January 29, 2013

Sent via Fed Ex

New Mexico Environment Department
Air Quality Bureau
Permitting Section
1301 Siler Road, Building B
Santa Fe, NM 87507-3113

Re: Intel Operating Permit Application

To Whom It May Concern,

Intel Corporation is submitting the attached update to the Title V Permit application to formally request a GHG PAL. Intel has provided the information required by 20.2.74.320.C. The attached has been noted as "Section 20" in the Title V permit application and can be included at the end of the section submitted 4/11/2012 .

If you have any comments or need additional information, please contact Sarah Chavez at 505-794-4917.

Sincerely,

Brian Rashap
NM Corporate Services Manager

Enclosures:
Update to Section 20
2 CDs containing update to Section 20

GHG PAL Request

The Intel facility is amending the Title V Permit application which it submitted on April 11, 2012 to NMED to request a 10-yr GHG PAL as a "GHG-Only" facility. NMED now has the authority to issue a GHG PAL based on the Final GHG Tailoring Rule Revision published by EPA in July 2012. Intel is using the Title V Permit as the mechanism to process and receive a GHG PAL.

Intel is requesting a GHG PAL to minimize construction uncertainties related to new technologies and hence time to market of new computer chips which is a vital competitive advantage in the semiconductor industry. Intel is experienced in operating with Emission Limits by having Synthetic Minor limits for criteria pollutants (CO, NOx, VOCs and HAPs) since 2000. Intel has voluntarily reported GHG emissions from the site from 2000 – 2010 to the Chicago Climate Exchange (CCX) and used this historical emission data to develop GHG Baseline Emissions to meet the requirements set forth in 40 CFR 52.21(aa)(2)(xiii). Intel is using the 24-months of 2003 and 2004 as the baseline period for setting the GHG PAL. The requested GHG PAL was calculated based on the methodology described in 40 CFR 52.21(aa)(6) which includes the baseline emissions, and the significance level in setting the PAL.

> Using the above referenced procedures, Intel has calculated the GHG PAL level to be **395,797 tons CO2e**.

Intel is proposing to demonstrate compliance with this GHG PAL by using the GHG emissions reporting requirements of the EPA Reporting Rule, 40 CFR Part 98, including Subpart C which addresses fuel combustion and Subpart I which addresses semiconductor manufacturing as a monitoring plan.

This section provides information on how Intel arrived at the GHG PAL level of 395,797tons CO2e and lists any assumptions which were used in the analysis. In an effort to keep this addendum manageable, Intel has included some of the historical source data for the GHG baseline calculations and additional supporting data can be provided as requested.

This section contains information as required by 20.2.74.320.C.

> ***Permit application requirements.*** *As part of a permit application requesting a PAL, the owner or operator of a major stationary source shall submit the following information to the department for approval.*
>
> *(1) A list of all emissions units at the source designated as small, significant or major based on their potential to emit. In addition, the owner or operator of the source shall indicate which, if any, federal or state*
> *applicable requirements, emission limitations, or work practices apply to each unit.*
> *(2) Calculations of the baseline actual emissions (with supporting documentation). Baseline actual*

emissions are to include emissions associated not only with operation of the unit, but also emissions associated with
startup, shutdown, and malfunction.
(3) *The calculation procedures that the major stationary source owner or operator proposes to use to convert the monitoring system data to monthly emissions and annual emissions based on a 12-month rolling total foreach month as required by Subsection M of this section.*

The applicable Federal, State, and Local applicable requirements are presented in Section 13 of this permit application and have not changed since the original Title V application was submitted in April 2012.

Listing and Classification of all Emission Units

The table below lists the Emission Units at the site and categorizes them as small, significant, or major based on their respective GHG PTE. The Emission Units listed below are consistent with lists provided in Table 2A of this permit application.

The GHG PTE emission estimates are based on the following assumptions:

- **Boilers:** The GHG PTE of each Boiler Emission Unit is presented at 8760 hr/yr operating at design capacity which represents the PTE of each individual Boiler. The boilers are capable of running on natural gas with diesel fuel as an emergency back up and 48 hr/yr on diesel was included in the PTE. The following emission factors were used:

Combustion Process	Emission Factor	Source
Natural Gas Combustion	53.07 kg CO2e/MMBtu	40 CFR 98 Subpart A Table A-1, Subpart C Tables C-1, and C-2
Diesel Combustion	74.21 kg CO2e/MMBtu	40 CFR 98 Subpart A Table A-1, Subpart C Tables C-1, and C-2

- **Emergency Generators/Fire Pumps:** There are currently 20 emergency generators and 2 fire pumps at the site. The PTE is calculated based on the fuel rate of the largest unit and assumes that each unit is operated for 500 hours per year. The emission factors for diesel noted above were used in this PTE calculation.
- **Fab:** An internally developed Intel GHG Process Emission Model (Process Model) is used to determine GHG emissions of each manufacturing technology in lb GHG/wafer start. The tool uses the known chemical inputs, outputs, and byproducts that are specific to Intel's manufacturing processes. The GHG Process Emission Model uses the Emission Factors developed using IPCC Tier 3 methodology to develop Technology-specific Emission Rates. These emission rates are then multiplied by the reporting rule GWPs to convert them to CO2e emissions. The GHG Process Model is regularly updated with improved data based on actual source testing. These Emission Factors do not include removal efficiencies of voluntary control devices that are strictly there to abate GHGs but they do include any GHG abatement effect of devices used for other

purposes such as safety. The fab emission unit also contains emissions from natural gas combustion equipment which includes thermal oxidizers, trimix and BSSW units.

