December 5, 2008

Certified Mail No. 7007 0710 0001 2887 9382
Return Receipt Requested

Richard Goodyear, P.E.
Permit Programs Manager
Air Quality Bureau
New Mexico Environment Department
1301 Siler Road, Building B
Santa Fe, NM 87507

Re: Permit No. 325-M-9, Rev.18 - Technical Permit Revision

Dear Mr. Goodyear,

Per discussions with Jay Stimmel (NMED), Intel is submitting this technical permit revision for the installation and operation of a wastewater treatment unit that generates combustion emissions in accordance with 20.2.72.219.B.1.b NMAC. Potential emissions of the combustion pollutants, NOx, CO, SO2, PM and VOCs are each expected be below 1 lb/hr threshold and therefore this unit meets the criteria established for a technical permit revision. In addition, Intel is submitting ambient air quality modeling to demonstrate that emissions from the site after the installation of the unit will not cause ambient air quality standards to be exceeded. The revision will not change the maximum and standard operating schedule of the facility, which will remain 24 hours per day, 7 days per week. The revision will not change the maximum emissions from the facility which will remain as follows:

Plant Site Emissions – 12 month rolling total tons per year				
NOx	CO	VOC	Total Suspended Particulates (TSP)	HAPs
95.7	94.7	96.5	14.2(RTO's only)	24 (total HAPs)

Upcoming process changes will require Intel to start removing ammonia from the wastewater prior to discharge to the Albuquerque Bernalillo County Water Utility Authority. The treatment system will be located outdoors on the northwest corner of the Central Utilities Building. The treatment process involves stripping the ammonia from the wastewater and sending the air stream to a catalytic oxidizer. The catalytic oxidizer burns natural gas and therefore has combustion emissions as well as additional emissions of nitrogen oxides (NOx) from the destruction of the ammonia.

Stripper

The ammonia stripping operation is performed in a fiberglass reinforced plastic (FRP) tower which is lined with polypropylene, filled with plastic packing, and operated in a countercurrent mode. The influent liquid ammonia solution is pH adjusted to optimize stripper efficiency. The air stream from the stripper is sent directly to the catalytic oxidizer. Preliminary testing on the pilot unit in Oregon only identified ammonia in the air stream at a detectable level; the other potential emission is hydrofluoric acid (HF) which was non-detectable. Intel will continue to investigate the HF emissions and will add additional emissions factors needed as part of the annual emission factor update.

Details of Catalytic Oxidizer

The basic design concept of catalytic oxidation is to utilize an industrial-grade catalyst to promote a chemical reaction at low temperatures, as compared to thermal oxidation. The catalytic oxidizer will be manufactured by CPI and the key components are a 3.0 MMBtu/hr natural gas burner, an ammonia catalyst bed, and a NOx catalyst bed. The catalyst beds are a ceramic material coated with platinum and palladium.

Based on current process design Intel expects a maximum of 90 lb/hr ammonia going to the system. Ammonia is stripped from the wastewater and sent to the catalytic oxidizer where it is heated to 572°F (300°C). Approximately 81% of this air stream will be sent over the ammonia catalyst bed (the remaining air stream is used as sparge air for the NOx catalyst bed). The manufacture estimates that 80% of the ammonia is converted to nitrogen (N2) and 20% to NOx. It is estimated that of the 20% that is converted to NOx, 80% goes to nitric oxide (NO) and 20% goes to nitrogen dioxide (NO2). This air stream is then sent over the NOx catalyst bed along with the sparge air. The catalyst beds are sized for 99% removal efficiency of NH3 and 98% removal efficiency of NOx. The expected emissions based on the current process design are:

Emissions	lb/hr
NH3	0.18
NOx	< 0.57
CO	0.9
SO2	0.0018
TSP	0.022
PM (condensable)	0.017
PM (filterable)	0.0056
VOC	0.017

Enclosure 1 contains a schematic of the system. Enclosure 2 contains manufacture's data on the catalyst and Enclosure 3 contains manufacturer's data on the burner emissions.

Operation and Maintenance

The treatment system is expected to be run continuously but will be shut down for preventative maintenance, other maintenance work or failure. It is expected that the system will be shut down for maintenance for four hours each month and twelve hours for annual maintenance. When the system is shut down there will be no air emissions. Air temperature, air flow, and air pressure will be monitored to ensure that the system is operated properly. If the monitored pressure exceeds the manufacturer's recommendations, the system will be shut down and the catalyst replaced. In addition to the routine monitoring, an annual sample of the catalyst material will be sent for offsite analysis to ensure performance.

Dispersion Modeling

Enclosure 4 contains the ambient air quality modeling to demonstrate that emissions from the site after the installation of the unit will not cause ambient air quality standards to be exceeded. The following are the parameter for the ammonia treatment system.

Height	15 m
Flow rate	1389 scfm
Diameter	16 in
Temperature	210°F

Intel has recently decided to remove the rain caps from the boiler stacks and at the request of NMED Intel has conducted modeling with and without the rain caps to demonstrate the impact that the removal has had on the ambient air quality standards. Intel has also removed the four 500 BHP boilers from the permit and these have been taken out of the dispersion model.

TAPs Analysis

The new treatment system will be an additional source of ammonia emissions for the site. Intel is required to demonstrate that the site remains below the TAPs screening levels on a quarterly basis per Condition 9.A.iii.g. Intel has performed this analysis now based on the expected emissions of the treatment system and the last quarterly report submitted (Q3'08) to demonstrate that ammonia emissions will remain below the TAPs screening level (Enclosure 5). Continued compliance will be demonstrated as required by the permit.

Proposed Permit Language

Since this is a new treatment system for Intel, the current permit does not contain language in regards to recordkeeping and reporting. Per NMEDs request, Intel has also proposed compliance testing requirements. Enclosure 6 contains proposed testing and recordkeeping requirements. Intel believes that the current reporting requirements including the quarterly emissions reporting in Condition 9.A.iii encompass all reporting that would be required for the new treatment system.

At the request of NMED, Intel held a public meeting on October 30, 2008 in the Corrales Community Center to discuss this treatment system. Questions that arose during the meeting regarding the system have been incorporated into this submittal.

Pursuant to 20.2.72.219.B.6 NMAC, Intel has provided notice by certified mail to all municipalities, Indian tribes, and counties within a ten-mile radius of the site. Public notice has been submitted for newspaper publication and copies will be sent separately. Pursuant to 20.2.75.10.A NMAC, enclosed please find a check in the amount of $500.00 for the permit-filing fee. If you have any questions or need additional information, please contact Sarah Chavez at (505)794-4917.

Sincerely,

Frank Gallegos
NM Site Environmental, Health & Safety Manager

Enclosure 1: Ammonia Treatment System Schematic
Enclosure 2: Manufacturers Data on Catalyst
Enclosure 3: Manufacturers Data on Burner
Enclosure 4: Dispersion Modeling
Enclosure 5: TAPs Analysis
Enclosure 6: Intel Proposed Permit Language

CERTIFICATION

I, Frank E. Gallegos, Intel Site EHS Manager, hereby certify that the information and data submitted in this application are true and as accurate as possible, to the best of my knowledge and professional expertise and experience.

Frank E. Gallegos

STATE OF NEW MEXICO)
)ss.
COUNTY OF SANDOVAL)

Subscribed and sworn before me on this 5 day of December 2008 by Frank E. Gallegos.

[My commission expires: May 21, 2012]