



BILL RICHARDSON
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT
AIR QUALITY BUREAU
2048 Galisteo
Santa Fe, New Mexico 87505
Telephone (505) 827-1494
Fax (505) 827-1523



RON CURRY
SECRETARY
DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

CERTIFIED MAIL NO. XXXXXX
RETURN RECEIPT REQUESTED

Draft

Permittee:

Intel Corporation
4100 Sara Road
Rio Rancho, New Mexico 87124-1025

Rio Rancho Facility
Technical Permit Revision No. 325-M9-R13
IDEA No. 1103 – PRN20050001
AIRS No. 3504300005

Company Official:

Frank Gallegos
NM Site Environmental Manager

Mary Uhl
Bureau Chief
Air Quality Bureau

Date of Issuance

This permit is not effective until the Department receives the permit fee of \$4390.00 as specified on the attached invoice. Please note that this permit fee is due regardless of the intended use or non-use of the permit or cancellation of the permit by the applicant or Department.

The Air Quality Bureau of the New Mexico Environment Department (Department) issues Technical Permit Revision No. 0325-M9-R13 to Intel Corporation pursuant to the Air Quality Control Act (Act) and regulations adopted pursuant to the Act including Title 20, New Mexico Administrative Code (NMAC), Chapter 2, Part 72, of the New Mexico Administrative Code (NMAC), (20.2.72 NMAC), Construction Permits, Section 219.B, Technical Permit Revisions. The Department will enforce this permit pursuant to the Act and the air quality control regulations applicable to this source.

Pursuant to 20.2.75.11 NMAC, the Department will assess an annual fee for this facility. This regulation set the fee amount at \$1,500 through 2004 and requires it to be adjusted annually for

the Consumer Price Index on January 1. The current fee amount is available by contacting the Department or can be found on the Department's website. The AQB will invoice the permittee for the annual fee amount at the beginning of each calendar year. This fee does not apply to sources which are assessed an annual fee in accordance with 20.2.71 NMAC. For sources that satisfy the definition of "small business" in subsection F of 20.2.75.7 NMAC, this annual fee will be divided by two.

All fees shall be remitted in the form of a corporate check, certified check, or money order made payable to the NM Environment Department, AQB and shall be accompanied by the enclosed remittance slip. Fees shall be submitted to: NM Environment Department, AQB at the address shown on the invoice.

This technical permit revision applies to Air Quality Permit No. 325-M9 issued March 3, 2000, which authorized the modification and operation of the Rio Rancho Facility. 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. This facility is located in Township 12 North, Range 2 East, Rio Rancho, New Mexico in Sandoval County.

All terms and conditions from Air Quality Permit No. 325-M9 and subsequent revisions are still in effect unless specifically superseded by this technical permit revision.

The Department has reviewed the technical permit revision application for the proposed changes to Air Quality Permit No. 325-M9 and has determined that the proposed changes meet the requirements of 20.2.72.219.B.(1)(a) NMAC.

Pursuant to Condition 1.G of Permit No. 325-M9, Table 1 of the permit is updated to reflect new emission factors for nitrogen oxides (NO_x) and carbon monoxide (CO) for the 4 MMBtu/hr and 2.5 MMBtu/hr thermal oxidizers. The updated Table 1 follows on page 5 of this revision.

Pursuant to Conditions 2.C.ii.f of Permit No. 325-M9, Table 1 of the permit reflects no change to the emission factors for NO_x and CO for the twelve (12) 1250 BHP natural gas fired boilers.

Pursuant to Condition 1.G of Permit No. 325-M9, Table Z of the permit is updated to reflect new emission factors for VOCs for existing chemicals used, to add VOC emission factors for several chemicals for which chemical-specific factors are not specified in the permit or chemicals used that were previously had an emissions factor of one (1), and to add VOC emission factors for chemicals used in a new process (Process F). The updated Table Z follows on page 6 of this revision.

Pursuant to Condition 1.G of Permit No. 325-M9, Table 3 of the permit is updated to reflect new emission factors for Hazardous Air Pollutants (HAPs) for several chemicals for which chemical-specific factors are not specified in the permit or chemicals used that were previously had an emissions factor of one (1), and to add HAP emission factors for chemicals used in a new process (Process F). The updated Table 3 follows on page 12 of this revision.

Pursuant to Condition 1.G of Permit No. 325-M9, Table 3 of the permit is updated to add a new emission factor for Bromoform, a Hazardous Air Pollutant (HAP), to Table 3 of Intel's Air Quality Permit No. 325-M9. Bromoform is subject to Condition 5.D. Compliance Determinations for Hazardous Air Pollutants, Condition 5.E.iii and Condition 5.E.iv. , and to the PSEL's (plant site emission limits) of HAPs contained in Intel's Air Quality Permit No. 325-M9.

