State of Oregon
Department of Environmental Quality Memorandum

Date: March 19, 2018

To: Environmental Quality Commission

From: Richard Whitman, Director

Subject: Agenda Item G, Informational and Discussion Item: Director's Report
March 21-22, 2018, EQC meeting

1. Water Quality Permit Program Improvement Project Update

The following is a summary of NPDES individual permit issuance for 2018:

- Issued three permits from the 2018 plan;
- Three other permits on public notice;
- Five permits on applicant review; and
- Five permits in quality assurance review, prior to applicant review.

Staff continue to track work closely, including regular check-ins between individual permit writers and the two senior permit staff.

By the end of March, DEQ expects to finalize an agreement with EPA that allows access to EPA's national NPDES contractor, PG Environmental. The contractor will work with DEQ to identify further process improvements, evaluate and make recommendations on the agency's permitting tools and provide feedback on how DEQ can improve training for permit staff. Under the agreement, PG Environmental also will draft two NPDES individual permits, using DEQ's process and tools, in order to understand the permit program and provide the most useful feedback possible.

2. Annual Total Dissolved Gas report from the U.S. Army Corps of Engineers

Under the current modified total dissolved gas (TDG) water quality standard for the operation of four federal dams on the lower Columbia River, the U.S. Army Corps of Engineers must provide DEQ with an annual report on total dissolved gas and fish trauma related to the dams' operations. The full report is attached to the Director's Report.

The statewide TDG standard is 110 percent of barometric pressure. Fish exposed to high levels of TDG can suffer from gas bubble trauma, which can harm the fish or make them more susceptible to predators. Plunging water from spill over dams entrains gases and increases total dissolved gas. However, spill also improves survival rates for out-migrating anadromous salmonids as they move downstream past the dams. The modification allows total dissolved gas up to 120 percent of barometric pressure in the tailwater of each dam (the area immediately

downstream of the dam). The standard only applies to the fish passage spill period of April 1 to August 31, and does not apply to operational spill occurring because of the need to manage high flows.

During the 2017 fish passage spill period, April 1 to August 31, the Corps reported that the standard was exceeded 45 percent of the time. However, a large part of the exceedances were due to involuntary spill (spill occurring to manage high flows), rather than for fish passage. Further, during the period, monitoring showed that only 1.2 percent of the sampled fish showed any evidence of gas bubble trauma. The findings were well under the commission's benchmark.

DEQ will continue to work with the Corps to maintain a high level of monitoring during the 2018 fish passage spill season. The Corps is adjusting its operations in 2018 to increase fish passage spill as a result of a federal court order to reduce harm to juvenile salmon from downstream passage of these dams.

3. Supplemental Environmental Projects: Planting along Valentine Creek, Marion County

When DEQ issues a civil penalty for environmental violations, some penalties are eligible for reduction, in part or full, if the party completes a supplemental environmental project (SEP). These projects are subject to specific criteria, and not all types of violations are eligible. When these projects are possible, they can provide direct environmental benefits to the specific areas adversely affected by the violations. The projects also can encourage co-benefits in the area, through the hiring of local contractors to complete the work and/or engaging with local educational or non-profit entities to be involved with the project.

The first of three phases of a SEP was recently completed for replanting in the North Santiam River Basin along Valentine Creek. When complete, in winter 2019, the site will have new planting on 25 acres of private property that will provide shade along the river, bank stabilization with native plants and the removal of invasive plant species. The plantings will also provide habitat and food for land-based animals. In 2009, the Valentine subbasin was included in the Willamette Model Watershed Program, a regional program designed to help improve and restore watershed health at a subbasin scale.

4. Environmental Data Management System (EDMS)

DEQ received Stage Gate 2 approval from the Oregon Chief Information Office in early February. Shortly after that time, DEQ presented information about EDMS to both the Joint Information Technology Committee and the Natural Resources Subcommittee of the Joint Legislative Committee on Ways and Means. The 2018 Legislature approved continued funding for the development of the EDMS, as well as initial bond funding for the first phase of system acquisition and implementation, beginning in 2019. This marks a major milestone for modernization of much of the agency's information technology systems, and relates directly to process improvement work going on in both water quality and air quality permitting. The next project milestone is Stage Gate 3 approval, which is anticipated in late 2018. The EDMS Project

Team and the DEQ Leadership Team are considering the scope for the first phase of EDMS, which will guide development of the RFP that is expected to be issued later this year.