GHG Emission Unit Classification; Small, Significant, or Major based on PTE

Emission Unit	PTE CO2e tons/yr	Emission Unit Classification
Fab	403229	Major
52.5 MMBtu/hr Boilers	27111	Small
29.3 MMBtu/hr Boilers	15130	Small
8.37 MMBtu/hr boilers	4322	Small
Emergency Generators/Fire Pumps	1202	Small

Baseline Actual Emissions and GHG PAL Calculation

The determination of the Baseline Period selected and the subsequent development of the GHG PAL calculation is presented below after selections from referenced text in the PAL regulations (40 CFR 52.21(aa)(2)(xiii) and 40 CFR 52.21(aa)(6)).

40 CFR 52.21(aa)(2)(xiii):

"Baseline actual emissions for a GHG PAL means the average rate, in tons per year CO_2e or tons per year GHG, as applicable, at which the emissions unit actually emitted GHGs during any consecutive 24-month period selected by the owner or operator within the 10-year period immediately preceding either the date the owner or operator begins actual construction of the project, or the date a complete permit application is received by the Administrator for a permit required under this section or by the permitting authority for a permit required by a plan, whichever is earlier. For any existing electric utility steam generating unit, baseline actual emissions for a GHG PAL means the average rate, in tons per year CO_2 e or tons per year GHG, as applicable, at which the emissions unit actually emitted the GHGs during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding either the date the owner or operator begins actual construction of the project, except that the Administrator shall allow the use of a different time period upon a determination that it is more representative of normal source operation."

The Baseline Period Intel has selected to base the PAL calculation on is the 24-month period starting in January 2003 going through December 2004. The Baseline Period is appropriate since it falls within the 10 year period preceding the filing of a complete permit application in January 2013.

40 CFR 52.21(aa)(2)(xiii)(a):

"(a) The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions."

Intel has not identified any fugitive sources of GHGs during this 2-yr period. In addition, GHG emissions of combustion source were not affected by startups, shutdowns or malfunctions during this period. The fab emissions are based on process operations at that time and total chemical purchases of PFCs during the baseline period which conservatively account for all PFC usage and any subsequent by-product formation.

40 CFR 52.21(aa)(2)(xiii)(b):

"(b) The average rate shall be adjusted downward to exclude any non-compliant emissions that occurred while the source was operating above an emission limitation that was legally enforceable during the consecutive 24-month period."

GHGs were not regulated during the 2003 and 2004 baseline period so there was no potential for emissions that were not compliant with an enforceable limit. In addition, Intel has not identified any other type of non-compliant condition that might have decreased the emissions of GHGs during the 2003 – 2004 timeframe.

40 CFR 52.21(aa)(2)(xiii)(c):

"(c) The average rate shall be adjusted downward to exclude any emissions that would have exceeded an emission limitation with which the stationary source must currently comply, had such stationary source been required to comply with such limitations during the consecutive 24-month period."

There are no current limits on GHG emissions at the Intel facility so no adjustment of the baseline for this purpose is warranted.

40 CFR 52.21(aa)(2)(xiii)(d):

"(d) The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual GHG emissions and for adjusting this amount if required by paragraphs (aa)(2)(xiii)(b) and (c) of this section."

The Chicago Climate Exchange (CCX) was North America's only voluntary, legally binding greenhouse gas reduction and trading system for emission sources and offset projects in North America until 2010. CCX employed independent verification and traded greenhouse gas emission allowances from 2003 to 2010 (Source: Wikipedia 2013). Intel reported GHG emissions from all its North American manufacturing sites to the CCX starting in 2003 (with 2002 data and included 2000 and 2001 reporting as baseline years) and continued through 2010. Intel has continued to calculate GHG emissions for all of its manufacturing sites, using EPA guidance, after the CCX stopped collecting data in 2010. At each Intel manufacturing site, GHG emissions can be lumped into four different categories;

1. The biggest component on a CO2e basis is PFCs used/or created in the semiconductor manufacturing process
2. Nitrous Oxide (N2O) used and/or created in the semiconductor manufacturing process

3. CO2/N2O/methane from fossil fuel combustion, primarily natural gas and to a lesser extent diesel from emergency generators and fire pumps
4. A much smaller contributor to overall emissions are heat transfer fluids, which the Reporting Rule requires to be included.