20.2.72.211 NMAC, Permit Cancellations, requires that:

1. the Department shall automatically cancel any permit for any source which ceases operation for five (5) years or more, or permanently. Reactivation of any source after the five (5) year period shall require a new permit.
2. the Department may cancel a permit if the construction or modification is not commenced within two (2) years from the date of issuance or if, during the construction or modification, work is suspended for a total of one (1) year.

20.2.73 NMAC contains requirements related to Notice of Intent and Emission Inventory. Please refer to that regulation for details.

Compliance test results and applications for permit revisions and modifications shall be submitted to:

Program Manager, Permits Section
New Mexico Environment Department
Air Quality Bureau
2048 Galisteo
Santa Fe, New Mexico 87505

Compliance test protocols, test notifications, the second copy of test results, regularly scheduled reports and excess emission reports, shall be submitted to:

Program Manager, Compliance and Enforcement Section
New Mexico Environment Department
Air Quality Bureau
PO Box 26110
Santa Fe, New Mexico 87502-0110

REVOCATION

The Department may revoke this technical permit revision if the applicant or permittee has knowingly and willfully misrepresented a material fact in the application for the permit. The Department will make revocations in writing. The Secretary of the Department will accept administrative appeals within thirty (30) days from the effective date of this permit in accordance with the Department's Rules Governing Appeals From Compliance Orders.

APPEAL PROCEDURES

20 NMAC 2.72, Section 207, provides that any person who participated in a permitting action before the Department and who is adversely affected by such permitting action, may file a

petition for hearing before the Environmental Improvement Board. The petition shall be made in writing to the Environmental Improvement Board within thirty (30) days from the date notice is given of the Department's action and shall specify the portions of the permitting action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered and attach a copy of the permitting action for which review is sought. Unless a timely request for hearing is made, the decision of the Department shall be final. The petition shall be copied simultaneously to the Department upon receipt of the appeal notice. If the petitioner is not the applicant or permittee, the petitioner shall mail or hand-deliver a copy of the petition to the applicant or permittee. The Department shall certify the administrative record to the board. Petitions for a hearing shall be sent to:

Environmental Improvement Board
1190 St. Francis Drive, Runnels Bldg
P.O. Box 26110
Santa Fe, New Mexico 87502

If you have questions about this permit please call Paul Leonis of the AQB New Source Review (NSR) Unit in Santa Fe at (505) 827-1494, extension 8078.

**Table 1
Emission Factors for Boilers & RTOs**

	Emission Factors (EF)					EF Units	Basis for EF
	TSP/ PM10	SO₂	NO_x	CO	VOC		
500 BHP Natural gas	13.7 lb/MMcf	0.6 lb/MMcf	0.1	0.01	0.015	NO _x ,CO,VOC - lb/MMbtu	Mfg data: (NO _x ,CO,VOC); AP42 (SO ₂ , TSP)
1250 BHP Natural gas	0.0045	0.6 lb/MMcf	0.04	0.01	0.0027	TSP,NO _x ,CO, VOC - lb/MMbtu	Emission profile testing (NO _x , CO); Mfr's data (TSP); AP42 (SO ₂)
500 & 1250 BHP #2 fuel oil	2	71	20	5	0.2	lb/10 ³ gal	AP-42, Table 1.3.2, Jan. 1995
RTOs 4 MMBtu/hr	7.6 lb/MMcf	0.6 lb/MMcf	0.22	0.08	5.5 lb/MMcf	NO _x ,CO - lb/MMbtu	Stack testing (NO _x , CO); AP42 (SO ₂ , TSP, VOC)
RTOs 2.5 MMBtu/hr	7.6 lb/MMcf	0.6 lb/MMcf	0.30	0.09	5.5 lb/MMcf	NO _x ,CO - lb/MMbtu	Stack testing (NO _x , CO); AP42 (SO ₂ , TSP, VOC)

