revised under any of the following circumstances:

i. If additional applicable requirements under the Act become applicable where this permit's remaining term is three or more years, a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which this permit is due to expire, unless the original permit or any of its terms and conditions has been extended by the Department pursuant to the provisions of Part 2 01-6.7 and Part 621.

ii. The Department or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

iii. The Department or the Administrator determines that the Title V permit must be revised or reopened to assure compliance with applicable requirements.

iv. If the permitted facility is an "affected source" subject to the requirements of Title IV of the Act, and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.

Proceedings to reopen and issue Title V facility permits shall follow the same procedures as apply to initial permit issuance but shall affect only those parts of the permit for which cause to reopen exists.
Reopenings shall not be initiated before a notice of such intent is provided to the facility by the Department at least thirty days in advance of the date that the permit is to be reopened, except that the Department may provide a shorter time period in the case of an emergency.

Item L: Permit Exclusion - ECL 19-0305
The issuance of this permit by the Department and the receipt thereof by the Applicant does not and shall not be construed as barring, diminishing, adjudicating or in any way affecting any legal, administrative or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the Department may have against the Applicant for violations based on facts and circumstances alleged to have occurred or existed prior to the effective date of this permit, including, but not limited to, any enforcement action authorized pursuant to the provisions of applicable federal law, the Environmental Conservation Law of the State of New York (ECL) and Chapter III of the Official Compilation of the Codes, Rules and Regulations of the State of New York (NYCRR). The issuance of this permit also shall not in any way affect pending or future enforcement actions under the Clean Air Act brought by the United States or any person.

Item M: Federally Enforceable Requirements - 40 CFR 70.6(b)
All terms and conditions in this permit required by the Act or any applicable requirement, including any provisions designed to limit a facility's potential to emit, are enforceable by the Administrator and citizens under the Act. The Department has, in this permit, specifically designated any terms and conditions that are not required under the Act or under any of its applicable requirements as being enforceable under only state regulations.

NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS

Item A: General Provisions for State Enforceable Permit Terms and Condition - 6 NYCRR Part 201-5
Any person who owns and/or operates stationary sources shall operate and maintain all emission units and any required emission control devices in compliance with all applicable Parts of this Chapter and existing laws, and shall operate the facility in accordance with all criteria, emission limits, terms, conditions, and standards in this permit. Failure of such person to properly operate and maintain the effectiveness of such emission units and emission control devices may be sufficient reason for the Department to revoke or deny a permit.

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with

this and any other state and federal air pollution control requirements, regulations or law.

Regulatory Analysis

Location Facility/EU/EP/Process/ES	Regulation	Condition	Short Description
FACILITY	ECL 19-0301	59	Powers and Duties of the Department with respect to air pollution control
FACILITY	40CFR 60-Dc.42c(d)	40	Standard for Sulfur Dioxide Firing Oil. (see narrative)
FACILITY	40CFR 60-Dc.48c(c)	41	Reporting and Recordkeeping Requirements
FACILITY	40CFR 60-Dc.48c(g)(2)	42	Alternative recordkeeping
FACILITY	40CFR 60-IIII.4207(b)	43, 44	Stationary Compression Ignition IC Engines - Fuel Requirements beginning October 1, 2010
FACILITY	40CFR 63-BBBBB	25, 26, 27	Semiconductor Manufacturing NESHAP
FACILITY	40CFR 68	19	Chemical accident prevention provisions
FACILITY	40CFR 82-F	20	Protection of Stratospheric Ozone - recycling and emissions reduction
FACILITY	6NYCRR 200.6	1	Acceptable ambient air quality.
FACILITY	6NYCRR 200.7	10	Maintenance of equipment.
FACILITY	6NYCRR 201-1.4	60	Unavoidable noncompliance and violations
FACILITY	6NYCRR 201-1.7	11	Recycling and Salvage
FACILITY	6NYCRR 201-1.8	12	Prohibition of reintroduction of collected contaminants to the air
FACILITY	6NYCRR 201-3.2(a)	13	Exempt Activities - Proof of eligibility
FACILITY	6NYCRR 201-3.2(c)(6)	21	Exempt Activities - emergency power generating units
FACILITY	6NYCRR 201-3.3(a)	14	Trivial Activities - proof of eligibility
FACILITY	6NYCRR 201-6	22, 45, 46	Title V Permits and the Associated Permit Conditions
FACILITY	6NYCRR 201-6.5(a)(4)	15	General conditions
FACILITY	6NYCRR 201-6.5(a)(7)	2	General conditions Fees
FACILITY	6NYCRR 201-6.5(a)(8)	16	General conditions
FACILITY	6NYCRR 201-6.5(c)	3	Permit conditions for Recordkeeping and Reporting of