5. Regional Highlights

5.1. Eastern Region

Grassy Mountain Gold Mine
DEQ is working with the Department of Geology and Mineral Industries and other agencies on permits and approvals for a gold mine in Malheur County. *Calico Resources USA Corporatio*n is the owner of the project and is seeking state permits under a consolidated permitting process for mines that use chemicals to process metal ore.

The proposed Calico Grassy Mountain mine will be the first project to apply for permits under the consolidated permitting process in ORS 517.952 to 517.989. The legislative objective of these is laws is to ensure rigorous environmental protection for state resources while simultaneously ensuring an efficient and expedient process for the applicant.

The permitting process includes a Technical Review Team made up of DEQ and state agencies representing geology and mineral industries, water resources, state lands, historic preservation, fish and wildlife, agriculture and land conservation and development. It also includes tribal and federal agencies.

The company must submit several remaining documents prior to applying for its consolidated application, including a Pre-Feasibility Study, which is a critical step in this process. The study includes mining and processing plans, which are prerequisites for the consolidated application process and the federally required Environmental Impact Statement. The company plans to release the Pre-Feasibility study within the next month. The company is also currently collecting baseline data and scoping its environmental evaluation and socioeconomic impact statements. Calico Resources USA has also filed a proposed Plan of Operation with the Bureau of Land Management.

Once the company submits the Pre-Feasibility Study and the permit application is found to be complete, DOGAMI will issue a notice to proceed. The team then has 225 days to complete the permitting process, including public review and comment periods.

Land Transfer of the Former Umatilla Chemical Depot
DEQ continues to work with EPA, the United States Army and other stakeholders on a land transfer of the former Umatilla Chemical Depot in Umatilla County. The army first used the site as a depot for munitions and other supplies in the early 1940s. In the late 1980s, the army decided to decommission the site and begin the long process of investigation, cleanup and redevelopment of the property, including a portion dedicated to industrial uses. Destruction of the chemical agents stored at the depot took place between 2004 and 2012.

Approximately two years ago, DEQ worked with the state DOJ, EPA and the United States Army on agreements and easements that would turn over part of the property to the Columbia Development Authority for industrial development. The agreements have gone through numerous iterations, and the EPA and United States Army both made modifications throughout the process.

A main challenge is agreeing to a scope of work that complies with two sets of federal regulations, the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation and Liability Act. The agencies also have to modify permits based on the property transfer and easements.

DEQ expects the permit modifications to be ready for a 60-day public comment period beginning in this month, after which the property could be transferred to the Columbia Development Authority. This result comes after decades of agency work related to the depot's decommissioning, weapons disposal and land redevelopment processes.

Klamath Water Quality Issues
DEQ released a draft Total Maximum Daily Load for nutrients in the portion of the Klamath basin and Lost River basin below Link River dam (at the outlet of Upper Klamath lake) in April 2017. Following the public comment period and hearing, DEQ issued the finald TMDL and submitted it to EPA for approval in December 2017.

DEQ has received three requests for reconsideration of the TMDL. There were two requests from irrigation representatives, one representing seven districts and one representing two districts. The third request was from Collins Products. In the requests for reconsideration, the irrigation districts argue that they should not be considered Designated Management Agencies, or DMAs, in the TMDL. The designation as a DMA means DEQ would require development of implementation plans that cover the districts' operations related to pollutants in canals. The districts view themselves as pass-through managers of the water, not as sources or dischargers under the TMDL framework. The districts also argue that DEQ does not have the authority to designate them as DMAs. Collins Products asserts that pollutant limits in the new TMDL are too restrictive and are inconsistent with their current permit. They have requested an increase to the amount of pollutants they may discharge under any renewed permit.

DEQ is reviewing the requests, and will respond within 60 days. The director is responsible for responding to the requests.

Lost Valley Farm
The Lost Valley Farm operates a 30,000-cow dairy outside of Boardman. DEQ and the Oregon Department of Agriculture jointly issued wastewater permits for the farm in March 2017 under federal Concentrated Animal Feeding Operations regulations. ODA is the lead agency on wastewater permitting for this type of dairy.

After conducting more than 30 inspections of Lost Valley Farm, ODA observed repeated and serious violations of the CAFO permit. In February 2018, ODA requested a temporary restraining order and preliminary injunction from Multnomah County Court to temporarily suspend some of the dairy operation at Lost Valley Farm. ODA also issued $10,640 in civil penalties for failing to operate the dairy waste system appropriately.