Table Z Emission Factors for VOCs

Pollutant	Emission Factor ¹
Acetic Acid-Process A	0
Acetic Acid-Process B	0
Acetic Acid-Process C	0
Acetic Acid-Process D	0
Acetic Acid-Process E	0
Acetic Acid-Process F	0
Acetonitrile-Process A	0.03
Acetonitrile-Process B	0.03
Acetonitrile-Process C	0.03
Acetonitrile-Process D	0.03
Acetonitrile-Process E	0.03
Acetonitrile-Process F	0.03
1-Amino-2-Propanol (MIPA)-Process A	0.000004
1-Amino-2-Propanol (MIPA)-Process B	0.000001
1-Amino-2-Propanol (MIPA)-Process C	0.000001
1-Amino-2-Propanol (MIPA)-Process D	0.000001
1-Amino-2-Propanol (MIPA)-Process E	0.000001
1-Amino-2-Propanol (MIPA)-Process F	0.000001
Anisol-Process A	0
Anisol-Process B	0.03
Anisol-Process C	0.03
Anisol-Process D	0.03
Anisol-Process E	0.03
Anisol-Process F	0.03
Bis(tert-butylamino)silane (BTBAS)-Process A	0
Bis(tert-butylamino)silane (BTBAS)-Process B	0.003
Bis(tert-butylamino)silane (BTBAS)-Process C	0.003
Bis(tert-butylamino)silane (BTBAS)-Process D	0.003
Bis(tert-butylamino)silane (BTBAS)-Process E	0.003
Bis(tert-butylamino)silane (BTBAS)-Process F	0.003
Carbon Monoxide ³ -Process A	1
Carbon Monoxide ³ -Process B	1
Carbon Monoxide ³ -Process C	1
Carbon Monoxide ³ -Process D	1
Carbon Monoxide ³ -Process E	1
Carbon Monoxide ³ -Process F	1
Cresol-Process A	0
Cresol-Process B	0
Cresol-Process C	0
Cresol-Process D	0
Cresol-Process E	0
Cresol-Process F	0
Cyclohexanone-Process A	0.0113
Cyclohexanone-Process B	0.0006

Table Z Emission Factors for VOCs (Cont.)

Cyclohexanone-Process C	0.0005
Cyclohexanone-Process D	0.0006
Cyclohexanone-Process E	0.0005
Cyclohexanone-Process F	0.0006
Cyclopentanone-Process A	0
Cyclopentanone-Process B	0.0006
Cyclopentanone-Process C	0.0005
Cyclopentanone-Process D	0.0006
Cyclopentanone-Process E	0.0005
Cyclopentanone-Process F	0.0006
Diethyl Ketone-Process A	0.0026
Diethyl Ketone-Process B	0.03
Diethyl Ketone-Process C	0.03
Diethyl Ketone-Process D	0.03
Diethyl Ketone-Process E	0.03
Diethyl Ketone-Process F	0.03
Dimethyldimethoxysilane (DMDMOS)-Process A	0.0162
Dimethyldimethoxysilane (DMDMOS)-Process B	0
Dimethyldimethoxysilane (DMDMOS)-Process C	0
Dimethyldimethoxysilane (DMDMOS)-Process D	0
Dimethyldimethoxysilane (DMDMOS)-Process E	0
Dimethyldimethoxysilane (DMDMOS)-Process F	0
Ethanol-Process A	0.021
Ethanol-Process B	0.0045
Ethanol-Process C	0.0045
Ethanol-Process D	0.0045
Ethanol-Process E	0.0045
Ethanol-Process F	0.0111
Ethanol (Polyimide)-Process A	0.0133
Ethanol (Polyimide)-Process B	0
Ethanol (Polyimide)-Process C	0
Ethanol (Polyimide)-Process D	0
Ethanol (Polyimide)-Process E	0
Ethanol (Polyimide)-Process F	0
Ethyl Lactate-Process A	0.0046
Ethyl Lactate-Process B	0.0047
Ethyl Lactate-Process C	0.0042
Ethyl Lactate-Process D	0.0059
Ethyl Lactate-Process E	0.006
Ethyl Lactate-Process F	0.006
Gamma -Butyrolactone-Process A	0.0006
Gamma -Butyrolactone-Process B	0
Gamma -Butyrolactone-Process C	0
Gamma -Butyrolactone-Process D	0
Gamma -Butyrolactone-Process E	0
Gamma -Butyrolactone-Process F	0.03
Hexafluoro-1,3-butadiene (C4F6)-Process A	0.0931

Table Z Emission Factors for VOCs (Cont.)