FACILITY	6NYCRR 201-6.5(c)(2)	4	Compliance Monitoring Permit conditions for Recordkeeping and Reporting of Compliance Monitoring
FACILITY	6NYCRR 201-6.5(c)(3)(ii	5	Compliance Monitoring Permit conditions for Recordkeeping and Reporting of Compliance Monitoring
FACILITY	6NYCRR 201-6.5(d)(5)	17	Compliance schedules
FACILITY	6NYCRR 201-6.5(e)	6	Compliance Certification
FACILITY	6NYCRR 201-6.5(f)	23	Operational flexibility
FACILITY	6NYCRR 201-6.5(f)(6)	18	Off Permit Changes
FACILITY	6NYCRR 201-7.2	24, 25, 26, 27	Emissions capping using synthetic minor permits
B-00004	6NYCRR 201-7.2	47, 48, 49	Emissions capping using synthetic minor permits
FACILITY	6NYCRR 202-1.1	28	Required emissions tests.
FACILITY	6NYCRR 202-2.1	7	Emission Statements - Applicability
FACILITY	6NYCRR 202-2.5	8	Emission Statements - record keeping requirements.
FACILITY	6NYCRR 211.1	29	General Prohibitions - air pollution prohibited
FACILITY	6NYCRR 212.11(b)	35, 36, 37, 38, 39	Sampling and monitoring
FACILITY	6NYCRR 212.4(a)	30	General Process Emission Sources - emissions from new sources and/or modifications
F-00004	6NYCRR 212.4(c)	56	General Process Emission Sources - emissions from new processes and/or modifications
FACILITY	6NYCRR 212.6(a)	31	General Process Emission Sources - opacity of emissions limited
FACILITY	6NYCRR 212.9(b)	32, 33, 34	General Process Emission Sources - tables
FACILITY	6NYCRR 215.2	9	Open Fires - Prohibitions
B-00004	6NYCRR 227-1.3(a)	50	Smoke Emission Limitations.
B-00004	6NYCRR 231-8	47, 48, 49	Mods to Existing Major Facilities in Attainment Areas (PSD)
B-00004	6NYCRR 231-8.7	51, 52, 53, 54, 55	Best available control technology (BACT)
F-00004	6NYCRR 231-8.7	57, 58	Best available control technology (BACT)

Applicability Discussion:
Mandatory Requirements: The following facility-wide regulations are included in all Title V permits:

ECL 19-0301
This section of the Environmental Conservation Law establishes the powers and duties assigned to the Department with regard to administering the air pollution control program for New York State.

6 NYCRR 200.6
Acceptable ambient air quality - prohibits contravention of ambient air quality standards without mitigating measures

6 NYCRR 200.7
Anyone owning or operating an air contamination source which is equipped with an emission control device must operate the control consistent with ordinary and necessary practices, standards and procedures, as per manufacturer's specifications and keep it in a satisfactory state of maintenance and repair so that it operates effectively

6 NYCRR 201-1.4
This regulation specifies the actions and recordkeeping and reporting requirements for any violation of an applicable state enforceable emission standard that results from a necessary scheduled equipment maintenance, start-up, shutdown, malfunction or upset in the event that these are unavoidable.

