State of Oregon
Department of Environmental Quality Memorandum

Date: Oct. 30, 2014

To: Environmental Quality Commission

From: Dick Pedersen, Director

Subject: Agenda item P, Informational item: Director's report
Nov. 5-7, 2014, EQC meeting

Oregon's Ebola response planning

On October 15, the Public Health Division of the Oregon Health Authority established an Incident Management Team to address the ongoing Ebola situation. The focus of the team is to communicate risks with health partners, review planning relating to communicable disease protocols, and provide both federal and state guidance as required. DEQ is providing support to the team on questions concerning Ebola-contaminated sewage disposal and solid waste collection, transport and disposal. DEQ is providing support by staff and management in its emergency response, materials management and water quality programs.

While the threat of an Ebola case occurring in Oregon is relatively low, the state nonetheless plans for the event like it would a spill of oil or hazardous material. Unfortunately, some media reporting on the level of threat posed has stoked fear into both the general public, and members of industry and governments. DEQ has received numerous questions concerning management and disposal of Ebola-contaminated biological and solid waste packaging, shipment, treatment and disposal from members of the medical community, waste haulers, wastewater treatment plant operators and public workers.

DEQ's focus has been on wastewater systems and solid wastes. Based on available information, Ebola can be effectively treated with secondary treatment wastewater systems currently in use in Oregon. Of greater concern is protection of public workers who service broken sewer lines and clean up sewage releases. The Centers for Disease Control and Prevention has advised pre-treating wastes in the toilet with household bleach prior to flushing to reduce the threat that might be posed from untreated sewage spills. Likewise, private contractors and septic haulers who service on-site systems in Oregon would undertake similar precautions in addition to adhering to strict personal protection protocols common to this workforce due to the general biological hazards with the work.

Waste contaminated with Ebola virus is a Category A infectious substance regulated material under U.S. Department of Transportation's Hazardous Material Regulations. There are a limited number of companies or local jurisdictions that transport infectious waste in Oregon. A federal permit would need to be obtained from U.S. DOT to transport wastes from a hospital or other location for treatment and disposal. Treatment is limited

to autoclaving or incineration. Most small hospitals and clinics do not have autoclaves to pre-treat the infectious material before transport and disposal with non-infectious waste generated at the facility. The Covanta-operated incinerator in Brooks, Oregon, is the sole facility in Oregon permitted to handle infectious waste. Covanta has indicated to DEQ that they will not accept Ebola-infected waste at this time. DEQ is continuing to explore options for treatment of Oregon wastes should the need arise.

DEQ's ultimate goal is to ensure that health officials are ready to respond in the event that a person ill with Ebola infection arrives in Oregon. DEQ will provide an update should the circumstances change in response to a confirmed Ebola virus case in Oregon.

Willamette River harmful algae bloom

Initial response

On September 16, the Oregon Emergency Response System alerted DEQ to a potential harmful algae bloom on the Willamette River in Portland. A citizen reported "…strips of a light green substance in the water and on the bank of the Willamette River". The caller was near Ross Island across from OHSU. Information about the reported bloom was relayed to the Oregon Health Authority and a monitoring response was mounted by DEQ laboratory staff at the request of OHA. The Oregon Health Authority issued a health advisory the same day the bloom was identified based on pictures submitted by Portland Bureau of Environmental Services staff. The health advisory was based on visible observation of scum, a term used in high-profile areas to protect the public from potential harm until water sampling and analysis can be completed. This initial advisory extended from Ross Island south to the Fremont Bridge, which is one of Portland's major recreation areas. Willamette Riverkeepers assisted with the posting of signs in areas with easy public access to the river, and along with City of Portland staff helped to visually monitor the bloom from the bank. Media outlets expressed significant interest.

Water sampling and expansion of the health advisory

DEQ lab staff confirmed the algae bloom in the Ross Island lagoon. The bloom extended into the channel east of the lagoon and out into the mainstem of the Willamette River. Photographs of the algae were taken and algae samples were collected and shipped for analysis. Following the preliminary investigation and advisory, and while waiting for lab confirmation, DEQ lab staff conducted more extensive visual surveys to refine the area of impact. Surveys on the Willamette were conducted as far north as Kelly Point Park and as far south as Clackamette Park. As a result of these visual surveys and the final results of algae analysis, the Oregon Health Authority expanded the area of the advisory from Ross Island to Sauvie Island through an updated advisory issued September 19. Willamette Riverkeepers helped to post updated signs alerting the public to the high levels of blue-green algae present, and that this species could produce harmful toxins. Toxin analysis later confirmed that levels of microcystin, the toxin produced, far exceeded the recreational guideline values established for this species.

