

Statement of Basis - Narrative
NSR Permit or NOI

COMPANY: Intel Corporation
FACILITY: Intel - Rio Rancho Facility
PERMIT NO.: 0325-M9-R13
IDEA ID No.: 1103 - PRN20060001
PERMIT WRITER: Paul Leonis

Draft

Fee Tracking

Track- ing	NSR tracking entries completed: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	NSR tracking page attached to front cover of permit folder: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Paid Invoice Attached: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Balance Due Invoice Attached: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Invoice Comments: None

Review	Date to Enforcement: TBD	Inspector Reviewing: TBD
	Date Review Completed: TBD	
	Date to Applicant: TBD	
	Date to HPM: TBD	

1.0 Plant Process Description:

The function of the facility is to use silicon wafers to manufacture semi-conductor chips for use in the computer industry. The facility consists of buildings in which chips are manufactured (fabrication facilities, or fabs), buildings containing the facility's natural gas fired boilers, laboratories, and offices.

2.0 Description of this Modification:

Permit No. 325-M9, issued March 3, 2000 to Intel Corporation for the company's Rio Rancho Facility, allows for flexibility in the operation of the facility under Plantwide Site Emission Limits (PSELs). Condition 1.G allows for changes in the emission factors used to estimate emissions and verify compliance with the PSELs, and specifies the particular permit revision processes to be used by the company to effect these changes.

In accordance with permit condition 1.G, Intel submitted the current application on February 16, 2006 requesting a technical permit revision to Permit No. 325-M9. Specific revisions requested by Intel are:

1. RTO Emission Factors

A revision of the thermal oxidizer (RTO) emission factors (EFs) used to calculate the facility's NOx and CO emissions from the combustion of natural gas.

The emission factors for NO_x and CO are based on operational and testing data using the hourly maximum emission rates from the past two years of FTIR (Fourier Transform Infrared Spectrometry) testing conducted during permit required compliance sampling and the average natural gas consumption rate from the past two years, as reported to NMED in quarterly emissions reports submitted to the Department. Pursuant to Condition 2.C.ii.f the revisions to the RTO emission factors are allowed. The Department's review of the test data and its calculations of the proposed emission factors agree with the submittal by Intel.

Hourly emissions from the RTO's are limited to the pound per hour limits in Table CS in Permit No. 325-M9. Condition 4.C.v. requires Intel to keep records of fuel usage to demonstrate compliance with the hourly emission limits.

Annual emissions from all combustion sources at Intel (including all boilers and other sources) are limited to 95.7 tons per year NO_x (total) and 95.7 tons per year CO (total). Intel is required to use the RTO emission factors specified in the permit to calculate the amount of NO_x and CO from the RTO's to demonstrate compliance with the annual limits.

2. Natural Gas Fired Boilers emission factors

As required by Condition 2.C.ii.f, Intel submitted the required data for the twelve (12) 1250 BHP natural gas fired boilers. The test results and calculations support no change to the emission factors. The required boiler test data is from the preceding three (3) calendar years (2003-2005). The testing and report was done by TRC Environmental Corporation. The Department has reviewed the test data upon which the emission factors are based on and found they are consistent with Intel's current emission factors in Air Quality Permit 325-M9-R12. Pursuant to Condition 2.C.ii.f, this revision is allowed.

Hourly emissions from the 1250 BHP boilers are limited to 7.8 pounds per hour each for NO_x and 5.6 pounds per hour each for CO. The permit limits the maximum rate at which the boilers may operate, and requires Intel to keep records of fuel usage to demonstrate compliance (in addition to annual testing).

Annual emissions from all combustion sources at Intel (including all boilers and other sources) are limited to 95.7 tons per year NO_x (total) and 95.7 tons per year CO (total). NMED uses "emission factors" specified in the permit to calculate and periodic testing to verify the amount of NO_x and CO the 1250 BHP boilers emit each year.

3. HAP & VOC emission factors

This application requested a revision of the emission factors (EFs) (Tables Z and 3) used to calculate the facility's Hazardous Air Pollutant (HAP) and VOC emissions.

Changes were made to existing HAPs and VOC's and an additional process (Process F) was added with this revision that uses existing chemicals previously identified in Table 3 of Intel's Air Quality Permit No. 325-M9. In addition, a new HAP (Bromoform) was

added to Table 3 of Intel's Air Quality Permit No. 325-M9. The addition of this HAP will trigger Condition 5.E.iii.