Hexafluoro-1,3-butadiene (C4F6)-Process B	0
Hexafluoro-1,3-butadiene (C4F6)-Process C	0
Hexafluoro-1,3-butadiene (C4F6)-Process D	0
Hexafluoro-1,3-butadiene (C4F6)-Process E	0
Hexafluoro-1,3-butadiene (C4F6)-Process F	0.2207
Hexamethyldisilazane (HMDS)-Process A	0.0163
Hexamethyldisilazane (HMDS)-Process B	0.03
Hexamethyldisilazane (HMDS)-Process C	0.03
Hexamethyldisilazane (HMDS)-Process D	0.03
Hexamethyldisilazane (HMDS)-Process E	0.03
Hexamethyldisilazane (HMDS)-Process F	0.03
Isopropyl Alcohol (abated)-Process A	0.002
Isopropyl Alcohol (abated)-Process B	0.0018
Isopropyl Alcohol (abated)-Process C	0.0017
Isopropyl Alcohol (abated)-Process D	0.0018
Isopropyl Alcohol (abated)-Process E	0.0018
Isopropyl Alcohol (abated)-Process F	0.0105
Isopropyl Alcohol (SLAM)-Process A	0.0159
Isopropyl Alcohol (SLAM)-Process B	0
Isopropyl Alcohol (SLAM)-Process C	0
Isopropyl Alcohol (SLAM)-Process D	0
Isopropyl Alcohol (SLAM)-Process E	0
Isopropyl Alcohol (SLAM)-Process F	0.0224
Methanol (abated)-Process A	0.0181
Methanol (abated)-Process B	0.01
Methanol (abated)-Process C	0.01
Methanol (abated)-Process D	0.01
Methanol (abated)-Process E	0.01
Methanol (abated)-Process F	0.01
Methanol (Bulk)-Process A	0
Methanol (Bulk)-Process B	0
Methanol (Bulk)-Process C	0
Methanol (Bulk)-Process D	0
Methanol (Bulk)-Process E	0
Methanol (Bulk)-Process F	0
Methanol (GenSolve) –Process A	0.000004
Methanol (GenSolve) –Process B	0
Methanol (GenSolve) –Process C	0
Methanol (GenSolve) –Process D	0
Methanol (GenSolve) –Process E	0
Methanol (GenSolve) –Process F	0
2-Methylbutyl Acetate-Process A	0
2-Methylbutyl Acetate-Process B	0.03
2-Methylbutyl Acetate-Process C	0
2-Methylbutyl Acetate-Process D	0.03

Table Z Emission Factors for VOCs (Cont.)

2-Methylbutyl Acetate-Process E	0.03
2-Methylbutyl Acetate-Process F	0.03
Methyl Fluoride (CH3F)-Process A	0
Methyl Fluoride (CH3F)-Process B	0.6587
Methyl Fluoride (CH3F)-Process C	0.6587
Methyl Fluoride (CH3F)-Process D	0.6587
Methyl Fluoride (CH3F)-Process E	0.6587
Methyl Fluoride (CH3F)-Process F	0.6587
Methyl n-amyl ketone (2-Heptanone)-Process A	0.0189
Methyl n-amyl ketone (2-Heptanone)-Process B	0.0189
Methyl n-amyl ketone (2-Heptanone)-Process C	0.0189
Methyl n-amyl ketone (2-Heptanone)-Process D	0.0189
Methyl n-amyl ketone (2-Heptanone)-Process E	0.0189
Methyl n-amyl ketone (2-Heptanone)-Process F	0.0189
1-Methyl-2-pyrrolidinone (NMP)-Process A	0.0005
1-Methyl-2-pyrrolidinone (NMP)-Process B	0.001
1-Methyl-2-pyrrolidinone (NMP)-Process C	0.0007
1-Methyl-2-pyrrolidinone (NMP)-Process D	0.0009
1-Methyl-2-pyrrolidinone (NMP)-Process E	0.0009
1-Methyl-2-pyrrolidinone (NMP)-Process F	0.001
1-Methyl-2-pyrrolidinone (NMP-PRS3000)-Process A	0
1-Methyl-2-pyrrolidinone (NMP-PRS3000)-Process B	0.000001
1-Methyl-2-pyrrolidinone (NMP-PRS3000)-Process C	0.00005
1-Methyl-2-pyrrolidinone (NMP-PRS3000)-Process D	0.000001
1-Methyl-2-pyrrolidinone (NMP-PRS3000)-Process E	0.00005
1-Methyl-2-pyrrolidinone (NMP-PRS3000)-Process F	0.000001
1-Methyl-2-pyrrolidinone (NMP-Polyimide)-Process A	0.0002
1-Methyl-2-pyrrolidinone (NMP-Polyimide)-Process B	0
1-Methyl-2-pyrrolidinone (NMP-Polyimide)-Process C	0
1-Methyl-2-pyrrolidinone (NMP-Polyimide)-Process D	0
1-Methyl-2-pyrrolidinone (NMP-Polyimide)-Process E	0
1-Methyl-2-pyrrolidinone (NMP-Polyimide)-Process F	0
1-Methyl-2-pyrrolidinone (NMP-GenSolve)-Process A	0.000004
1-Methyl-2-pyrrolidinone (NMP-GenSolve)-Process B	0
1-Methyl-2-pyrrolidinone (NMP-GenSolve)-Process C	0
1-Methyl-2-pyrrolidinone (NMP-GenSolve)-Process D	0
1-Methyl-2-pyrrolidinone (NMP-GenSolve)-Process E	0
1-Methyl-2-pyrrolidinone (NMP-GenSolve)-Process F	0
n-Amyl Acetate-Process A	0
n-Amyl Acetate-Process B	0.03
n-Amyl Acetate-Process C	0
n-Amyl Acetate-Process D	0.03
n-Amyl Acetate-Process E	0
n-Amyl Acetate-Process F	0.03
n-Butanol-Process A	0.0049
n-Butanol-Process B	0
n-Butanol-Process C	0