6 NYCRR 201-1.7
Requires the recycle and salvage of collected air contaminants where practical

6 NYCRR 201-1.8
Prohibits the reintroduction of collected air contaminants to the outside air

6 NYCRR 201-3.2 (a)
An owner and/or operator of an exempt emission source or unit may be required to certify that it operates within the specific criteria described in this Subpart. All required records must be maintained on-site for a period of 5 years and made available to department representatives upon request. In addition, department representatives must be granted access to any facility which contains exempt emission sources or units, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

6 NYCRR 201-3.3 (a)
The owner and/or operator of a trivial emission source or unit may be required to certify that it operates within the specific criteria described in this Subpart. All required records must be maintained on-site for a period of 5 years and made available to department representatives upon request. In addition, department representatives must be granted access to any facility which contains trivial emission sources or units subject to this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

6 NYCRR Subpart 201-6
This regulation applies to those terms and conditions which are subject to Title V permitting. It establishes the applicability criteria for Title V permits, the information to be included in all Title V permit applications as well as the permit content and terms of permit issuance. This rule also specifies the compliance, monitoring, recordkeeping, reporting, fee, and procedural requirements that need to be met to obtain a Title V permit, modify the permit and demonstrate conformity with applicable requirements as listed in the Title V permit. For permitting purposes, this rule specifies the need to identify and describe all emission units, processes and products in the permit application as well as providing the Department the

authority to include this and any other information that it deems necessary to determine the compliance status of the facility.

6 NYCRR 201-6.5 (a) (4)
This mandatory requirement applies to all Title V facilities. It requires the permittee to provide information that the Department may request in writing, within a reasonable time, in order to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. The request may include copies of records required to be kept by the permit.

6 NYCRR 201-6.5 (a) (7)
This is a mandatory condition that requires the owner or operator of a facility subject to Title V requirements to pay all applicable fees associated with the emissions from their facility.

6 NYCRR 201-6.5 (a) (8)
This is a mandatory condition for all facilities subject to Title V requirements. It allows the Department to inspect the facility to determine compliance with this permit, including copying records, sampling and monitoring, as necessary.

6 NYCRR 201-6.5 (c)
This requirement specifies, in general terms, what information must be contained in any required compliance monitoring records and reports. This includes the date, time and place of any sampling, measurements and analyses; who performed the analyses; analytical techniques and methods used as well as any required QA/QC procedures; results of the analyses; the operating conditions at the time of sampling or measurement and the identification of any permit deviations. All such reports must also be certified by the designated responsible official of the facility.

6 NYCRR 201-6.5 (c) (2)
This requirement specifies that all compliance monitoring and recordkeeping is to be conducted according to the terms and conditions of the permit and follow all QA requirements found in applicable regulations. It also requires monitoring records and supporting information to be retained for at least 5 years from the time of sampling, measurement, report or application. Support information is defined as including all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

6 NYCRR 201-6.5 (c) (3) (ii)
This regulation specifies any reporting requirements incorporated into the permit must include provisions regarding the notification and reporting of permit deviations and incidences of noncompliance stating the probable cause of such deviations, and any corrective actions or preventive measures taken.

6 NYCRR 201-6.5 (d) (5)
This condition applies to every Title V facility subject to a compliance schedule. It requires that reports, detailing the status of progress on achieving compliance with emission standards, be submitted semiannually.

6 NYCRR 201-6.5 (e)
Sets forth the general requirements for compliance certification content; specifies an annual submittal frequency; and identifies the EPA and appropriate regional office address where the reports are to be sent.

6 NYCRR 201-6.5 (f) (6)
This condition allows changes to be made at the facility, without modifying the permit, provided the changes do not cause an emission limit contained in this permit to be exceeded. The owner or operator of the facility must notify the Department of the change. It is applicable to all Title V permits which may be

subject to an off permit change.

6 NYCRR 202-1.1
This regulation allows the department the discretion to require an emission test for the purpose of determining compliance. Furthermore, the cost of the test, including the preparation of the report are to be borne by the owner/operator of the source.

