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| Other Comments | The commenter has lived in Oregon for 35 of 41 years and has recently developed asthma. The commenter wondered if moving back into SE, near Johnson Creek & Precision Cast parts has something to do with his/her half lung capacity. PCP might provide local jobs but at the cost of what? Stricter regulations on air pollutants are a no brainer. (28)*Response:**DEQ does not conduct health studies or evaluations but relies on EPA standards which are based on extensive scientific and technical assessments and undergo extensive review. In this regard, EPA has classified six air pollutants as criteria pollutant because EPA uses health-based criteria as the basis for setting permissible levels of these pollutants in the atmosphere.* *EPA periodically conducts comprehensive reviews of the scientific literature on health effects associated with exposure to the criteria pollutants. The resulting “criteria documents” critically assess the scientific literature and serve as the basis for making regulatory decisions about whether to retain or revise the National Ambient Air Quality Standards that specify allowable concentrations of each of these pollutants in the air. The standards are set at a level that protects public health with an adequate margin of safety. However, the standards are not “risk free.” Even in areas that meet the standards, there may be days when unusually sensitive individuals, including children, experience health effects related to air pollution. This is especially the case for pollutants such as ozone and particulate matter that do not have discernible thresholds below which health effects are absent. Comparisons of pollutant concentrations with longer-term air quality standards can help identify the pollutants that pose the greatest concerns. Such comparisons can provide a perspective on whether pollutants pose equal or different levels of concern with respect to long-term exposure.**Some of the standards are designed to protect the public from adverse health effects that can occur after being exposed for a short time such as one hour or one day. Other standards are designed to protect people from health effects that can occur after being exposed for a much longer time, such as a year. For example, current standards for carbon monoxide are for short-term periods of one hour and eight hours. By contrast, the current standard for nitrogen dioxide is for one year. Some pollutants have both short-term and long-term standards.**Health effects that have been associated with each of these pollutants are summarized below. This information is drawn from EPA’s criteria documents as well as more recent studies.** *Ground-level ozone – Short-term (also known as “acute”) exposure to ground-level ozone can cause a variety of respiratory health effects, including inflammation of the lung, reduced lung function, and respiratory symptoms such as cough, chest pain, and shortness of breath. It also can decrease the capacity to perform exercise. Exposure to ambient concentrations of ozone also has been associated with the exacerbation of asthma, bronchitis, and respiratory effects serious enough to require emergency room visits and hospital admissions. Some evidence suggests that high ozone concentrations may contribute to increased mortality.*

*Health effects associated with long-term (also known as “chronic”) exposure to ozone are not well established and documented as health effects associated with short-term exposure, but long-term exposures also are of concern. In 1996, EPA’s criteria document for ozone concluded that there was insufficient evidence to determine whether health effects resulted directly from long-term exposure, along with other environmental factors, could be responsible for health effects. Since 1996, a few studies suggest that long-term exposure to ozone is associated with decreases in lung function in humans, increased prevalence of asthma, increased development of asthma in children who exercise outdoors, and exacerbation of existing asthma.* *Ozone trends in Eugene, Portland, Salem, Hermiston and Bend have decreased over time since a peak in 2004 but have increased in Medford. The standard is 0.075 parts per million and the monitored values range from approximately 0.058 to 0.063 ppm.** *Particulate matter in the air (often called PM10 or PM2.5) has been found to cause increased risk of mortality (death), hospital admissions and emergency room visits for heart and lung diseases, respiratory effects, and decreases in lung function. Such health effects have been associated with both short-term and long-term exposure to particulate matter. Children and adults with asthma are considered to be among the groups most sensitive to respiratory effects. Studies published since the release of EPA’s criteria document for particulate matter have found further evidence of an association between particulate matter and increased respiratory disease and symptoms in children with asthma and increased hospitalizations or emergency room visits for persons with asthma. Studies also have that chromic exposure to particulate is associated with morality in adults and suggest that it may be associated with mortality in infants. Also, recent studies suggest that chronic exposure to particulate matter may affect lung function and growth. Prior to 1997, the National Ambient Air Quality Standard for particulate matter was based on particulate matter measuring 10 microns or less (PM10). In 1997, the standard was revised to address the health risks from particulate matter measuring 2.5 microns or less (PM2.5).*