Table Z Emission Factors for VOCs (Cont.)

n-Butanol-Process D	0
n-Butanol-Process E	0
n-Butanol-Process F	0.0061
n-Butyl Acetate-Process A	0
n-Butyl Acetate-Process B	0.0147
n-Butyl Acetate-Process C	0.0147
n-Butyl Acetate-Process D	0.0147
n-Butyl Acetate-Process E	0.0147
n-Butyl Acetate-Process F	0.0147
Octafluorocyclopentene (C5F8)-Process A	0.1589
Octafluorocyclopentene (C5F8)-Process B	0.29
Octafluorocyclopentene (C5F8)-Process C	0.29
Octafluorocyclopentene (C5F8)-Process D	0.29
Octafluorocyclopentene (C5F8)-Process E	0.29
Octafluorocyclopentene (C5F8)-Process F	0.295
Propionic Acid -Process A	0
Propionic Acid -Process B	0
Propionic Acid -Process C	0
Propionic Acid -Process D	0
Propionic Acid -Process E	0
Propionic Acid -Process F	0
Propylene Glycol Monomethyl Ether (PGME)-Process A	0.0092
Propylene Glycol Monomethyl Ether (PGME)-Process B	0.0017
Propylene Glycol Monomethyl Ether (PGME)-Process C	0.0018
Propylene Glycol Monomethyl Ether (PGME)-Process D	0.0017
Propylene Glycol Monomethyl Ether (PGME)-Process E	0.0018
Propylene Glycol Monomethyl Ether (PGME)-Process F	0.0018
Propylene Glycol Monomethyl Ether Acetate (PGMEA)-Process A	0.0106
Propylene Glycol Monomethyl Ether Acetate (PGMEA)-Process B	0.0083
Propylene Glycol Monomethyl Ether Acetate (PGMEA)-Process C	0.008
Propylene Glycol Monomethyl Ether Acetate (PGMEA)-Process D	0.0084
Propylene Glycol Monomethyl Ether Acetate (PGMEA)-Process E	0.0033
Propylene Glycol Monomethyl Ether Acetate (PGMEA)-Process F	0.0108
Sulfolane-Process A	0.000004
Sulfolane-Process B	0.000001
Sulfolane-Process C	0.000001
Sulfolane-Process D	0.000001
Sulfolane-Process E	0.000001
Sulfolane-Process F	0.000001
Tetraethyl Orthosilicate (TEOS)-Process A	0
Tetraethyl Orthosilicate (TEOS)-Process B	0.089

Table Z Emission Factors for VOCs (Cont.)

Tetraethyl Orthosilicate (TEOS)-Process C	0.089
Tetraethyl Orthosilicate (TEOS)-Process D	0.089
Tetraethyl Orthosilicate (TEOS)-Process E	0.089
Tetraethyl Orthosilicate (TEOS)-Process F	0.089
Tetrakis(dimethylamino)titanium (TDMAT) to Diethyl Amine-Process A	0.201
Tetrakis(dimethylamino)titanium (TDMAT) to Diethyl Amine-Process B	0.201
Tetrakis(dimethylamino)titanium (TDMAT) to Diethyl Amine-Process C	0.201
Tetrakis(dimethylamino)titanium (TDMAT) to Diethyl Amine-Process D	0.201
Tetrakis(dimethylamino)titanium (TDMAT) to Diethyl Amine-Process E	0.201
Tetrakis(dimethylamino)titanium (TDMAT) to Diethyl Amine-Process F	0.201
Trans 1,2-Dichloroethene (DCE)-Process A	0
Trans 1,2-Dichloroethene (DCE)-Process B	0
Trans 1,2-Dichloroethene (DCE)-Process C	0
Trans 1,2-Dichloroethene (DCE)-Process D	0
Trans 1,2-Dichloroethene (DCE)-Process E	0
Trans 1,2-Dichloroethene (DCE)-Process F	0
Trimethyl Borate-Process A	0
Trimethyl Borate-Process B	0
Trimethyl Borate-Process C	0
Trimethyl Borate-Process D	0
Trimethyl Borate-Process E	0
Trimethyl Borate-Process F	0
Trimethyl Phosphite-Process A	0
Trimethyl Phosphite-Process B	0
Trimethyl Phosphite-Process C	0
Trimethyl Phosphite-Process D	0
Trimethyl Phosphite-Process E	0
Trimethyl Phosphite-Process F	0
Xylene-Process A	0
Xylene-Process B	0.0186
Xylene-Process C	0.0185
Xylene-Process D	0.0185
Xylene-Process E	0.0185
Xylene-Process F	0.0186
Any Other VOC chemicals ²	1

Notes:

¹ Emission factors take into account control efficiencies, where applicable. Chemicals having emission factors equal to zero (0.0) are either completely consumed in the process or are solid sources with negligible vapor pressures. Intel may revise the emission factors following Condition 1.G.