Multnomah County Circuit Court Judge Stephen Bushong ordered the farm to operate in compliance with its permit, but declined to order the facility to cease production of wastewater immediately, as requested by ODA. Instead, Judge Bushong gave the farm until March 16, 2018, to show why it should be allowed to continue producing wastewater.

In spring of 2017, Lost Valley Farm submitted a complete application and fees for a Wastewater Pollution Control Facility on-site permit to handle all domestic (human) wastewater generated at the facility, replacing the portable toilets and hand washing sinks currently in use with a septic system. DEQ provided the company with a draft of the WPCF on-site permit for a 15-day applicant review period at around the same time that ODA issued the temporary restraining order and request for a preliminary injunction. Following the applicant review, DEQ's normal procedure is to place the draft on a 30-day public notice period.

ODA and DEQ are continuing to monitor the facility's operations. ODA conducted 880 inspections of the 509 facilities under the CAFO program last year, with less than one percent of inspections resulting in violations that led to civil penalties or other injunctive relief.

5.2. Northwest Region

Scrapyard Fire in Northeast Portland
A major fire started the morning of Monday, March 12 at an auto dismantler in northeast Portland's Cully neighborhood. The cause is still unknown. Area schools, residences and businesses were evacuated on Monday because of the toxic smoke and rapidly moving fire, and local access was restricted by road closures. The fire destroyed several homes. No people died in the fire, however several pets were lost. Because much of what burned was petroleum related (cars and tires), the smoke from the fire was toxic. The fire was contained by Tuesday afternoon, March 13, and residents in the evacuation zone returned to their homes the evening of March 13.

The City of Portland Fire and Rescue was in the lead as a first responder. Multnomah County Public Health, OHA and others also joined the incident command to coordinate actions and messages with DEQ and partner agencies. EPA staff performed air quality monitoring, described below, during the event.

DEQ connected the Fire Department with EPA for real-time particulate matter air quality monitoring, which EPA mobilized by 2 p.m. on Monday. Results from the sampling were used to inform decisions to protect public health, including the timing and extent of evacuation zones. This information also was used to communicate information about health effects of PM and sensitive populations. Monitors showed PM concentrations below levels of concern in the evacuation area on March 13. DEQ and EPA do not plan to conduct additional air monitoring as

a result. Parallel to this event, DEQ is in the process of siting a year-long, full spectrum air toxics monitor in Cully at the NW corner of Helensview High School, approximately 10 blocks from the site of the fire, which will provide valuable data for a number of air toxics including metals.

Given the short duration of the fire, the involved agencies don't expect people to experience long-term health effects from the exposure to smoke. Any symptoms that people have been experiencing should resolve within days. For people who haven't experienced any symptoms so far, none are expected now that the smoke exposure has ended.

DEQ will work with the site owner/operator to conduct a site assessment to determine what additional environmental cleanup will be necessary. A team of DEQ inspectors visited the site on March 14 to determine next steps. The cleanup process could include planning for waste disposal, sampling soil for contamination, and determining potential water quality impacts.

NW Metals, the primary business on the site of the fire, does not have DEQ solid waste or waste tire permits. The business does have a DMV Dismantler Certificate from Oregon Department of Transportation and, therefore, by law it is not considered a disposal site and is not required to have a DEQ solid waste permit. If a company has 1,500 or more waste tires, it is required to have a waste tire permit with DEQ. We do not yet know how many tires this facility had on site, or whether they were considered waste or products for sale. DEQ has not taken formal enforcement action with NW Metals; however, DEQ has had two prior enforcement cases associated with the owner of NW Metals at another location in Portland. DEQ is investigating to see if other similar facilities should have DEQ permits and if there are any regulatory violations.

Multnomah County, in partnership with OHA, was the lead agency developing and delivering health information, which it shared through news media outlets, social media and via multiple agency websites. Some of this information and warnings were translated into Spanish since Cully has a large Spanish-speaking population. On Tuesday, March 13, DEQ organized a community conference call for Cully representatives, elected officials, nonprofit organizations and agency representatives. Topics included results from real-time monitoring, recommendations for residents who are able to return home and resume daily activities, and longer term cleanup actions, which will take place now that the site is safe and secure. DEQ and local partners will continue to keep community members informed.