6 NYCRR 202-2.1
Requires that emission statements shall be submitted on or before April 15th each year for emissions of the previous calENDar year.

6 NYCRR 202-2.5
This rule specifies that each facility required to submit an emission statement must retain a copy of the statement and supporting documentation for at least 5 years and must make the information available to department representatives.

6 NYCRR 215.2
Except as allowed by section 215.3 of 6 NYCRR Part 215, no person shall burn, cause, suffer, allow or permit the burning of any materials in an open fire.

40 CFR Part 68
This Part lists the regulated substances and there applicability thresholds and sets the requirements for stationary sources concerning the prevention of accidental releases of these substances.

40 CFR Part 82, Subpart F
Subpart F requires the reduction of emissions of class I and class II refrigerants to the lowest achievable level during the service, maintenance, repair, and disposal of appliances in accordance with section 608 of the Clean Air Act AmENDments of 1990. This subpart applies to any person servicing, maintaining, or repairing appliances except for motor vehicle air conditioners. It also applies to persons disposing of appliances, including motor vehicle air conditioners, refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment. Those individuals, operations, or activities affected by this rule, may be required to comply with specified disposal, recycling, or recovery practices, leak repair practices, recordkeeping and/or technician certification requirements.

Facility Specific Requirements
In addition to Title V, FAB 8 has been determined to be subject to the following regulations:
40 CFR 60.4207 (b)
This establishes sulfur and cetane content requirements for diesel fuel used in generators.

40 CFR 60.42c (d)
This regulation requires that on or after the date on which the initial performance test is completed or required to be completed under section 60.8 of 40 CFR 60 Subpart A, no owner or operator of an affected facility that combusts oil, shall combust oil with a sulfur content in excess of 0.5 percent by weight.

40 CFR 60.48c (c)

This regulation requires the owner or operator of each coal-fired, oil-fired, or wood-

fired affected facility subject to the opacity limits under 40 CFR 60.43c(c) to submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period.

40 CFR 60.48c (g) (2)
This regulation allows the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in 40 CFR 60.48c(f) to demonstrate compliance with the SO_2standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

40 CFR Part 63, Subpart BBBBB

The facillity has capped emissions of Hazardous Air Pollutants (HAPs) below major source levels and therefore is not subject to National Emissions Standards for HAPs for Semiconductor Manufacturing.

6 NYCRR 201-3.2 (c) (6)
The following emergency power generating units are exempt from permitting requirements:
(i) Facility specific emergency power generating units where each individual unit operates for no more than 500 hours per year.

6 NYCRR 201-6.5 (f)
This regulation defines in general terms under what circumstances changes would be allowed without a permit modification provided the permit contains sufficient operational flexibility provisions.

6 NYCRR 201-7.2
This section of Part 201-7 specifies the criteria that need to be met in order to restrict emissions to avoid Title V or other applicable requirements using federally enforceable permit conditions permit.

6 NYCRR 211.1
This regulation requires that no person shall cause or allow emissions of air contaminants to the outdoor atmosphere of such quantity, characteristic or duration which are injurious to human, plant or animal life or to property, or which unreasonably interfere with the comfortable enjoyment of life or property.

6 NYCRR 212.11 (b)
This describes the type of monitoring needed to demonstrate that control devices are operating as designed.

6 NYCRR 212.4 (a)
This rule requires compliance with the degree of control specified in Tables 2, 3 and 4 for new (after July 1, 1973) process emission sources.

6 NYCRR 212.4 (c)
This rule requires existing sources (in operation after July 1, 1973) of solid particulates with environmental rating of B or C which are not subject to Table 5 "Processes for which Permissible Emission Rate is Based on Process Weight, to be limited to an particulate emission rate not to exceed 0.05 grains per dry standard cubic foot.

6 NYCRR 212.6 (a)
This rule specifies an opacity limitation of less than 20% for any six consecutive minute period for all process emission sources.