*PM2.5 trends around the state have been variable, with most locations increasing lately. Some of the increases in PM2.5 emissions seem to be due to woodstoves since the high monitored values happen during the winter at night. Portland 42 ug/m3 in 2013!!! Standard is 35!!! What am I going to say about this?** *Sulfur dioxide poses particular concerns for those with asthma, who are considered to be especially susceptible to its effects. Short-term exposures of asthmatic individuals to elevated levels of sulfur dioxide while exercising at a moderate level may result in breathing difficulties accompanied by symptoms such as wheezing, chest tightness, or shortness of breath. Effects that have been associated with longer-term exposures to high concentrations of sulfur dioxide, in conjunction with high levels of particulate matter include respiratory illness, alterations in the lung’s defenses, and aggravation of existing cardiovascular diseases.*

*Hourly SO2 trends, monitored in Portland, have decreased since 2006 and are around 10 parts per billion compared to the 75 ppb standard.** *Carbon monoxide – Exposure to carbon monoxide reduces the capacity of the blood to carry oxygen, thereby decreasing the supply of oxygen to tissues and organs such as the heart. Short-term exposure can cause effects such as reduced time to onset of angina pain, neurobehavioral effects, and a reduction in exercise performance. Long-term exposure has not been studied adequately in humans to draw conclusions regarding possible chronic effects, though a recent study reported an association between long-term exposure to carbon monoxide and other traffic-related pollutants and respiratory symptoms in children.*

*Carbon monoxide levels in the Portland area, the only location monitored in the state, are far below the 8-hour federal health standard of 9 parts per million and have been trending down since approximately 1990 (currently less than 2 ppm).* * *Nitrogen dioxide – Exposure to nitrogen dioxide has been associated with a variety of health effects. Effects include decreased lung function, increased respiratory symptoms or illness, and increased symptoms in children with asthma. Nitrogen dioxide also is a major contributor to the formation of ground-level ozone.*

*Hourly NOx trends, monitored in Portland, have decreased since 2008 and are around 35 parts per billion compared to the 100 ppb standard. Annual NOx trends have remained about the same since 2008 and are around 10 parts per billion compared to the 53 ppb standard.* *The Portland Air Quality Maintenance Area is designated as being in attainment (meeting the standards) for nitrogen oxides, sulfur oxides and particulate and as being in maintenance for ozone and carbon monoxide. Maintenance for ozone and carbon monoxide means that air quality in the Portland area once exceeded the NAAQS for these pollutants but now meets the standards.* *Permit emission limits in tons per year for Precision Castparts are contained in the following table:*

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| *Pollutant* | *Permit Limit* |
| *CO* | *99* |
| *NOx* | *58* |
| *PM* | *83* |
| *PM2.5/PM10* | *54* |
| *SO2* | *39* |
| *VOC* | *99* |
| *Single HAP* | *9* |
| *Hazardous Air Pollutants* | *24* |