Maintenance monitoring and communications

Daily visual inspections of the bloom were conducted. Routine updates on the status of the bloom were provided to OHA, DEQ regional and communications staff, Willamette Riverkeepers, City of Portland Bureau of Environmental Services staff, the media and

concerned citizens. Algal toxin screening was done periodically to provide an additional risk assessment of conditions in the impacted area while the bloom was present. On October 2, visual assessments determined that the bloom had dissipated, and algae analysis and toxicological results confirmed that the primary threat caused by the algae bloom was over. The Oregon Health Authority verified the data and immediately lifted the advisory.

Impacts
The advisory lasted a total of 15 days and resulted in the cancellation of several high-profile water-related activities on the Willamette. This bloom had significant impacts on the citizens of Portland, visitors to the area, businesses and planned events.

What caused this?
While the ecology of blue green algae is complex, prolonged warm weather leading to low flows and warm water conditions in the Willamette River created the perfect environment for this algae to flourish. Once it hit the river current it was dispersed downstream. It remains to be seen if these blooms will become a more common occurrence on the Willamette River with predicted climate changes moving forward and, if so, what management actions could or should be taken to reduce these kinds of environmental events moving forward.

Resources
DEQ and the Oregon Health Authority receive no specific funding to work on or deal with harmful algae blooms. The risk to public health and the economic impacts that these blooms can have demand that a coordinated response from state agencies occur whenever environmental events of this magnitude happen, especially in the heart of a major metropolitan area with easy access to affected water. This work is expected by the public but the agencies do not have nor have they asked for direct funding for this type of work. There no longer is any federal funding for harmful algae bloom-related work.

Changes to the Clean Water State Revolving Fund through the Water Resources Reform and Development Act

The federal Water Resources Reform and Development Act, signed into law June 10, 2014, introduced a new program: the Water Infrastructure Finance and Innovation Authority, for funding water infrastructure projects. This program is intended to fund large water infrastructure projects and will provide the U.S. Army Corps of Engineers and EPA $175 million over the next five years.

As part of developing the infrastructure programs, the federal Clean Water State Revolving Fund program was significantly changed through amendments to the Federal Water Pollution Control Act. EPA issued Initial Interpretative Guidance and revisions in September 2014. DEQ staff attended a training hosted by EPA Region 10 to review and ask questions on the guidance. Based on the guidance and workshop, DEQ staff conducted an analysis of the changes and determined there are several mandatory and some optional changes to the program. Many of the changes are effective Oct. 1, 2014, and others take effect Oct. 1, 2015. Some of the changes can be accommodated within

existing procedures, checklists and loan agreements. DEQ will begin rulemaking in the coming year for one mandatory requirement relating to affordability criteria

Over the next month, DEQ Clean Water State Revolving Fund program staff will evaluate options on impact to the state program and will discuss the changes with the program's stakeholder advisory committee and interested parties.

Appointing the next Air Toxics Science Advisory Committee

DEQ is requesting that the commission formally concur with the director's appointment of seven proposed members for the Air Toxics Science Advisory Committee, which DEQ intends to reconvene.

The committee last met from 2004 through 2011, with the primary purpose of assigning risk-based protective goal concentrations known as Ambient Benchmark Concentrations to 52 air toxics. This list was published in 2010 and must be reviewed in 2015 per state administrative requirements.

A team of air quality program staff vetted and selected seven members to serve on the committee. Four are returning members and three are new members. DEQ's director has authority to appoint the new members and is seeking concurrence from the commission.

Per Oregon Administrative Rule (OAR) 340-246-0070(2), the committee must include members with expertise in:

1. Toxicology,
2. Environmental science or engineering
3. Risk assessment
4. Epidemiology and biostatistics
5. Public health medicine (physician) and
6. Air pollution modeling, monitoring, meteorology or engineering

The seven proposed members of the 2014-2015 committee, as a group, have expertise in all six of these categories. Please refer to attachment 1 for further details. Attachment 2 provides biographical information on each proposed member.