6 NYCRR 212.9 (b)
This section refers to Table 2 which specifies the degree of control required for Gases and Particulate Emissions.

6 NYCRR 227-1.3 (a)
This regulation prohibits any person from operating a stationary combustion installation which emits smoke equal to or greater than 20% opacity except for one six-minute period per hour of not more than 27% opacity.

6 NYCRR 231-8.7
This requires that Best Available Control Technology (BACT) be installed on sources emitting a contaminant that is emitted above the level specified as significant - facility wide or in a modification.

6 NYCRR Subpart 231-8

This subpart applies to modifications to existing major facilities in attainment areas (prevention of significant deterioration (PSD).

Compliance Certification
Summary of monitoring activities at FAB 8:

Location	Cond No.	Type of Monitoring

Facility/EU/EP/Process/ES

FACILITY	40	work practice involving specific operations
FACILITY	41	record keeping/maintenance procedures
FACILITY	42	record keeping/maintenance procedures
FACILITY	43	work practice involving specific operations
FACILITY	44	work practice involving specific operations
FACILITY	21	record keeping/maintenance procedures
FACILITY	5	record keeping/maintenance procedures
FACILITY	6	record keeping/maintenance procedures
FACILITY	23	record keeping/maintenance procedures
FACILITY	25	intermittent emission testing
FACILITY	26	intermittent emission testing
FACILITY	27	intermittent emission testing
B-00004	47	monitoring of process or control device parameters as surrogate
B-00004	48	monitoring of process or control device parameters as surrogate
B-00004	49	monitoring of process or control device parameters as surrogate
FACILITY	7	record keeping/maintenance procedures
FACILITY	35	monitoring of process or control device parameters as surrogate
FACILITY	36	monitoring of process or control device parameters as surrogate
FACILITY	37	monitoring of process or control device parameters as surrogate
FACILITY	38	monitoring of process or control device parameters as surrogate
FACILITY	39	monitoring of process or control device parameters as surrogate
F-00004	56	intermittent emission testing
FACILITY	31	monitoring of process or control device parameters as surrogate
FACILITY	32	monitoring of process or control device parameters as surrogate
FACILITY	33	intermittent emission testing
FACILITY	34	intermittent emission testing
B-00004	50	monitoring of process or control device parameters as surrogate
B-00004	51	monitoring of process or control device parameters as surrogate
B-00004	52	monitoring of process or control device parameters as surrogate
B-00004	53	monitoring of process or control device parameters as surrogate
B-00004	54	monitoring of process or control device parameters as surrogate
B-00004	55	monitoring of process or control device parameters as surrogate
F-00004	57	monitoring of process or control device parameters as surrogate
F-00004	58	intermittent emission testing

Basis for Monitoring

Fabrication of chips produces emissions of acid gases, caustic gases and volatile organic compounds (VOCs). These are collected seperately and sent to appropriate control devices. Acic gases are sent to a group of acid gas scrubbers. The scrubbers are

continuously monitored to ensure that scrubber flow and pH are within manufacturer's recommended specifications. An initial stack test will be performed upon full production to ensure that the scrubbers meet control requirements. Additional stack testing is performed at the Department's direction.

Similarly, caustic gases are sent to a group of caustic gas scrubbers. The scrubbers are continuously monitored to ensure that scrubber flow and pH are within manufacturer's recommended specifications. An initial stack test will be performed upon full production to ensure that the scrubbers meet control requirements. Additional stack testing is performed at the Department's direction.

Exhaust gases containing VOCs are sent to a group of oxidizers. The oxidizers are continuously monitored to ensure that the combustion chamber temperature is within manufacturer's recommended specifications. An initial stack test will be performed upon full production to ensure that the oxidizers meet control requirements. Additional stack testing is performed at the Department's direction.

The facility is a major emitter of greenhouse gases and this modification includes BACT for these gases. This includes using work practices and control devices to reduce these emissions and stack testing to demonstrate that the control devices are effective.