*Precision Castparts emissions of CO and SO2 (16 and 0 tons per year respectively) are much lower than their permit limits because of DEQ’s permitting protocols for sources with emissions less than significant emission rates. PCC has agreed to limit their hazardous air pollutant emissions below major source thresholds in order to avoid the requirements of the National Emission Standards for Hazardous Air Pollutants. Process? Constant? Spikes? Other sources in the area? Close by monitors?*  |
|  | Michael Byrne:There is so much in the air that we breathe that singly could be considered non toxic or even benign when considered individually. Many of these chemicals combine in the atmosphere to actually create a very hazardous "stew." Please take into consideration the cumulative effects of concentrations in neighborhoods and the "spike phenomenon" where total releases remain within limits, but concentrated bursts create poor air quality. Some airsheds are already overloaded. We must do this for our children. *Response:**The primary focus of DEQ’s Air Quality program in the past was addressed at regulating the criteria air pollutants ozone, carbon monoxide, oxides of nitrogen, sulfur dioxide, particulate matter and lead from automobile exhaust. Cumulative effects of criteria pollutants from all sources in an area are taken into account when ambient monitoring is done in an area and the results compared to the National Ambient Air Quality Standards for criteria pollutants. Based on DEQ’s ambient monitoring network, the Portland area is meeting all ambient air quality standards, meaning that the existing air is protective of public health and welfare on both a short-term and long-term basis for the criteria pollutants.* *DEQ shares the commentator’s concern for hazardous air pollutant emissions in the Portland Metro airshed and the need to reduce these emissions. This problem is not unique to Portland, but rather affects the majority of the large industrialized cities of the country. The general need to reduce HAP emissions nationwide was the basis for the current Federal HAP program, which DEQ has adopted in its rules by reference. This program, established by the 1990 Amendments to the Clean Air Act, requires EPA to develop Maximum Achievable Control Technology Standards (MACT) to control HAP emissions from over 170 categories of major stationary sources that release 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs.**The Clean Air Act, prior to the 1990 amendments, directed EPA to regulate toxic air pollutants based on the risks each pollutant posed to human health. EPA became involved in many legal, scientific, and policy debates over which pollutants to regulate and how stringently to regulate them. Debates focused on risk assessment methods and assumptions, the amount of health risk data needed to justify regulation, analyses of the costs to industry and benefits to human health and the environment, and decisions about "how safe is safe." the chemical-by-chemical regulatory approach an approach based solely on risk proved difficult, and from 1970 through 1989, EPA regulated only seven pollutants (asbestos, benzene, beryllium, inorganic arsenic, mercury, radionuclides, and vinyl chloride). Collectively, these standards only cut annual air toxics emissions by an estimated 125,000 tons nationwide.**The present program is in two phases. The initial phase is technology based and when fully implemented, the standards will reduce air toxics emissions by about 1 million tons per year nationwide, or approximately 75% from 1990 levels. After setting a MACT standard, EPA has 8 years (9 years for the earliest standards) to examine the risk posed by continued emissions from regulated facilities and to issue requirements for additional controls if they are necessary to reduce an unacceptable residual risk.**As previously stated, DEQ recognizes there is additional need to address possible health impacts from HAP emissions that are not subject to the federal program. To develop such a hazardous air pollutant program of the magnitude necessary to address the HAP problem requires incredible resources. DEQ has never had sufficient resources to accomplish a project of this magnitude and has heavily relied on EPA for this function. Because of the need to address HAP emissions not subject to the federal program, DEQ is developing an additional HAP rule to supplement the current HAP program. A Scientific Advisory Panel of experts will assist DEQ in its development of HAP thresholds.* *For toxic air pollutants, DEQ has recently developed an Air Toxics Program as outlined in Oregon Administrative Rules 340, division 246. The purpose of this program is to address threats to public health and the environment from toxic air pollutants that remain after implementing the state delegated technology-based strategies of the federal air toxics program (MACT standards). Oregon’s program may use several procedures to evaluate the impacts of toxic air pollutants, including a community-based effort that focuses on geographic areas of concern. The Air Toxics Program is still in its infancy but has established ambient benchmarks (not standards) for 51 toxic air pollutants. At this time no ambient monitoring has been done in the \_\_\_\_\_\_\_\_\_\_ area for any of these toxic air pollutants. DEQ is currently pursuing legislative funding for additional toxic monitors to gather data on toxic air pollutant concentrations at various locations in the state. DEQ will prioritize the location of these monitors and the geographic areas of concern based on criteria outlined in division 246. It is not known at this time where the \_\_\_\_\_\_\_ area will fit in this prioritization.