The site has tracked chemical purchases, including PFCs and N2O, on a monthly basis since Air Permit 325M9 issued March 3, 2000. In order to submit GHG reports in consistent units Intel has used the GWP of each PFC and N2O for Baseline calculations to produce overall GHG emissions in Metric Tons Carbon Equivalent (MTCE) or Metric Tons Carbon Dioxide Equivalent (MTCO2E). Please note the historical GWPs used for the CCX reporting changed over time and vary from EPA default values in 40 CFR 98 Subpart C. In order to provide consistent Baseline data, Intel has taken the original chemical use data used in the CCX reporting and recalculated GHGs using the current EPA default GWPs. This was also done for fossil fuel combustion emission factors so there was consistency throughout the Baseline period and in this permit application.

Intel calculated GHGs during the Baseline period based on guidance from the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories, Chapter 6, Electronics Industry Emissions. That document specifies 3 levels (or tiers) of methods for estimating semiconductor PFC emissions with Tier 1 being the simplest and 3 the most sophisticated (and accurate). Intel utilized the Tier 3 method, which involves using emission factors developed directly from testing Intel tools running Intel processes. Semiconductor Tool PFC emissions and the DREs on the POU devices were measured in accordance with the 2006 Guideline for Environmental Characterization of Semiconductor Process Equipment, published by the International SEMATECH Manufacturing Initiative (ISMI). This reference has previously been submitted to NMED.

The following Emission Units were in operation during the selected Baseline Period (2003-2004):

- Fab 11
- 8 - 52.5MMBtu/hr Boilers
- Emergency Generators – 18 emergency generators were in operation during the baseline period but sufficient records do not exist to include their emissions in the baseline calculations.

The actual Natural Gas purchased from the local utility by the site from 2003 to 2004 by month is shown below in MMBtu.

Site NG Use from UM Online (Purchase Records) MMBtu	**2003**	**2004**
January	85,360.10	84,869.30

February	79,275.00	79,794.20
March	77,851.70	66,659.30
April	67,612.60	59,975.60
May	55,223.10	52,435.30
June	46,074.80	42,745.60
July	42,226.20	43,386.20
August	39,521.80	43,177.30
September	43,712.90	43,904.50
October	55,162.20	52,739.00
November	73,303.10	65,487.50
December	87,299.00	68,779.70
Annual	**752,622.50**	**703,953.50**

Individual GHG PFC emissions for the Fab are shown below for both 2003 and 2004.

PFC Emissions by Chemical and Fab, 2003

PFC Emitted	Fab 11-X	GWP used	RR GWP	Corrected using RR GWP
SF6 (MMTCE)	9.37E-03	22200	23,900	1.01E-02
CH3F (MMTCE)	0.00E+00	97	150	0.00E+00
CH2F2 (MMTCE)	4.72E-06	550	650	5.58E-06
CHF3 (MMTCE)	9.03E-04	12000	11,700	8.81E-04
CF4 (MMTCE)	1.60E-02	5700	6,500	1.82E-02
C2F6 (MMTCE)	5.11E-02	11900	9,200	3.95E-02
C4F6 (MMTCE)	1.84E-08	50	0	0.00E+00
C4F8 (MMTCE)	8.10E-04	10000	9,200	7.45E-04
C4F8O (MMTCE)	7.04E-04	12100	0	0.00E+00
C5F8 (MMTCE)	7.02E-07	92	0	0.00E+00
C2F4 (MMTCE)	3.13E-07	10	0	0.00E+00
C3F8 (MMTCE)	3.52E-05	7000	7,000	3.52E-05
Total Fab CO2e tons				**281,054**

PFC Emissions by Chemical and Fab, 2004

PFC Emitted	Fab 11	Fab 11X	GWP used	RR GWP	Corrected using RR GWP
SF6 (MMTCE)	1.05E-02	4.41E-03	22200	23,900	1.60E-02
CH3F (MMTCE)	0.00E+00	0.00E+00	97	150	0.00E+00
CH2F2 (MMTCE)	8.54E-07	5.56E-06	550	650	7.58E-06
CHF3 (MMTCE)	7.40E-04	1.47E-04	12000	11,700	8.64E-04
CF4 (MMTCE)	1.54E-02	4.61E-04	5700	6,500	1.81E-02
C2F6 (MMTCE)	3.40E-02	5.05E-05	11900	9,200	2.63E-02
C4F6 (MMTCE)	0.00E+00	2.92E-07	50	0	0.00E+00

C4F8 (MMTCE)	5.32E-04	3.87E-04	10000	9,200	8.45E-04
C4F8O (MMTCE)	2.79E-03	0.00E+00	12100	0	0.00E+00
C5F8 (MMTCE)	1.46E-06	1.38E-07	92	0	0.00E+00
C2F4 (MMTCE)	1.06E-07	9.60E-08	10	0	0.00E+00
C3F8 (MMTCE)	1.08E-04	0.00E+00	7000	7,000	1.08E-04
Total Fab CO2e tons					**251,655**