The seven proposed members are:

- Dr. Bill Lambert, OHSU
- Dr. Dean Atkinson, Portland State University
- Dr. Kent Norville
- Dr. David Farrer, Oregon Health Authority
- Dr. Kim Anderson, Oregon State University
- Dr. Bruce Hope
- Mr. Max Heuftle, Lane County Regional Air Protection Agency (LRAPA)

In addition, a reserve list of replacement members is provided here, and will likely be added to in the future as the need arises. Details on experience and technical expertise for these reserve members are provided in attachment 2

- Mr. John St. Clair, Southwest Washington Clean Air Agency
- Mr. Jeff Smith, former DEQ laboratory air quality manager

DEQ recommendation: The Oregon Environmental Quality Commission formally concur, through verbal agreement at the Nov. 5-7, 2014, regular EQC meeting, with Director Pedersen's appointment of seven proposed members and two reserve members for the Air Toxic Science Advisory Committee.

DEQ recognized for innovative complaint response system

The Environmental Council of the States selected Oregon's Environmental Complaint Electronic Management System to receive one of five 2014 ECOS State Program Innovation Awards. This award reflects Oregon DEQ's commitment to continuing the tradition of forward-thinking innovation. The award was presented at the ECOS Fall Meeting awards dinner Sept. 15, 2014, in Sante Fe, New Mexico. ECOS also recognized Director Pedersen for his service as ECOS President in 2013 and 2014.

Mike Kortnehof and Dave Belyea were at the helm to make this new complaint system happen, but it was the great work of Steve Dobrioglo to put the database and websites together and all DEQ's complaint intake staff to make it a reality. In addition, DEQ completed a mini-Kaizen workshop Jan. 10-11, 2011, which was the kick-off that sent us to where we are today.

The team was: Steve Dobrioglo, Lisa MacGregor, Ginny Deck, Rob Vance, Diana Adams, Craig Filip, Christina Humphries, Bonnie Hough, Liz Clark, Kiki Tumale, Shannon Swantek, Susan Greco, Brian White, Glen Carr, Edie McMorrine, Geri Sledd, Gerald Gamolo, Mike Kortenhof and Dave Belyea.

For more than a decade, ECOS has asked its members to share information on innovative programs so that other states might learn from their colleagues' example. State-developed initiatives are solving pressing challenges, both in protecting human health and the environment and in enhancing operations within agencies themselves. From incorporating new technologies in data tracking and permitting to enhancing communication with the public to promoting sustainability, states truly are at the cutting edge.

ECOS launched the State Program Innovations Awards seven years ago to recognize innovations of interest to other members. DEQ also received recognition in 2013 for its innovative use of web-based event tools to organize large public hearings run simultaneously in multiple locations across the state regarding permits for the proposed Coyote Island Terminal project.

EXPERTISE PROVIDED BY RENEWED AND PROPOSED ATSAC MEMBERS

Specific Types of Expertise Required by Rule:

Per Oregon Administrative Rule (OAR) 340-246-0070(2), ATSAC must include five to seven members with expertise in specific disciplines, including:

(1) toxicology,
(2) environmental science or engineering,
(3) risk assessment,
(4) epidemiology and biostatistics,
(5) public health medicine (physician), and
(6) air pollution modeling, monitoring, meteorology, or engineering.

Term Renewals:

Dr. Bill Lambert = Provides 1, 3, 4, and 5 (toxicology, risk assessment, epidemiology and biostatistics, medicine/public health [physician]).

Dr. Kent Norville = Provides 2, 3, and 6 (risk assessment and air pollution science; air quality dispersion modeling, data analysis, model development, dust fall and deposition studies, visibility modeling, accidental release dispersion modeling, odor assessments, transportation conformity and hot spots dispersion modeling).

Dr. Dean Atkinson = Provides 2 and 6 (chemist, air quality research/engineering, atmospheric chemistry and physics, air monitoring, use of cavity ring-down technique to investigate air quality and climate change in the context of aerosol effects and the measurement of ambient atmospheric benzene levels in Portland).