Pursuant to Condition 1.G of Intel's Air Quality Permit No. 325-M9, these revisions to Tables Z and 3 are allowed.

Compliance with the Twelve-Month (12) VOC emission limit of 96.5 tons per year is determined by the required calculations in Condition 4.D. VOC emissions are verified by quarterly stack testing on the RTO's and annual testing for HAPs.

Compliance with the HAP limits in Table 2 in Air Quality Permit No. 325-M9 is determined by the required calculations in Condition 5.D. HAP emissions are verified by annual stack testing for HAPs on each acid gas scrubber and testing on the CUB\NEC cooling towers (Bromoform).

3.0 **History:**

Permit Number	Issue Date	Modifications	Comments
Air Quality Permit No. 325-M9		Issued on March 3, 2000 for the Rio Rancho Facility. The permit allows for flexibility in the operation of the facility under Plantwide Site Emission Limits (PSELs). Certain conditions of the permit allow or require technical or administrative permit revisions as part of the flexible permit.	
Administrative Permit Revision No. 325-M9-R1		Effective on September 1, 2000. The revision consisted of adding 1 additional emergency generator (exempt) to Fab9.	
Administrative Permit Revisions No. 325-M9-R2 and 325-M9-R3		Effective on December 15 and 27, 2000. The revisions consisted of re-designating 2 acid gas scrubbers and relocating 2 other acid gas scrubbers.	
Technical Permit Revision No. 325-M9-R4		Issued on March 6, 2001 to Intel to change the	

		<p>following: Emission factors for the 1250 BHP Boilers in Table 1 were changed:</p> <p>NOx: From 0.0567 lb/MMbtu to 0.06 lb/MMbtu; From 0.0908 lb/MMbtu to 0.10 lb/MMbtu.</p> <p>Condition 1.G of the permit was modified to read, "Intel shall make any increase or decrease in an emission factor listed in Tables 1, 3, Y, or Z of Permit No. 325M9 through the technical permit revision process in 20 NMAC 2.72.219."</p>	
<p>Administrative Permit Revision No. 325-M9-R5</p>		<p>Effective on May 7, 2001. The revision consisted of adding 4 additional emergency generators (exempt) to Fab11.</p>	
<p>Administrative Permit Revision No. 325-M9-R6</p>		<p>Effective on September 26, 2001. The revision consisted of the following:</p> <p>Relocating and installing eight previously approved scrubbers to service the Fab11X area.</p> <p>Relocating and installing two previously approved thermal oxidizers to service the Fab11X area.</p> <p>Increasing the maximum flow of the Fab9 thermal oxidizer from 50,000 cfm to 54,000 cfm.</p>	

		Increasing the stack height of the Fab11N scrubber by seven feet to meet EPA Method 1 sampling requirements.	
Technical Permit Revision No. 325-M9-R7		Effective on March 12, 2002. The revision changed the CO emission factor for the 1250 BHP Boilers in Table 1 as follows: CO: From 0.10 lb/MMbtu to 0.07 lb/MMbtu.	
Technical Permit Revision No. 325-M9-R8		Issued on September 6, 2002. The revision updated Table 3 of the permit (Emission Factors for HAPs) and Table Z of the permit (Emission Factors for VOCs). The update consisted of modification of some factors and addition of new factors for some chemicals not previously listed.	
Technical Permit Revision No. 325-M9-R9		Issued March 12, 2003 changed the NOx and CO emission factors for the 1250 BHP Boilers in Table 1 as follows: CO: From 0.07 lb/MMbtu to 0.01 lb/MMbtu; NOx: From 0.06 lb/MMbtu to 0.05 lb/MMbtu.	
Administrative Revision No. 325-M9-R10		Effective April 22, 2003, corrected two	

		typographical errors related to 1,2-dichloroethylene in Table 3 of the permit.	
Technical Permit Revision, No. 325-M9-R11		Effective on April 13, 2004. Changed the NOx emission factor for the 1250 BHP Boilers in Table 1 from 0.05 lb/MMbtu to 0.04 lb/MMbtu.	