Baseline Data	**2003**	**2004**	**Source**
site annual NG use (MMbtu)	752622.5	703953.5	UM Online Report
annual diesel use for boilers only(gal)	1480	1453	CCX report
CO2e (tons)			
NG	44030	41183	Calculated from site fuel use and Reporting Rule EFs
Diesel	17	16	Calculated from site fuel use and Reporting Rule EFs
PFCs	281054	251655	CCX report corrected for Reporting Rule GWP
N2O	5470	18169	CCX report corrected for Reporting Rule GWP
Site Total (tons CO2e)	330570	311023	
2 yr average (tons CO2e)		320797	

2003 Submittal to CCX:

Calendar Year 2003 CCX Emissions and Electricity Purchases Reporting Form
and
Facility Acquisition and Disposition Reporting Form

Instructions

1. This form is used to report calendar year 2003 greenhouse gas emissions and electricity purchases, if "opted-in", and to report any acquisitions and/or dispositions of emitting facilities during 2003.
2. All emission reports must prepared in a manner that is consistent with the Member's baseline report (the "Statement of Included Emissions").
3. Members should include their facility and activity-specific baselines in section 1, Column F and their electricity purchase baselines in Section 2, Column F. Column E in sections 1 and 2 will then calculate the reduction goal corresponding to each facility/activity. This will facilitate side-by-side comparison of objectives and actual emissions and electricity purchases.
4. *Acquisitions and Divestitures*
   a. Enter background information regarding facilities that were acquired or disposed of during calendar year 2003 in Section 3 (date of acquisition or divestiture and the baseline applicable to the facility). CCX will work with Members for whom this is relevant to assist in the proper calculation of baseline changes. CCX will provide a Member a report reflecting baseline changes to each applicable program year; revisions to allowance allocations; and resulting adjustments to the Member's CCX Registry Account.
   b. *Divestitures* - In Sections 1 & 2, Members must reflect the annual emissions and electricity purchases, if applicable, for each divested facility from January 1, 2003 through the date of divestiture. Members must retain documentation that supports the reported emissions throught the divestiture date.
   c. *Acquistions* - In Sections 1 & 2, Members must reflect the current calendar-year annual direct emissions and electricity purchases, if applicable, for each acquired facility from the date of acquisition through December 31, 2003. Additionally, the Member is to provide the historical direct emissions and electricity purchases via the "Acquired Facility Baseline" worksheet.
5. *Closed Facilities*
   For facilities that were reported in the baseline, but have been closed prior to January 1, 2003 or were closed during 2003, Members should identify the facilities in Sections 1 & 2 and report the applicable annual emissions and electricity purchases, if applicable, for each closed facility.
6. *Facilities Not 100% Owned by Member*
   If a Member's ownership interest in a facility is less than 100%, report on the 2003 Emissions form the level of the facility's annual emissions equal to the Member's ownership interest. Provide detailed information regarding the facility's full annual emissions and the Member's ownership level in the "Facilities Not 100% Owned" worksheet.
7. Emissions are defined by the provisions contained in Chapter 6 of the CCX Rulebook and are to be quantified using the methods prescribed in Chapter 7 of the CCX Rulebook. The calculation tools provided by the World Resources Institute can be found at http://www.ghgprotocol.org.
8. Emissions data submitted by CCX Members, as well as supporting documentation, is subject to audit by the NASD.
9. Signature by an Officer of your organization (or a Designated Representative, when applicable) can be electronically entered in Cell B24. Print ("landscape" print set-up) a copy of this document and forward a signed copy to:

   Ms. Fran Kenck
   Vice President, Compliance
   Chicago Climate Exchange
   Suite 1100
   190 South LaSalle Street
   Chicago, IL 60603

In addition,an electronic version of the final report is to be provided to CCX at compliance@chicagoclimateexchange.com. Questions regarding this form may be addressed to Ms. Kenck at 312.229.5162.

Calendar Year 2003 CCX Emissions and Electricity Purchases Reporting Form

CCX Member:	Intel Corporation
Contact person:	Tim Higgs
Phone:	480-715-5870
Contact's Email:	tim.g.higgs@intel.com
Date:	
Mailing address	4500 S. Dobson Road
	OC4-110
	Chandler, AZ 85248
Officer signature:	

Member's Calendar year 2003 total CCX Direct Emissions in metric tons carbon dioxide (CO_2) equivalent and Electricity Purchases, if applicable, in megawatt-hours (This page will automatically round the values to the nearest hundred metric tons or megawatt-hours.):		
2003 Total Direct Emissions (metric tons CO2): (automatically rounded to nearest hundred)		**908,800**
2003 Total Electricity Purchases (in megawatt-hours): (automatically rounded to nearest hundred)	**U.S.:**	**0**
	Canada:	**0**
	Mexico:	**0**
	Other:	**0**

1. Direct Emissions (including Opt-in sources) for all facilities / sources owned or operated by the Member during the 2003 calendar year)