² These tables do not include chemicals for which Intel uses the sink evaporation equation specified in Condition 4.D.iv.a of Intel's permit to calculate emissions.

³ Carbon monoxide is not a VOC as defined by 40 CFR 51.100(s), but will be reported with site carbon monoxide emissions

Table 3 Emission Factors for HAPs¹

Pollutant	Emission Factor	Chemical or Precursor
Hydrofluoric Acid (HF)	0.0029	Sulfur Hexafluoride (SF6)-Process A
“	0.0038	Sulfur Hexafluoride (SF6)-Process B
“	0.0008	Sulfur Hexafluoride (SF6)-Process C
“	0.0038	Sulfur Hexafluoride (SF6)-Process D
“	0.0015	Sulfur Hexafluoride (SF6)-Process E
“	0.0039	Sulfur Hexafluoride (SF6) - Process F
“	0.0155	Carbon Tetrafluoride (CF4)-Process A
“	0.0082	Carbon Tetrafluoride (CF4)-Process B
“	0.0001	Carbon Tetrafluoride (CF4)-Process C
“	0.0130	Carbon Tetrafluoride (CF4) - Process D
“	0.0029	Carbon Tetrafluoride (CF4)-Process E
“	0.0216	Carbon Tetrafluoride (CF4) - Process F
“	0.0088	Trifluoromethane (CHF3)-Process A
“	0.0052	Trifluoromethane (CHF3)-Process B
“	0.0225	Trifluoromethane (CHF3)-Process C
“	0.007	Trifluoromethane (CHF3)-Process D
“	0.0017	Trifluoromethane (CHF3)-Process E
“	0.0000	Trifluoromethane (CHF3) - Process F
“	0.0057	Hexafluoroethane (C2F6)-Process A
“	0.0003	Hexafluoroethane (C2F6)-Process B
“	0.001	Hexafluoroethane (C2F6)-Process C
“	0.0002	Hexafluoroethane (C2F6) - Process D
“	0.0154	Hexafluoroethane (C2F6)-Process E
“	0.0535	Hexafluoroethane (C2F6) - Process F
“	0.0033	Nitrogen Trifluoride (NF3)-Process A
“	0.0337	Nitrogen Trifluoride (NF3) - Process B
“	0.0001	Nitrogen Trifluoride (NF3)-Process C
“	0.0059	Nitrogen Trifluoride (NF3) - Process D
“	0.0803	Nitrogen Trifluoride (NF3)-Process E
“	0.0018	Nitrogen Trifluoride (NF3) - Process F
“	0.0543	Tungsten Hexafluoride (WF6)-Process A
“	0.0166	Tungsten Hexafluoride (WF6)-Process B
“	0.0327	Tungsten Hexafluoride (WF6)-Process C
“	0.0158	Tungsten Hexafluoride (WF6)-Process D
“	0.0163	Tungsten Hexafluoride (WF6)-Process E
“	0.0341	Tungsten Hexafluoride (WF6) - Process F
“	0.0118	Octafluorocyclobutane (C4F8)-Process A
“	0.0166	Octafluorocyclobutane (C4F8)-Process B
“	0.0166	Octafluorocyclobutane (C4F8)-Process C
“	0.0166	Octafluorocyclobutane (C4F8)-Process D
“	0.0166	Octafluorocyclobutane (C4F8)-Process E

Table 3 Emission Factors for HAPs¹ (Cont.)