Cleanup of Fiberboard Manufacturing site in St. Helens

DEQ is working with St. Helens fiberboard manufacturers to clean up historic contamination along Scappoose Bay at the lower end of Multnomah channel before it enters the Columbia river. The activities date back to the 1920s. Armstrong World Industries, the current owner, and Owens Corning, a former owner, have agreed to settle their liability for the contamination. DEQ released the proposed agreements for a 30-day public comment period on Feb. 1, and staff are reviewing and responding to comments.

Under the agreements, Armstrong will implement DEQ's proposed cleanup for the "upland", or developed, portion of the site and pay DEQ $8.6 million, plus the amount budgeted for DEQ's oversight of the upland cleanup. Owens Corning will pay DEQ $1.5 million. DEQ will use

settlement money to clean up the contaminated sediment and improve habitat. Other settlements may also occur relating to this site.

DEQ will release a cleanup plan for public review and comment later this spring. DEQ anticipates substantial engagement with tribal governments, local elected officials and others on this cleanup plan.

This is going to be the largest settlement for a cleanup action under state law that DEQ has ever reached. The extent and severity of contamination is significant, and restoring this site will be a major undertaking and success for Oregon's environment.

5.3. Western Region

Seafood Processor NPDES 900-J General Permit Renewal (WQ Permitting/Oregon Coast)
DEQ held three public hearings for the seafood processor NPDES 900-J general permit renewal on March 14, in Newport, and March 15 in Coos Bay, and March 19 in Astoria. Representatives from Sen. Gomberg's office attended the Newport meeting, and from Representative McKeown's office at the Coos Bay meeting.

Kaufman Crushing (Stormwater/Waldport)
DEQ is fining Kaufman Crushing, Inc. (Eckman Creek Quarries) a civil penalty of $14,870 for discharging wastes to Eckman Creek from an unauthorized outfall and for violating conditions of their 1200-A stormwater permit. Kaufman Crushing was cited for numerous violations including: failing to update their Stormwater Pollution Control Plan, illegal discharge to Eckman Creek from their process water settling pond, excessive land application of process water, failing to monitor for benchmarks in their permit and submitting monitoring reports late. DEQ is working closely with DOGAMI on the enforcement case.

St. Paul Elementary School HOT/Diesel Release (Emergency Response/St. Paul)
We are assisting St. Paul School in securing funding for cleanup from the release of diesel from a heating oil tank at the school. Current funding sources include:

- Oil Pollution Act funding to pay for off-site contamination to stormwater ditches and Mission Creek.
- Orphan site declaration to pay for initial abatement activities (pumping fuel and groundwater from excavation, initial excavation, backfilling, air sampling)
- Oregon Business brownfield fund (potential loan with principle forgiveness) to pay for long-term cleanup.

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Date: March 19, 2018

To: Environmental Quality Commission

From: Richard Whitman, Director

Subject: Annual Report on 2017 Columbia River Total Dissolved Gas Standard Modification and Spill for Fish Passage

Annual report and update

This is an informational summary about the total dissolved gas levels during the 2017 fish passage season at the lower four Columbia River dams. The commission required this annual report from the U.S. Army Corps of Engineers to DEQ as part of the February 2015 total dissolved gas water quality standard modification issued by the commission. The dams included in the modification and addressed as part of this report are Bonneville, The Dalles, John Day and McNary -- all federal hydropower dams on the mainstem Columbia River. DEQ received the 2017 total dissolved gas report from the Corps on Jan. 31, 2018.

Background

Oregon's statewide total dissolved gas standard is 110 percent of barometric pressure. Fish exposed to high levels of total dissolved gas can suffer from gas bubble trauma, which can increase susceptibility to predation and mortality in severe cases. Plunging water from spill over dams entrains gases and increases total dissolved gas. However, spill also is the means for out-migrating anadromous salmonids to pass the Columbia River dams that has higher rates of survival. The purpose of the 2015 standard modification was to improve survival of Endangered Species Act listed anadromous salmonids as they move downstream past these dams. The modification allows total dissolved gas up to 120 percent of barometric pressure in the tailwater (the area downstream of the spilling dam) resulting from the dams' voluntary spill (there is often involuntary spill – spill needed to pass water at high flows – typically in the late spring). The standard modification applies to the fish passage spill period of April 1 to August 31.