Insert rows and copy formulas as necessary

Required: Enter Direct Emissions by Facility and Activity			*Optional:* insert baseline data, reduction goal is calculated automatically	
			(baseline data entered in column F, 99% of baseline is automatically calculated in column E)	
Facility name or activity (and ORISPL, if applicable)	**Facility state/ province**	**Calendar Year 2003 Total Direct Emissions (metric tons CO2 equivalent)**	**99% of emission baseline (calculated)**	**emission baseline (insert below)**
Facilities in Operation for Full Calendar Year:				
Ocotillo	AZ	253,755	0	
Massachusetts	MA	76,865	0	
Ronler Acres	OR	137,988	0	
Santa Clara	CA	55,538	0	
Aloha	OR	30,622	0	
New Mexico	NM	308,479	0	
Colorado Springs	CO	45,523	0	
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
Baseline Facilities Currently Closed:				
			0	0
			0	0
Acquired Facilities:				
			0	0
			0	0
Divested Facilities:				
			0	0
			0	0
Total Direct Emissions:		**908,768**	**0**	

CCX 2003 Emissions Report of: Intel Corporation

2004 Submittal to CCX:

Calendar Year 2004 CCX Emissions and Electricity Purchases Reporting Form
and
Facility Acquisition and Disposition Reporting Form

Instructions

1. This form is used to report calendar year 2004 greenhouse gas emissions and electricity purchases, if "opted-in", and to report any acquisitions and/or dispositions of emitting facilities during 2004.
2. All emission reports must prepared in a manner that is consistent with the Member's baseline report (the "Statement of Included Emissions").
3. Members should include their facility and activity-specific baselines in section 1, Column F and their electricity purchase baselines in Section 2, Column F. Column E in sections 1 and 2 will then calculate the reduction goal corresponding to each facility/activity. This will facilitate side-by-side comparison of objectives and actual emissions and electricity purchases.
4. *Acquisitions and Divestitures*
   a. Enter background information regarding facilities that were acquired or disposed of during calendar year 2004 in Section 3 (date of acquisition or divestiture and the baseline applicable to the facility). CCX will work with Members for whom this is relevant to assist in the proper calculation of baseline changes. CCX will provide a Member a report reflecting baseline changes to each applicable program year; revisions to allowance allocations; and resulting adjustments to the Member's CCX Registry Account.
   b. *Divestitures* - In Sections 1 & 2, Members must reflect the annual emissions and electricity purchases, if applicable, for each divested facility from January 1, 2004 through the date of divestiture. Members must retain documentation that supports the reported emissions throught the divestiture date.
   c. *Acquistions* - In Sections 1 & 2, Members must reflect the current calendar-year annual direct emissions and electricity purchases, if applicable, for each acquired facility from the date of acquisition through December 31, 2004. Additionally, the Member is to provide the historical direct emissions and electricity purchases via the "Acquired Facility Baseline" worksheet.
5. Closed Facilities
   For facilities that were reported in the baseline, but have been closed prior to January 1, 2004 or were closed during 2004, Members should identify the facilities in Sections 1 & 2 and report the applicable annual emissions and electricity purchases, if applicable, for each closed facility.
6. Facilities Not 100% Owned by Member
   If a Member's ownership interest in a facility is less than 100%, report on the 2004 Emissions form the level of the facility's annual emissions equal to the Member's ownership interest. Provide detailed information regarding the facility's full annual emissions and the Member's ownership level in the "Facilities Not 100% Owned" worksheet.
7. Emissions are defined by the provisions contained in Chapter 6 of the CCX Rulebook and are to be quantified using the methods prescribed in Chapter 7 of the CCX Rulebook. The calculation tools provided by the World Resources Institute can be found at http://www.ghgprotocol.org.
8. Emissions data submitted by CCX Members, as well as supporting documentation, is subject to audit by the NASD.
9. Signature by an Officer of your organization (or a Designated Representative, when applicable) can be electronically entered in Cell B24 Print ("landscape" print set-up) a copy of this document and forward a signed copy to:

   Ms. Fran Kenck
   Vice President, Compliance
   Chicago Climate Exchange
   Suite 1100
   190 South LaSalle Street
   Chicago, IL 60603

In addition,an electronic version of the final report is to be provided to CCX at compliance@chicagoclimateexchange.com. Questions regarding this form may be addressed to Ms. Kenck at 312.229.5162.