Technical Permit Revision, No. 325-M9-R12		<p>Effective on April 13, 2004. Revision of the thermal oxidizer (RTO) emission factors (EFs) used to calculate the facility's NOx and CO emissions from the combustion of natural gas and to identify separate emission factors for the two sizes (4 MMBtu/hr and 2.5 MMBtu/hr) of RTO's at the facility (Table 1).</p> <p>Submitted data to support no change in the emission factors for the twelve (12) 1250 BHP natural gas fired boilers.</p> <p>Revision of the emission factors (EFs) used to calculate the facility's Hazardous Air Pollutant (HAP) and VOC emissions (Tables Z and 3). Changed the process used to derive those factors (by process EF's).</p> <p>Changed the thermal oxidizer removal efficiencies for VOC (non-methanol) and Methanol</p>	
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		and changed the scrubbers' removal efficiency for HF.	
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4.0 Public Response/Concerns:

A copy of the application submitted by Intel on February 16, 2006 was made available on the Department web site February 22, 2006. A public meeting was held on March 20, 2006 at the Corrales Parks and Recreation Gym in Corrales, NM.

A public notice was run as a legal notice in the Albuquerque Journal classifieds on Sunday, March 12, 2006.

To date, there have been four public comments, which are included in the permit file.

5.0 Compliance Testing:

Under this revision there is no change to the existing compliance testing requirements for the facility. This revision to Table 3 (addition of Bromoform) will trigger additional testing pursuant to Condition 5.D.

6.0 Modeling:

Modeling is not required for this technical revision.

7.0 New/Modified/Unique Conditions:

Tables 1, 3 and Z were updated to include Process F and changes to existing emission factors for VOC, HAPs and RTO combustion were included in Permit No. 325-M9.

8.0 Applicable State Regulations (NMAC/AOCR):

20 NMAC	Title	Applies (Y/N)	Comments
2.3	Ambient Air Quality Standards	Y	This regulation applies to all sources
2.7	Excess Emissions During Malfunction	Y	This regulation applies to all sources
2.11	Asphalt Process Equipment	N	This source is not an asphalt plant.
2.19	Potash, Salt or Sodium Sulfate Processing Equipment	N	This source does not include potash, salt, or sodium sulfate processing equipment
2.33	Gas Burning Equipment - Nitrogen Dioxide	N	There is no equipment at this facility rated > 1,000,000 MM BTU/yr
2.34	Oil Burning Equipment - Nitrogen Dioxide	N	There is no equipment at this facility rated > 1,000,000 MM BTU/yr
2.38	Hydrocarbon Storage Facilities	N	This is not a hydrocarbon storage facility.

20 NMAC	Title	Applies (Y/N)	Comments
2.61	Smoke and Visible Emissions	Y	This regulation applies to all owner or operators of stationary combustion equipment
2.70	Operating Permits	N	The PTE from this source is not > 100 TPY
2.71	Operating Permit Fees	N	The PTE from this source is not > 100 TPY
2.72	Construction Permits	Y	This regulation applies to this permitting process per Section 219.B.6
2.73	NOI & Emissions Inventory Requirements	Y	This regulation is applicable to all facilities that require a permit.
2.74	Permits-Prevention of Significant Deterioration	N	The PTE from this source is below thresholds
2.75	Construction Permit Fees	Y	This facility is subject to 20 NMAC 2.72
2.77	New Source Performance	Y	This facility is subject to NSPS Dc, as the 1250 BHP boilers are each rated between 10 MMBtu/hr and 100 MM Btu/hr as specified at 40 CFR 60.40c(a).
2.78	Emissions Standards for HAPs	N	This facility is not a major source of HAPs
2.79	Permits - Nonattainment Areas	N	This facility is not located in a non-attainment area

9.0 Applicable Federal Regulations:

Regulation	Title	Applies (Y/N)	Comments
NAAQS (40 CFR 50)	National Primary and Secondary Ambient Air Quality Standards	Y	This regulation applies to all sources
NSPS Subpart A (40 CFR 60.1)	General Provisions	Y	This regulation applies because NSPS Subpart Dc applies.
NSPS Subpart Dc (40 CFR 60.40c)	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Y	This regulation applies because the 1250 BHP boilers are each rated between 10 MMBtu/hr and 100 MM Btu/hr as specified at 40 CFR 60.40c(a). Per 40 CFR 60.42c(d), the fuel oil burned in subject units may not contain more than 0.5% sulfur by weight.