* *The results of EPA’s Cumulative Exposure Project show that in areas like Northwest Portland, over 50% of the exposure to HAPs are from vehicles and less than 20% is for large industrial sources (for more information about what is being done about air toxics go to EPA’s website* [*www.epa.gov/cumulativeexposure)*](http://www.epa.gov/cumulativeexposure%29)*. DEQ currently does not have a regulatory approach to evaluate cumulative impacts from air pollution.**DEQ does not agree with the idea that Intel could emit a “spike” of emissions that would emit all or a significant part of the annually allows emissions in a short time. The estimates of Intel’s emissions are based on all processes operating all the time for a full year. Intel operates a number of manufacturing processes that operate as separate batches. Each batch process produces only a small part of the annually allowed emissions. Even if all of the processes were to operate simultaneously, the emissions would still not result in a significant spike compared to the annual limit.**No change to the proposed rule amendments is proposed in response to this comment.* |
|  | First, Intel should be held to the highest standards for pollution control and required to use the best achievable control abatement technology. It is incumbent upon ODEQ to work with the legislature to require zero toxin release from their plants. Allowing Intel and other semiconductor plants to release toxins that we breathe so they can make money is unacceptable. Intel says they reduce their pollution by 85% or so. If they can do that, then just keep adding the scrubbers, charcoal filters, etc. to reduce the toxic emissions to zero. If required to do so they will find a way to do it. Emissions should be monitored continuously by two independent third parties funded by Intel. We cannot allow Intel to self-report. Not reporting their flouride emissions for decades needs to be considered. A paltry $143,000 fine was a slap in our faces. The commenter believes that, in the interest of protecting children’s health, it is important for Oregon DEQ to adopt rules for Intel and any other producer of semiconductors or related materials to employ Best Available Control Technology for fluoride and other toxic emissions. Be very careful when you okay silica particulate emission, especially silica particulates that are created when VOCs produced by the organic solvent hexamethyldisilazane (HMDS) are captured in the plant's solvent exhaust ducts, and sent to the plant's VOC abatement systems (thermal oxidizers), which incinerate the HMDS emissions and convert them to silica.  Silica in the lungs can lead to pulmonary fibrosis. Of equal concern to me is the use of fluorides and their related compounds.  They are extremely toxic, especially combined with other chemicals, and should not be emitted all.  Specifically, please retain Oregon's current regulations and in addition please add to Section (66) "Federal Major Source" part (e) Source categories:  add Manufacturing - Semiconductor and related devices (SIC Code 3674 so that Intel will be classified as a major source and be required to adhere to more stringent air quality regulations. (1, 5, 6, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 21, 22, 23, 25, 26, 27, 28, 32, 33, 34, 36, 37, 45, 49, 50, 51, 54, 55, 60)*Response:**DEQ appreciates these comments, but does not agree with the proposed change. The proposed change would have the effect of making it more likely that Intel will trigger Prevention of Significant Deterioration in the future, and be required to perform a Best Available Control Technology (BACT) analysis. In DEQ’s opinion, Intel already operates emission control systems that would very likely be considered Best Available Control Technology, so there is nothing to be gained from making the proposed change.**Intel is also not the only source of emissions in the Hillsboro area. There are many other sources of air pollution, including other industrial sources as well as non-industrial sources such as motor vehicles, dry cleaners, boilers, home furnaces, household chemical products, etc. Intel’s emissions are controlled by modern control devices that most likely would qualify as Best Available Control Technology.**Intel will be required to get a Title V operating permit based their current emissions. Title V permits are required by the 1990 Clean Air Act Amendments for all large sources and a limited number of smaller sources. The Title V permit program streamlines the way permitting authorities regulate air pollution by consolidating all air pollution control requirements into a single comprehensive operating permit that covers all aspects of a source’s year-to-year air pollution activities. The program was designed to ensure better compliance, to allow for more thorough air pollution control and provide an opportunity for citizens to be involved in the permit review process. Sources are required to provide emissions reports at least semiannually and must certify their compliance status annually. These compliance certifications must be signed by a responsible official of truth, accuracy, and completeness based on information and belief formed after reasonable inquiry. A responsible official is someone in upper management that has the authority to influence the day-to-day operations of the facility. There is civil and criminal liability for false reporting. Because of the compliance certification requirements under the Title V program, there is no need for independent third party monitoring.* *Not reporting their flouride emissions for decades needs to be considered. A paltry $143,000 fine was a slap in our faces.* *No change to the proposed rule amendments is proposed in response to this comment.* |