Calendar Year 2004 CCX Emissions and Electricity Purchases Reporting Form

CCX Member:	Intel Corporation
Contact person:	Tim Higgs
Phone:	480-715-5870
Contact's Email:	tim.g.higgs@intel.com
Date:	
Mailing address	4500 S. Dobson Rd.
	OC4-110
	Chandler, AZ 85284
Officer signature:	

Member's Calendar year 2004 total CCX Direct Emissions in metric tons carbon dioxide (CO2) equivalent and Electricity Purchases, if applicable, in megawatt-hours (This page will automatically round the values to the nearest hundred metric tons or megawatt-hours.):		
2004 Total Direct Emissions (metric tons CO2): (automatically rounded to nearest hundred)		**749,600**
2004 Total Electricity Purchases (in megawatt-hours): (automatically rounded to nearest hundred)	**U.S.:**	**0**
	Canada:	**0**
	Mexico:	**0**
	Other:	**0**

1. Direct Emissions (including Opt-in sources) for all facilities / sources owned or operated by the Member during the 2004 calendar year)

Insert rows and copy formulas as necessary

Required: Enter Direct Emissions by Facility and Activity			*Optional:* insert baseline data, reduction goal is calculated automatically	
			(baseline data entered in column F, 98% of baseline is automatically calculated in column E)	
Facility name or activity (and ORISPL, if applicable)	**Facility state/ province**	**Calendar Year 2004 Total Direct Emissions (metric tons CO2 equivalent)**	**98% of emission baseline (calculated)**	**emission baseline (insert below)**
Facilities in Operation for Full Calendar Year:				
Ocotillo	AZ	92,495	0	
Massachusetts	MA	71,661	0	
Ronler Acres	OR	164,283	0	
Santa Clara	CA	47,115	0	
Aloha	OR	11,074	0	
New Mexico	NM	307,683	0	
Colorado Springs	CO	55,287	0	
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
Baseline Facilities Currently Closed:				
			0	0
			0	0
Acquired Facilities:				
			0	0
			0	0
Divested Facilities:				
			0	0
			0	0
Total Direct Emissions:		**749,597**	**0**	**0**

CCX 2004 Emissions Report of: Intel Corporation

CCX supplied Intel with Verification and Analysis Report for reporting years 2003 and 2004 and this report will be included on the CD. The 11 page document is titled CCXverification report.pdf.

Once the baseline actual emissions are determined, there may be a number of adjustments to arrive at the PAL level. Those adjustments are listed in 40 CFR 52.21 (aa)(6) *Setting the 10-year actual PAL level.*

40 CFR 52.21(aa)(6)(i):

> *"(i) Except as provided in paragraph (aa)(6)(ii) and (iii) of this section, the plan shall provide that the actuals PAL level for a major stationary source or a GHG-only source shall be established as the sum of the baseline actual emissions (as defined in paragraph (b)(48) of this section or, for GHGs, paragraph (aa)(2)(xiii) of this section) of the PAL pollutant for each emissions unit at the source; plus an amount equal to the applicable significant level for the PAL pollutant under paragraph (b)(23) of this section or under the Act, whichever is lower. When establishing the actuals PAL level, for a PAL pollutant, only one consecutive 24-month period must be used to determine the baseline actual emissions for all existing emissions units. However, a different consecutive 24-month period may be used for each different PAL pollutant. Emissions associated with units that were permanently shut down after this 24-month period must be subtracted from the PAL level. The reviewing authority shall specify a reduced PAL level(s) (in tons/yr) in the PAL permit to become effective on the future compliance date(s) of any applicable Federal or State regulatory requirement(s) that the reviewing authority is aware of prior to issuance of the PAL permit. For instance, if the source owner or operator will be required to reduce emissions from industrial boilers in half from baseline emissions of 60 ppm NO_X to a new rule limit of 30 ppm, then the permit shall contain a future effective PAL level that is equal to the current PAL level reduced by half of the original baseline emissions of such unit(s)."*

Intel has used a single period of time, 24 months starting in January 2003 and ending in December 2004 to determine the baseline actual emissions of all the Emission Units operated in those 24 months and determined the average annual emissions consistent with this provision. None of the emission units that operated in the baseline period have been permanently shutdown, so no adjustment to the baseline was made for that purpose. The applicable significant level that is to be added to the sum of the baseline actual emissions is 75,000 tpy CO2e.

40 CFR 52.21(aa)(6)(ii):

> *"(ii) For newly constructed units (which do not include modifications to existing units) on which actual construction began after the 24-month period, in lieu of adding the baseline actual emissions as specified in paragraph (aa)(6)(i) of this section, the*

emissions must be added to the PAL level in an amount equal to the potential to emit of the units."

There have not been any new emissions units constructed since the baseline period.

40 CFR 52.21(aa)(6)(iii):

"(iii) For CO_2 e based GHG PAL, the actuals PAL level shall be established as the sum of the GHGs baseline actual emissions (as defined in paragraph (aa)(2)(xiii) of this section) of GHGs for each emissions unit at the source, plus an amount equal to the amount defined as "significant" on a CO_2 e basis for the purposes of paragraph (b)(49)(iii) at the time the PAL permit is being issued. When establishing the actuals PAL level for a CO_2 e-based PAL, only one consecutive 24-month period must be used to determine the baseline actual emissions for all existing emissions units. Emissions associated with units that were permanently shut down after this 24-month period must be subtracted from the PAL level. The reviewing authority shall specify a reduced PAL level (in tons per year CO_2 e) in the PAL permit to become effective on the future compliance date(s) of any applicable Federal or state regulatory requirement(s) that the reviewing authority is aware of prior to issuance of the PAL permit."