Dr. David Farrer = Provides 1, 4, and 5 (toxicology, public health, and epidemiology/biostatistics).

Proposed New Members:

Dr. Bruce Hope = Provides 1, 2, 3, and 4 (toxicology, environmental science, risk assessment, epidemiology and biostatistics).

Max Heuftle = Provides 2 and 6 (air quality monitoring, engineering, planning, permitting, pollution control technologies, rule writing and adoption, emission inventories for use in AQ planning).

Dr. Kim Anderson = Provides 1, 2, 5, and 6 (air quality monitoring, toxicology, public health, environmental science).

Proposed Reserve-List Members:

John St. Clair = Provides 2 and 6 (permitting, compliance monitoring, air pollution control rules and regs, familiar with Air Emissions Inventory and SWCAA database, experience with air quality dispersion models [TSCREEN and AERSCREEN, some AERMOD]).

Jeff Smith = Provides 2 and 6 (air monitoring, pollution control technologies).

ATSAC Member Biographies – Renewed and Proposed Members for 2014/2015

Renewed Members:

William Lambert, Ph.D.

William Lambert previously served as a member of the ATSAC from its inception in May 2004 through 2013. He also chaired the committee from May 2004 through May 2008. He is an Associate Professor in the Department of Public Health and Preventive Medicine at Oregon Health & Science University (OHSU) and formerly a faculty Scientist at the Center for Research on Occupational and Environmental Toxicology (CROET). From 1987-2000, he held faculty and research positions at the University of New Mexico School of Medicine. He received his Ph.D. from the Department of Epidemiology and Environmental Analysis at the University of California, Irvine and a B.A. degree from the Department of Biology at the University of California, Los Angeles.

His areas of expertise are air pollution epidemiology, exposure assessment, toxicology, and biostatistics. He has served on a number of advisory/regulatory committees, including Chair of the City of Albuquerque/Bernalillo County Air Quality Control Board, a principal author of state of the science reviews for the American Thoracic Society's Environmental Health Committee, and as member of the Childhood Lead Poisoning Taskforce, Children's Environmental Improvement Project, and Turning Point Environmental Health Initiative, in New Mexico. Currently, he is Chair of the Board of Directors for the Josiah Hill III Clinic in Portland. His community service has been recognized by several organizations, including the Clean Air Award of the American Lung Association of New Mexico and the Lifesaver Award of the New Mexico Chapter of the American Cancer Society.

Kent Norville, Ph.D.

Kent Norville previously served as a member of the ATSAC from its inception in May 2004 through 2013. He is an Associate Atmospheric Scientist and project manager at Air Sciences Inc. in Portland, Oregon. He specializes in air quality dispersion modeling, data analysis, and model development. He has considerable experience with a wide variety of models for a number of different public and private sector modeling applications. Applications include regulatory permit modeling, risk assessments, and environmental impact statements; dust fall and deposition studies; accidental release dispersion modeling; visibility modeling; water vapor cloud assessments; odor assessments; transportation conformity and hot spots dispersion modeling; meteorological data processing and assessments; specialized modeling; and custom model development. He has provided modeling assistance to a number of industrial clients, including aluminum producers, wood product facilities, pulp and paper facilities, metal processors, cement plants, mining operations, food producers, electric power producers, composting facilities, and waste treatment facilities.
Kent is experienced with risk assessment methods and applications. He has worked on a variety of different risk and toxics projects, including EPA superfund sites, public

municipalities, and private industries across the United States. He has conducted modeling analyses of many toxic compounds, including: BTEX compounds associated with refinery and fuel depots, lead and zinc impacts from contaminated road dust, particulate emissions from open-pit cement operations, PAH and HF emissions from smelters, vinyl chloride and TEC emissions from treatment plants, solvent emissions from semiconductor facilities, and dioxin and heavy metal emissions from hazardous waste incinerators. Much of the modeling work has been used to show compliance with Acceptable Source Impact Levels (e.g., Washington State), 1-in-a million cancer risks, chronic and acute hazard indexes (e.g., California's AB2588 program), and direct threshold levels used to access both public and on-site worker health. He holds a Ph.D. degree in geophysics from the University of Washington and a B.S. degree in physics from the California Polytechnic University, San Luis Obispo.