Hydrofluoric Acid (HF)	0.0285	Octafluorocyclobutane (C4F8) – Process F
“	0	Silicon Tetrafluoride (SiF4)-Process A
“	0.00003	Silicon Tetrafluoride (SiF4)-Process B
“	0.00003	Silicon Tetrafluoride (SiF4)-Process C
“	0.00003	Silicon Tetrafluoride (SiF4)-Process D
“	0.00003	Silicon Tetrafluoride (SiF4)-Process E
“	0.00003	Silicon Tetrafluoride (SiF4)-Process F
“	0.0104	Difluoromethane (CH2F2)-Process A
“	0.507	Difluoromethane (CH2F2)-Process B
“	0.0999	Difluoromethane (CH2F2)-Process C
“	0.5113	Difluoromethane (CH2F2)-Process D
“	0.0999	Difluoromethane (CH2F2)-Process E
“	0.0793	Difluoromethane (CH2F2) – Process F
“	0.0334	Octafluorocyclopentene (C5F8)-Process A
“	0.1007	Octafluorocyclopentene (C5F8)-Process B
“	0.1106	Octafluorocyclopentene (C5F8)-Process C
“	0.1007	Octafluorocyclopentene (C5F8)-Process D
“	0.1106	Octafluorocyclopentene (C5F8)-Process E
“	0.0999	Octafluorocyclopentene (C5F8) – Process F
“	0.06	Boron Trifluoride (BF3)-Process A
“	0.06	Boron Trifluoride (BF3)-Process B
“	0.06	Boron Trifluoride (BF3)-Process C
“	0.06	Boron Trifluoride (BF3)-Process D
“	0.06	Boron Trifluoride (BF3)-Process E
“	0.0600	Boron Trifluoride (BF3) – Process F
“	0.1209	Hydrogen Fluoride (HF) gas-Process A
“	0.3	Hydrogen Fluoride (HF) gas-Process B
“	0.3	Hydrogen Fluoride (HF) gas- Process C
“	0.3	Hydrogen Fluoride (HF) gas-Process D
“	0.3	Hydrogen Fluoride (HF) gas-Process E
“	0.3	Hydrogen Fluoride (HF) gas – Process F
“	0	Methyl Fluoride (CH3F)-Process A
“	0.1163	Methyl Fluoride (CH3F)-Process B
“	0.1163	Methyl Fluoride (CH3F)-Process C
“	0.1163	Methyl Fluoride (CH3F)-Process D
“	0.1163	Methyl Fluoride (CH3F)-Process E
“	0.1163	Methyl Fluoride (CH3F) – Process F
“	0	Octafluorotetrahydrofuran (C4F8O)-Process A
“	0.0399	Octafluorotetrahydrofuran (C4F8O)-Process B
“	0.0752	Octafluorotetrahydrofuran (C4F8O)-Process C
“	0.0756	Octafluorotetrahydrofuran (C4F8O) – Process D
“	0.0919	Octafluorotetrahydrofuran (C4F8O)-Process E

Table 3 Emission Factors for HAPs¹ (Cont.)

Hydrofluoric Acid (HF)	0.0860	Octafluorotetrahydrofuran (C4F8O) – Process F
“	0.00534	Hexafluoro-1,3-butadiene (C4F6)-Process A
“	0.0189	Hexafluoro-1,3-butadiene (C4F6)-Process B
“	0.0189	Hexafluoro-1,3-butadiene (C4F6)-Process C
“	0.0189	Hexafluoro-1,3-butadiene (C4F6)-Process D
“	0.0189	Hexafluoro-1,3-butadiene (C4F6)-Process E
“	0.0257	Hexafluoro-1,3-butadiene (C4F6) – Process F
Hydrochloric Acid (HCl)	0.0359	Chlorine (Cl2)-Process A
“	0.0207	Chlorine (Cl2)-Process B
“	0.0129	Chlorine (Cl2)-Process C
“	0.0337	Chlorine (Cl2)-Process D
“	0.0493	Chlorine (Cl2)-Process E
“	0.0826	Chlorine (Cl2)-Process F
“	0	Boron Trichloride (BCl3)-Process A
“	0.0062	Boron Trichloride (BCl3)-Process B
“	0.0036	Boron Trichloride (BCl3)-Process C
“	0.0037	Boron Trichloride (BCl3)-Process D
“	0.0037	Boron Trichloride (BCl3)-Process E
“	0.0000	Boron Trichloride (BCl3)-Process F
“	0.1004	Trans 1,2-Dichloroethene (DCE)-Process A
“	0.1004	Trans 1,2-Dichloroethene (DCE)-Process B
“	0.1004	Trans 1,2-Dichloroethene (DCE)-Process C
“	0.1004	Trans 1,2-Dichloroethene (DCE)-Process D
“	0.1004	Trans 1,2-Dichloroethene (DCE)-Process E
“	0.1004	Trans 1,2-Dichloroethene (DCE)-Process F
“	0.0007	Dichlorosilane (DCS)-Process A
“	0.0202	Dichlorosilane (DCS)-Process B
“	0.0202	Dichlorosilane (DCS)-Process C
“	0.0202	Dichlorosilane (DCS)-Process D
“	0.0202	Dichlorosilane (DCS)-Process E
“	0.0202	Dichlorosilane (DCS)-Process F
“	0.0004	Hydrogen Chloride (HCl)-Process A
“	0.31	Hydrogen Chloride (HCl)-Process B
“	0.31	Hydrogen Chloride (HCl)-Process C
“	0.31	Hydrogen Chloride (HCl)-Process D
“	0.31	Hydrogen Chloride (HCl)-Process E
“	0.31	Hydrogen Chloride (HCl)-Process F
Chlorine (Cl2)	0.3516	Chlorine (Cl2)-Process A
“	0.2665	Chlorine (Cl2)-Process B
“	0.1906	Chlorine (Cl2)-Process C
“	0.1909	Chlorine (Cl2)-Process D
“	0.1974	Chlorine (Cl2)-Process E
“	0.3263	Chlorine (Cl2)-Process F
“	0	Boron Trichloride (BCl3)-Process A

Table 3 Emission Factors for HAPs¹ (Cont.)