Intel knows of no potentially applicable Federal or state regulatory requirement that would cause the agency to reduce the PAL in the future.

Taking into account the addition of the significance level to the baseline actual emissions to arrive at the GHG PAL level, Intel has calculated a PAL level of **395,797**tons CO2e per year.

PAL Elements	GHG Emissions Tons/yr CO2e
Baseline Emissions	**320,797**
Significance Level	**75,000**
NM GHG PAL	**395,797**

Proposed PAL Monitoring Plan

The proposed GHG PAL Monitoring Plan is designed to provide consistency between emissions determinations under the EPA's Greenhouse Gas Mandatory Reporting Rule – Subpart I (Electronics Manufacturing) and the PAL. As a result, the PAL Monitoring Plan relies upon and references aspects of the Mandatory Reporting Rule. The proposed plan does not try to incorporate reporting rule language because Subpart I is in the process of being revised; the Semiconductor Industry Association (SIA) challenged Subpart I and EPA has proposed substantial revisions to Subpart I as part of the settlement of the SIA lawsuit. However, the plan does envision appropriate referencing of the reporting rule to make it practically enforceable

without having to amend it either when the current reporting rule revision is final or whenever EPA may choose to revise the reporting rule in the future during the PAL.

Proposed GHG PAL Monitoring Plan

Annual Emission Limitation – Plantwide Applicability Limitation (PAL)

A. Intel Corporation – The facility shall emit less than the amounts listed below from the entire installation in any consecutive 12-month period:

PAL levels

POLLUTANT	PAL (TPY)
Carbon Dioxide Equivalent (CO2e)	**395,797**

The consecutive 12-month period shall not include time periods prior to issuance of this permit. Emissions during periods of start-up, shutdown, and malfunction of any control device shall be counted towards the limit during the 12-month period.

B. Intel shall track and report the emissions of GHGs that are subject to regulation under the EPA PSD program[1] from the entire facility, on a monthly and a consecutive 12- month total basis to demonstrate compliance with this limit for every consecutive 12 month period.

C. Intel shall determine the facility's monthly combustion of natural gas based on amount purchased from the local Utility and calculate the monthly and most recent consecutive 12-month emissions of CO2e due to natural gas combustion using the following equation:

CO2e emissions, tons per month = Intel OC natural gas combusted x 1.028 x EF / 2000;

Where: Natural gas combusted is in thousands of standard cubic feet per month, 1.028 converts thousands of standard cubic feet of natural gas to MMBtu,[2] and the EF is 117.1 pounds CO2e per MMBtu. (This is the total for CO2, methane, and N2O based on the emissions rates and GWPs in Tables C-1, C-2 and A-1 of the reporting rule in 40 CFR Part 98.).

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[1] Greenhouse gases (GHGs), the air pollutant defined in § 86.1818–12(a) as the aggregate group of six greenhouse gases: carbon dioxide, nitrous oxide, methane, sulfur hexafluoride , hydrofluorocarbons, and perfluorocarbons,

[2] Table C-1 and C-2 to Subpart C of Part 98—Default CO_2 Emission Factors and High Heat Values for Various Types of Fuel and Default CH_4 and N_2O Emission Factors for Various Types of Fuel

D. Intel shall determine the facilities monthly combustion of diesel fuel based on hours of operation and manufacturer specified fuel flow rate in gal/hr and calculate the monthly and most recent consecutive 12- month emissions of CO2e using the following equation:

CO2e emissions, tons per month = Intel OC diesel fuel combusted x 0.138 x EF / 2000;

Where: Diesel fuel combusted is in gallons per month, 0.138 converts gallons of diesel fuel to MMBtu,[3] and the EF is163.6 pounds CO2e per MMBtu. (This is the total for CO2, methane and N2O based on the emissions rates and GWPs in Tables C-1, C-2 and A-1 of the reporting rule in 40 CFR Part 98.)

E. Intel shall determine the monthly and consecutive 12-month emissions of regulated GHGs from the fab operations, on a CO2e basis, using the methods the prescribed in the GHG reporting rule, 40 CFR 98 Subpart I.

Intel will calculate monthly and total annual emissions of each regulated fluorinated GHG emitted from each fab (as defined in § 98.98) at the facility including the emissions of each input gas and any byproduct gas[4], except for NF3 which is not defined as a greenhouse gas in 40 CFR 52.21. For consistency when reporting for the PAL and under EPA's Mandatory Reporting Rule, it is important that the methods used for both purposes be consistent, at least with regard to the means by which the GHGs regulated under the PSD program are quantified and reported. At this time, a substantive revision of the relevant provisions in Subpart I of the reporting rule is in progress.[5] This proposed revision was developed with significant input from the semiconductor industry, including Intel. Intel anticipates that the final rule, due out in 2013, will have the same basic elements that appear in the proposed rule. However, certain important aspects may change. Further, the proposed rule has options for reporting and Intel does not yet know which option will be most appropriate for use at this facility. Therefore, Intel is proposing a PAL monitoring plan that allows Intel to choose between the two methods in the rule, once the revisions to Subpart I are final. Further, it is possible that with changes in technology, Subpart I may be revised over the 10 year term of PAL and Intel requests that the PAL monitoring requirements note that, if and when Subpart I is amended, the relevant elements of the updated Subpart I will apply to the monitoring of Fab related GHGs for purposes of demonstrating compliance with the PAL.