Dean Atkinson, Ph.D.

Dean B. Atkinson previously served on the ATSAC from June 2009 through 2013. He is an Associate Professor of Chemistry at Portland State University in Portland, OR. He received his Ph.D. in Physical Chemistry from the University of Arizona in Tucson in 1995, where he studied the low-temperature kinetics of atmospherically relevant reactions (primarily involving OH radicals) with Dr. Mark A. Smith. After that, he had a two-year NRC Postdoctoral Research Assistantship at NIST in Gaithersburg, MD, where he worked with Dr. Jeffrey W. Hudgens on methods for measuring reaction kinetics of free radical reactions, predominantly using pulsed laser photolysis/cavity ring-down spectroscopy. After starting at PSU, he built on that work and became one of the acknowledged experts in the application of the cavity ring-down method, particularly as applied to environmentally related measurements. Since much of his work at PSU has centered on atmospheric chemistry and physics, he has developed some expertise in this area, particularly in methods used to measure atmospheric species (e.g., trace gases, radicals, particulate matter.) He is familiar with the methods used to model the atmosphere, although his research has not involved the application of those methods to date.

The Atkinson group is currently funded by NOAA to produce a new type of airborne cavity ring-down instrument for measuring the optical properties of the aerosol aloft. The measurements made possible by this instrument should help to clarify both the direct and indirect radiative forcings associated with particulate matter, currently the largest single unknown in the estimation of global climate change. A prototype of the instrument was used for an EPA funded field study in Portland investigating the ambient aerosol optical properties and whether they can be used as a "signature" for diesel PM. This instrument was also used in the TRAMP (TexAQS II Radical and Aerosol Monitoring Project) portion of the TexAQS II field intensive during the summer of 2006.

Current research projects focus on the use of the cavity ring-down technique to investigate air quality and climate change in the context of aerosol effects and the measurement of ambient atmospheric benzene levels in Portland.

David G. Farrer, Ph.D.

Dave Farrer previously served on the ATSAC from December 2009 through 2013. He is a public health toxicologist for the Oregon Department of Human Resources where he has worked for seven years on human health risk assessment, risk communication, and production of public health assessment documents for the general public, with a special focus on Superfund and other hazardous waste sites. Much of that work has been providing assistance to Oregon DEQ and EPA. He received his B.S. degree from Brigham Young and his M.S. and Ph.D. in Toxicology from the University of Rochester and has authored several peer-reviewed and numerous government publications. He has been an Associate Member of the Society of Toxicology since 2002.

***Proposed New Members*:**

Bruce Hope, Ph.D.

Bruce Hope is a principal environmental toxicologist in CH2M HILL's Portland, Oregon, office where he works on projects involving environmental toxicology, ecological and human health risk assessment, chemical bioaccumulation modeling, development of air and water quality guidelines, and regulatory-science policy strategies. From 1995 to 2011, he was a senior environmental toxicologist with the Oregon Department of Environmental Quality (DEQ), where he was instrumental in identifying persistent pollutants in Oregon's municipal effluents, developing ambient benchmark concentrations for air toxics, completing the Umatilla chemical weapons incinerator post-trail burn risk assessments, and reviewing human health and ecological risk assessments. Prior to joining DEQ, he was a consultant in the private sector managing human health and ecological risk assessment projects for commercial and government clients throughout the U.S. and the Pacific Rim. In 2000-01, he was an American Association for the Advancement of science (AAAS) risk policy fellow in Washington DC, working on food safety, microbial risk assessment, and bioterrorism issues.

Bruce has served on the North American Board of Directors for the Society of Environmental Toxicology and Chemistry (SETAC), is on the editorial board of *Human and Ecological Risk Assessment*, and was previously on the editorial boards of *Environmental Toxicology and Chemistry*, and *Risk Analysis*. He has also been on several U.S. EPA national advisory and review panels addressing cumulative risk, wildlife, ecological, probabilistic, and environmental modeling issues, as well as on two National Research Council committees: one evaluating human health risk assessment practices and the other examining ecological risk assessment in the context of FIFRA and the ESA. He holds M.S. and Ph.D. degrees in biology from the University of Southern California and a B.A. degree from the University of California (Santa Barbara).