The modification defines an exceedance of 120 percent as, "when the average total dissolved gas concentration of the 12 highest hourly measurements per calendar day exceeds 120 percent of saturation." The modification also defines exceedance for instantaneous total dissolved gas levels above 125 percent as, "125 percent of saturation for any 2 hours during the 12 highest hourly measurements per calendar day."

2017 results

In 2017, Columbia River flows were higher than the previous year with flows at 128 percent of average, compared to 95 percent of average flows in 2016. Between April and August there were

24 days of high flows above the 7Q10[1] resulting from involuntary spill, when spill was the result of the high flows (Total Dissolved Gas TMDL 2002).

For the 2017 spill season, the Corps reported 45 percent (277 out of 612[2]) of the monitoring point-days during the fish passage spill season that exceeded the 120 percent limit. These exceedances occurred during both voluntary and involuntary spill events. Two percent of the hourly total dissolved gas measurements were in excess of 125 percent. However, the Corps' report does not include the number of days 125 percent total dissolved gas was exceeded during voluntary spill. DEQ has requested its inclusion for future reporting. In 2016, 2 percent of the days exceeded the 120 percent limit and there were no measurements exceeding 125 percent. Higher than average flows, which were below 7Q10 flows, combined with limited turbine capacity and variable hydropower demands caused involuntary spill conditions which contributed to most of the 120 percent total dissolved gas exceedances. Malfunctioning monitoring gauges and total dissolved gas modeling uncertainties contributed to a few exceedances.

The Fish Passage Center conducted biological monitoring of juvenile salmon and trout for gas bubble trauma at Bonneville and McNary dams during the fish passage spill period in accordance with Corps and FPC protocols. Sampling occurred twice a week at each dam under typical conditions during the first few months of the spill period. After July 22 at Bonneville dam and August 2 at McNary dam, FPC reduced sampling to once a week because the GBT monitoring process would increase stress experienced by sampled juveniles due to higher than normal stream temperatures. The combination of these conditions can result in a considerable increase in mortality for juveniles that are not able to recover from anesthetization required for GBT evaluation. Sampling discontinued at Bonneville dam after August 19 and McNary dam after August 6 due to low numbers of juveniles passing the dams, which effectively prevented obtaining the target sample size of 100 for the remainder of the spill period. All exceedances of the total dissolved gas modified standard occurred from April through June, corresponding with above average monthly flow rates. Whereas the rates for July and August were below average.

The commission-issued total dissolved gas standard modification states that the fish passage spill program must be halted if either 15 percent of the fish examined show signs of gas bubble trauma or if five percent of the fish examined have signs of gas bubble trauma over 25 percent of their surface area. The Fish Passage Center examined 6,424 juvenile salmonids and 76 individuals, or 1.2 percent, had signs of gas bubble trauma. Two individuals, or less than 0.1 percent of the juveniles examined had over 25 percent of their surface area affected. This is an increase from 2016 when 0.1 percent, or 6 salmonids of 5,336 examined, exhibited gas bubble trauma with no observations of greater than 25 percent affected surface area. The incidence of gas bubble trauma, however, was well below the benchmark levels used for halting the spill program.

[1] The average peak annual flow for 7 consecutive days that has a recurrence interval of 10 years, or a 10% probability of being equaled or exceeded in any giving year.
[2] The total days are 153 days multiplied by 4, which is the number of days the modified standard is in effect multiplied by the number of compliance locations.

Although GBT monitoring halted before the spill season concluded, less invasive condition monitoring of juveniles occurred throughout the spill season at McNary, John Day and Bonneville dams. The 2008 Federal Columbia River Power System Biological Opinion requires the Corps to conduct condition monitoring, a type of biological monitoring, to identify injuries that may indicate dam passage issues.

Risks to fish

Although nearly half of the spill monitoring point-days exceeded the total dissolved gas 120% limit, there gas bubble trauma remained at low levels, with no exceedances of the biological benchmark. The biological monitoring results indicated a low gas bubble trauma risk to out-migrating juvenile salmonids. The Corps' goal is to meet the total dissolved gas modified limit when implementing the fish passage spill program. DEQ will continue to work with the Corps to maintain a high level of monitoring data accuracy and completeness during the 2018 fish passage spill season. In 2018, the Corps is adjusting their operations to increase fish passage spill while not exceeding the total dissolved gas modified standard.

Report prepared by Paula Calvert
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