Under the proposed revision to Subpart I, Fab emissions of GHGs are determined using either

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[3] Ibid.

[4] As the fluorinated gases are used in the process, other GHG may form. The Subpart I rule addresses both the emissions of the gases used and the by-products that may be formed.

[5] The proposed rule appeared in the Federal Register on October 16, 2012 and the comment period on the rule closed on January 16, 2013.

default emissions factors (referred to as gas utilization rates and byproduct formation rates in the rule) using the procedures in 98.93(a) of Subpart I or the stack test method according to 98.93(i) Intel will apply one of these two methods. If Intel uses the default emissions factors, Intel will take credit for abatement (this is optional under the current and the proposed reporting rule). In taking credit for abatement, the reporting rule allows the use of conservatively low default destruction or removal efficiencies (DREs) or the reaction and use of site specific DREs or the use of a combination (default DREs for some gases and gas uses and site specific DREs for others). To obtain the credit for abatement, one must certify the proper installation and operation of the each abatement device and address its proper performance in a maintenance plan. Under the rule, one may either use default DREs specific to a gas and its use or create site specific DREs through testing. Intel is likely to develop site specific DREs for certain larger volume and harder to control gases. This will depend in part on what default DREs are in the final rule. Under the proposed reporting rule, site specific DREs are established by testing a random-sample of the abatement systems. Intel expects to use the default DREs for the easier to control and lower volume gases. Again this will depend on the level of the default DREs that appear in the final rule. Over time, Intel may want to exercise its option to increase the derivation and use of site specific DREs, if and when the reported emissions approach the PAL level.

Intel is confident that the default emissions factors are representative of Intel processes because a large part of the test data used to create the default factors came from Intel testing. The default DREs are conservative and they are less than what Intel has experienced. They were derived through a conservative interpretation of testing data from the industry, with a substantial amount of the data coming from Intel.

If Intel applies the stack method, there will be periodic stack emissions testing and the testing is then used to create emissions factors that applied to the annual use of the perfluorinated compounds. As with the default factors method, under the stack test method, the performance of abatement systems is assured with a certification of the abatement systems and the creation and implementation of a maintenance plan.

Under the rule, N2O emissions are determined with default emissions factors. Intel anticipates no abatement system credit in the near term but may install devices designed to control N2O and they would be subject to the same system of using either default or site specific DREs.

GHG-Only Source

Intel is now and will be at the time the PAL is issued, a GHG-Only source as defined in 40 CFR 52.21(aa)(2)(xii):

> *"(xii) GHG-only source means any existing stationary source that emits or has the potential to emit GHGs in the amount equal to or greater than the amount of GHGs on a*

mass basis that would be sufficient for a new source to trigger permitting requirements for GHGs under paragraph (b)(1) of this section and the amount of GHGs on a CO_2 e basis that would be sufficient for a new source to trigger permitting requirements for GHGs under paragraph (b)(49) of this section at the time the PAL permit is being issued, but does not emit or have the potential to emit any other non-GHG regulated NSR pollutant at or above the applicable major source threshold. A GHG-only source may only obtain a PAL for GHG emissions under paragraph (aa) of this section."

Intel will be operating as a "GHG-Only" Source as defined in paragraph 40 CFR 52.21(aa)(2)(xii).

Section 23: Certification

Company Name: Intel Corporation

I, Brian Rashap, hereby certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signed this 29 day of January, 2013, upon my oath or affirmation, before a notary of the State of

New Mexico.

*Signature 1/29/13 Date

BRIAN RASHAP NM Site Manager

Printed Name Title

Scribed and sworn before me on this 29th day of January, 2013.

My authorization as a notary of the State of New Mexico expires on the

5th day of December, 2016.

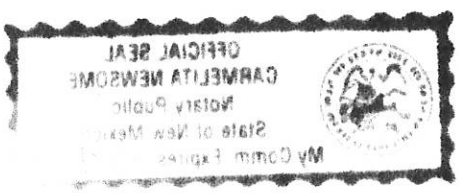
Notary's Signature 1/29/2013 Date

CARMELITA NEWSOME

Notary's Printed Name

OFFICIAL SEAL
CARMELITA NEWSOME
Notary Public
State of New Mexico
My Comm. Expires 1/29/2013

*For Title V applications, the signature must be of the Responsible Official as defined in 20.2.70.7.AE NMAC.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CARMELITA NEWSOME
Notary Public
State of New Mexico