Max Heuftle

Max Heuftle is a Senior Environmental Engineer, Permit Section Manager and Air Toxics Coordinator for Lane Regional Air Protection Agency (LRAPA). Max has been an Environmental Engineer with LRAPA since 1998. Max writes permits and reviews applications for commercial and industrial sources of all sizes and many different types. Max has also been the Air Toxics Coordinator for LRAPA since 2000 with focus on the

promulgation of recently issued federal toxics standards, responding to questions from the public and industry regarding toxics, and operation a portable Gas Chromatography/Mass Spectrometer monitoring device called the HAPSite. He was promoted to Permit Section Manager of LRAPA in 2013. Max was also a member of the ODEQ Air Toxics Advisory Committee (ATAC), which was a predecessor committee to the ATSAC, from November 2000 to March 2002 as an assistant/backup for the LRAPA Director.

Prior to working at LRAPA, Max worked in the private sector managing a nickel plating process at a computer hard drive manufacturer in Eugene for two years. He has a B.S. in Chemical Engineering from the University of Idaho and is a licensed Professional Engineer (P.E.) in Environmental Engineering.

Ms. Kim Anderson, Ph.D.

Kim. Anderson is a professor in the Environmental and Molecular Toxicology Department of Oregon State University, and also serves as the Director of the Food Safety and Environmental Stewardship Program. She has over 30 years of experience developing analytical methods for organic contaminants in environmental and biology matrices. For over 15 years, she has developed chemical profiling methods to determine source and origin of a wide range of environmental samples. She is one of the leaders of a UN FAO /GEF sponsored program to determine the health impact of pesticide use in seven Western Africa countries, where passive samplers she designed are being implemented. She also has a large project deploying water and air passive sampling devices in the Gulf of Mexico since the Deepwater Horizon oil spill in spring of 2010. Her research background broadly covers many areas of environmental chemistry, bio-analytical technology development and bioavailability of chemicals/metal. She has also participated in many research programs, both academic as well as industry, aimed at the development of bioavailability-based methods and technology for the speciation of chemicals/metals. She is the Director of the Food Safety and Environmental Stewardship program and Chemistry SRP Core Leader. She holds a Ph.D. in Chemistry from Washington State University, a B.S. in Chemistry from Boise State University, and a B.S. in Geology from the University of Oregon.

***Proposed Alternate List Members*:**

John St. Clair

John St. Clair is an air quality engineer at the Southwest Clean Air Agency (SWCAA) in Washington, where he has worked for eight years. Prior to that, he worked as an air quality engineer at the Benton Clean Air Authority and the Benton-Franklin Counties Air Pollution Control Authority in Washington. In his role at SWCAA, John reviews permit applications under the New Source Review regulations, and writes Air Discharge Permits for natural and synthetic minor facilities; reviews title V applications and writes draft and final Title V Air Operating Permits; performs on-site compliance inspections of regulated facilities; provides technical and regulatory assistance to local commercial/industrial and Title V facilities; participates in the ongoing development of local air toxics programs and the SWCAA air emissions inventory database and electronic data entry system;

utilizes air quality dispersion models (TSCREEN, AERSCREEN); assesses and reviews source test reports performed at regulated facilities: responds to public complaints about air issues; and reviews staff compliance determinations and makes recommendations regarding corrective or enforcement actions. He holds an M.S. in Environmental Engineering from and a B.S. in Environmental Science from Washington State University.

Jeffrey Smith

Jeffrey Smith, who retired in 2013, was the manager of the Air Quality Monitoring section at the DEQ Laboratory for 15 years. Prior to that, he spent 20 years overseeing local and state-wide air monitoring and sampling networks; coordinating with other State and Federal agencies (e.g., Dept. of Agriculture, Dept. of Forestry, BLM); managing the Air Quality Monitoring program budget; developing grant proposals and applications; selection of monitoring equipment, methods, and procedures; operating the section's data acquisition system; and providing staff training. He is a former long-term member of the National Association of Clean Air Agencies' (NACAA's) monitoring and air toxics work groups. He holds an M.S. in Nuclear Engineering from the University of Wisconsin at Madison and a B.S. in Engineering Physics from Oregon State University.

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