

CEWG ANNUAL REPORT 2015

The Community Environmental Working Group, which began in August 2004, is a volunteer organization that meets monthly to pursue its mission of continuous environmental improvement and improved community dialogue on environmental issues related to Intel New Mexico. The Group explores and discusses concerns and ideas from all relevant interest groups, including Intel and the surrounding community.

In 2015, the Community Environmental Working Group achieved these results:

1. Regulatory engineering is an idea, supported by the CEWG, about ways that help regulations do more good faster for less cost. Many ways involve regulatory uses of methods and smart tools that are widely used in other fields. Progress in 2015 included publication of the 32-page book *Regulatory Engineering: Prospectus and Primer* by John Bartlit. The booklet was used in an invited lecture Mr. Bartlit gave on the subject at California Lutheran University on Oct. 28, 2015.
2. Participation in the Local Emergency Planning Committee - In 2014, Dennis O'Mara became a member of the newly-reorganized Sandoval County Local Emergency Planning Committee (LEPC) as an interested community resident. After Mr. O'Mara shared this information with CEWG members reached consensus on a proposal to appoint him as the CEWG's representative to the LEPC which meets quarterly.

Under provisions of the Federal Emergency Planning and Community Right-to-Know Act of 1986, all counties should form an LEPC which has the following responsibilities:

- (1) Write emergency plans to protect the public from chemical accidents;
 - (2) Establish procedures to warn and, if necessary, evacuate the public in case of emergency;
 - (3) Provide citizens and local governments with information about hazardous chemicals and accidental releases of chemicals in their communities; and,
 - (4) Assist in the preparation of public reports on annual release of toxic chemicals into the air, water and soil.
3. CEWG discussed and prepared for the release of the final ATSDR report. Consensus was not reached on how to document this item. Please refer to Topics Index and Meeting Summaries for additional information.
 4. Mike Williams completed a detailed report on the earlier modeling done in 2014 which described additional modeling for other contaminants beyond HF, HCL, and CL2.
 5. MIOX - In 2013 Intel started to investigate a different method to safely and effectively manage bio-growth in the cooling towers. All testing was completed and in 2015 and the MIOX biocide generator process was fully implemented at the CUB cooling towers. Overall the MIOX process eliminated the need for sodium bromide at the CUB thereby eliminating the bromoform emissions from the cooling towers which are a Hazardous Air Pollutant.
 6. STTF – The Silica Testing Task Force (STTF) was a community-based group that included two members of the Corrales Village Council, CEWG members, a representative of Intel, and one

other Corrales resident. The STTF met for the last time in 2011 and adjourned with the intention to stay in force until the ATSDR report was released in case further action by the committee was needed. ATSDR presented their final report to the community in Sept 2015 and the CEWG reached consensus that there was no further need for STTF. Jim Tritten attended Aug 2015 meeting which was prior to ATSDR public meeting where there was a fairly lengthy discussion. In Sept the group decided that the work of the STTF was officially complete.

7. Stack Testing Process – The process and methods of testing stacks for regulatory compliance are prescribed by national rules in lengthy EPA documents. Intel's testing consultant and Intel gave an overview of the complete process for the thermal oxidizers and scrubbers that included the role of the regulatory agency, the air permit, the testing consultant and Intel.

PREVIOUS CEWG ACCOMPLISHMENTS 2004 – 2014

Many of the changes listed below are beyond what can be accomplished by regulatory agencies under current law. Actual accomplishments always fall short of what might be desired, yet they still add to useful progress. Although CEWG discussions were an impetus for these improvements, the Group cannot take full credit. They are attributable as well to various members of the public, public agencies, and Intel management and engineers.

2004 – 2006

1. Intel formed a team that made changes that reduced the amount of isopropyl alcohol emitted.
2. Intel compressed the preventative maintenance schedule for the oxidizers, cutting unabated downtime emissions 70%.
3. Intel changed the preventative maintenance schedule to avoid downtimes during the months when air dispersion is restricted, thereby reducing the impact of unabated emissions on surrounding communities.
4. Coordination between Intel and emergency responders improved, and the emergency response program was tested in full-scale drills and real events.
5. Intel donated \$10,000 to Corrales for additional fire department training.
6. Intel established an Odor Team to investigate reported odors, which led to improvements in cooling tower sampling and filtration to monitor bacteria and pH. By improved monitoring, Biocide use in the north cooling towers was reduced 70-80 % with the potential of reducing odors.
7. Intel created a quadrant map to better identify the location of reported odors.
8. Intel improved the methanol abatement process and reduced emissions from 40% to 4%.
9. Intel moved the shipping and storage containers away from the weather tower so as not to interfere with weather data.

2006 – 2007

10. The CEWG developed a Citizen Protocol to establish trustworthy ways to contract, analyze, and report testing data.

2007 – 2008

11. Sandoval County purchased an automated system for public emergency notification meeting national standards. The CEWG publicized it.
12. Intel increased RTO stack height from 23.2 meters to 30 meters from the ground.
13. Intel automated its biocide use.

2008 - 2009

14. Intel removed rain caps from boiler stacks, increasing exit velocity and effective height of stack flow, reducing resultant particulate concentrations on the ground by 37% and carbon monoxide by 69% on an 8-hour average.
15. Intel reduced usage of HMDS, a chemical that produces silica when burned in the thermal oxidizers by a factor of 3 since 2005 and a factor of 8 since 1994.

2009-2010

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16. Intel increased the pH in the scrubbers to eliminate odor stemming from 1-heptanethiol.

2010- 2011

17. Intel replaced old Durr oxidizers with four new Munters units for better reliability and less downtime. These are arranged so that they are not clustered, which further reduces ground-level concentrations.
18. Intel installed redundant oxidizer units that significantly reduced downtime.
19. Intel increased the RTO stack height from 30 meters to 40 to reduce the maximum ground-level concentrations of pollutants.
20. Intel and the CEWG conducted a test (over four days and four nights) for crystalline silica emissions, coordinated by a community-based Silica Testing Task Force (STTF), observed by community representatives, and analyzed by NIOSH (the National Institute of Occupational Safety and Health). Report indicated no significant levels of crystalline silica in emissions during the four test dates.
21. Intel created a website at ExploreIntel.com to report real-time data to the public.

2012-2013

22. Hydrogen Fluoride spikes modeling study.
23. Code Red research study.
24. Continued communication with ATSDR urging completion of its report.

2014

25. Modeled short-term peak concentrations of hydrogen fluoride ("spikes") in the community and compared results to screening levels to examine potential risk. The modeling was extended for HCl and Cl₂.
26. Encouraged improved emergency plans and training of emergency responders at Intel, between Intel and local emergency responders, and the community.
27. Pursued regulatory engineering projects that offer alternative approaches to environmental improvement. An initial example can be seen at www.exploreintel.com/newmexico View Live Abatement. Intel developed improvements to the website to provide more real time operational information about plant functioning and emission control systems.
28. Reviewed the status of using supercritical CO₂ for cleaning chips to reduce water use. Reviewed the status of using supercritical CO₂ to substantially reduce both water usage and toxic air emissions. For unknown reasons, Intel has refused to consider adopting this truly "clean" technology.
29. Prepared for the release of the report by the Agency for Toxic Substances and Disease Registry (ATSDR) regarding community health concerns, developing questions to clarify study methods and assess findings on local health issues.
30. Discussed the possibility of adding condensation and/or other processes to enhance emission control at Intel. To date, Intel has ignored or rejected all such proposals.