Chlorine (Cl ₂)	0	Boron Trichloride (BCl ₃)-Process B
“	0	Boron Trichloride (BCl ₃)-Process C
“	0	Boron Trichloride (BCl ₃)-Process D
“	0	Boron Trichloride (BCl ₃)-Process E
“	0	Boron Trichloride (BCl ₃)-Process F
“	0.094	Trans 1,2-Dichloroethene (DCE)-Process A
“	0.094	Trans 1,2-Dichloroethene (DCE)-Process B
“	0.094	Trans 1,2-Dichloroethene (DCE)-Process C
“	0.094	Trans 1,2-Dichloroethene (DCE)-Process D
“	0.094	Trans 1,2-Dichloroethene (DCE)-Process E
“	0.094	Trans 1,2-Dichloroethene (DCE)-Process F
“	0	Dichlorosilane (DCS)-Process A
“	0.0014	Dichlorosilane (DCS)-Process B
“	0.0014	Dichlorosilane (DCS)-Process C
“	0.0014	Dichlorosilane (DCS)-Process D
“	0.0014	Dichlorosilane (DCS)-Process E
“	0.0014	Dichlorosilane (DCS)-Process F
Carbon Tetrachloride (CCl ₄)	0.0028	Chlorine (Cl ₂)-Process A
“	0	Chlorine (Cl ₂)-Process B
“	0.0141	Chlorine (Cl ₂)-Process C
“	0.0029	Chlorine (Cl ₂)-Process D
“	0.0066	Chlorine (Cl ₂)-Process E
“	0.0000	Chlorine (Cl ₂)-Process F
Methanol (MeOH)	0.0181	Methanol (abated)-Process A
“	0.01	Methanol (abated)-Process B
“	0.01	Methanol (abated)-Process C
“	0.01	Methanol (abated)-Process D
“	0.01	Methanol (abated)-Process E
“	0.01	Methanol (abated)-Process F
“	0	Methanol (bulk)-Process A
“	0	Methanol (bulk)-Process B
“	0	Methanol (bulk)-Process C
“	0	Methanol (bulk)-Process D
“	0	Methanol (bulk)-Process E
“	0	Methanol (bulk)-Process F
“	0.000004	Methanol (GenSolve) –Process A
“	0	Methanol (GenSolve) –Process B
“	0	Methanol (GenSolve) –Process C
“	0	Methanol (GenSolve) –Process D
“	0	Methanol (GenSolve) –Process E
“	0	Methanol (GenSolve) –Process F
Xylene	0.0000	Xylene-Process A
“	0.0186	Xylene-Process B
“	0.0185	Xylene-Process C
“	0.0185	Xylene-Process D

Table 3 Emission Factors for HAPs¹ (Cont.)

Xylene	0.0185	Xylene-Process E
“	0.0186	Xylene-Process F
Arsenic Compounds	0.0500	Arsine (AsH3)-Process A
“	0.0500	Arsine (AsH3)-Process B
“	0.0500	Arsine (AsH3)-Process C
“	0.0500	Arsine (AsH3)-Process D
“	0.0500	Arsine (AsH3)-Process E
“	0.0500	Arsine (AsH3)-Process F
Cresol	0.0000	Cresol-Process A
“	0.0000	Cresol-Process B
“	0.0000	Cresol-Process C
“	0.0000	Cresol-Process D
“	0.0000	Cresol-Process E
“	0.0000	Cresol-Process F
Lead Compounds	0.0000	Lead Methanesulfonate-Process A
“	0.0000	Lead Methanesulfonate-Process B
“	0.0000	Lead Methanesulfonate-Process C
“	0.0000	Lead Methanesulfonate-Process D
“	0.0000	Lead Methanesulfonate-Process E
“	0.0000	Lead Methanesulfonate-Process F
Bromoform	0.0605	Sodium Bromide – CUB Cooling Towers
“	0.0096	Sodium Bromide – NEC EF Cooling Towers
Any Other HAP Listed in Appendix X ²	1.0	

Notes:

¹ Emission factors take into account control efficiencies, where applicable. Chemicals having emission factors equal to zero (0.0) are either completely consumed in the process or are solid sources with negligible vapor pressures. Intel may revise the emission factors following Condition 1.G.

² These tables do not include chemicals for which Intel uses the sink evaporation equation specified in Condition 5.D.iv.a of Intel’s permit to calculate emissions.