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September 20, 2004

Dottie Reynolds  
DEQ Western Region- Salem Office  
750 Front Street NE, Suite 120  
Salem, OR 97301

Re: City of Salem's Proposed NPDES Permit

Dear Dottie:

These comments are submitted on behalf of the Northwest Environmental Defense Center, Willamette Riverkeeper, and Northwest Environmental Advocates (jointly "commenters"). The draft NPDES permit for the City of Salem represents a significant lost opportunity to restore the degraded condition of the Willamette River. While we recognize the value of the future facility upgrades, the manner in which Oregon DEQ has clearly abdicated its responsibility to insure discharges from the City of Salem's POTW comply with the Clean Water Act to date and from this point forward until those upgrades are fully completed is simply deplorable. The agency sat on this expired permit for nearly 6 ½ years, and is now finally taking action to issue the permit, completely divorced from any findings or allocations established under the Willamette Basin TMDL process due to conclude, at least for some parameters, very shortly. Given the concerns set forth below in more detail, we strongly encourage the Department to revisit this draft permit and revise it to insure it is consistent with the Clean Water Act and applicable federal and state regulations. Please directly respond to the bold questions that follow.

#### **I. THE CITY OF SALEM'S POTW DOES NOT QUALIFY FOR A PERCENT REMOVAL REDUCTION**

The EPA's Secondary Treatment Regulations state that a permit shall not exceed an 85 percent CBOD5 and SS removal efficiency rate. 40 C.F.R. 133.102(4)(iii), (b)(3). This proposed permit sets the CBOD5 removal efficiency rate at 78 percent when monthly average daily flow is greater than 54MGD, and at 65 percent when monthly average daily flow is greater than 90MGD. Clearly, this permit fails to comply with EPA's 30-day average percent removal rate limitations.

The Department contends that the facility is allowed to decrease the removal efficiency rate because it meets the three requirements for special consideration under the federal regulations. 40 C.F.R. 133.103(d). 40 C.F.R. 133.103(d) establishes that the

regional administrator may substitute a lower percent removal requirement to compensate for a less concentrated influent provided the facility satisfy all three of the following criteria:

- (1) The treatment works is consistently meeting, or will consistently meet, its permit effluent concentration limits but its percent removal requirements cannot be met due to less concentrated influent wastewater
- (2) to meet the percent removal requirements, the treatment works would have to achieve significantly more stringent limitations than would otherwise be required by the concentration- based standards, and
- (3) the less concentrated influent wastewater is not the result of excessive Inflow and Infiltration.

In the aggregate, the requirements of this proposed permit actually allow an increase in pollutants carried by the influent. The permit proposes a less stringent limitation on BOD5 and TSS due to waste attributable to the industrial category exceeding 10 percent. NPDES Permit 101145, p22. Also, the DEQ is proposing to “eliminate the wasteload due to SSOs by increasing the volume of treated wastewater discharged from the City’s wastewater treatment facilities.” NPDES Permit 101145, p26. Furthermore, the “pollutant load from the existing SSOs is not accounted for in the current NPDES permit”(Id.) resulting in permitted loadings contained in the draft permit that are substantially above those in the current permit.

Additionally, the total flow to the POTW must be less than 275 gallons per capita per day if the Department wishes to utilize the percent removal exemption discussed at 40 C.F.R. 133.103 (d), yet the fact sheet includes no reference to this important ratio in its discussion of the granted exemption. Elsewhere in the fact sheet are the following figures: the POTW services an area with a “population of approximately 210,000” (Fact Sheet at 2); and during wet weather, flows to the facility have been “as high as 100.5 MGD in February 2003. These figures lead to a ratio that is nearly double the necessary maximum 275 gallons per capita per day in order for the City of Salem to qualify for a lower percent removal efficiency.

**Question #1:** Has a current test, that takes into account the influent pollutant contributions from the SSOs, been administered that measures the levels of CBOD and TSS?

**Question #2:** Has the department taken into account that the proposed less stringent effluent concentration limits of CBOD5 and TSS facilitate meeting the 40 C.F.R. 133.103(d) criteria?

**Question #3 :** Is the total flow to the POTW ever greater than 275 gallons per capita per day?

## **II. THE ANTIDEGRADATION FINDINGS ARE GROSSLY INADEQUATE AND MISLEADING**

Water quality-limited waterbodies may not be further degraded via new or increased permitted discharge loads absent findings consistent with OAR 340-001-0004, and an express exception granted by the EQC. This provision expressly requires numerous findings, including the requirement that the new load will not cause water quality standards to be violated. In one of the more patently evasive attempts at avoiding this provision the commenters have seen to date, the Department disregards the spirit of these requirements entirely. With this permitting action, the Department is authorizing an increased discharge load for pollutants both directly and indirectly related to pollutants for which the Willamette River is already in exceedance, not only until the new treatment system is completed (if at all during this permit cycle), but even thereafter. Since no TMDLs have yet been developed for the parameters of concern, the exception may not be lawfully granted.

The Department disingenuously suggests that the future winter mass load limits “will not cause water quality standards to be violated since they are lower than what is currently discharged...” (Fact sheet at 27). The City of Salem may, if all goes as planned (an unlikely assumption given the history of this source), violate water quality standards somewhat less at an indeterminate future date than they do now, but the fact that their exceedances will have lessened in scope or scale does not lead to the conclusion that they will not be violating those standards.

The Department relies on this same deceptive and unsupportable logic in its assessment that the increased loadings requested under this permit will not threaten or impair any recognized beneficial uses of the Willamette River merely because loadings at some indeterminate future point in time may be “lower than what is currently discharged...” (Fact sheet at 27).

**Question #4:** Is the Willamette River in the vicinity of the City of Salem’s discharge water-quality limited for Fecal Coliform in winter/spring/fall?

**Question #5:** Does the City of Salem’s discharge cause or contribute to that exceedance currently?

**Question #6:** Will the City of Salem’s discharge continue to cause or contribute to that or any other water quality standard exceedance prior to the completion of facility upgrades?

**Question #7:** Assuming that all upgrades are eventually completed as planned, will there be absolutely no potential for discharge from the City’s new POTW to cause or contribute to a violation of the Fecal Coliform standard or any other water quality standard?

### **III. THE DEPARTMENT ERRED IN SETTING CBOD5 LIMITS IN THE DRAFT PERMIT EQUAL TO BOD5 LIMITS IN THE PRIOR PERMIT**

The proposed permit is flawed in basing its CBOD5 limits on the notion that they are equivalent to BOD5 limits. By setting CBOD5 limits equal to BOD5 limits the draft permit authorizes an increase in the effluent's biochemical oxygen demand on the Willamette River.

The biochemical oxygen demand test recognizes two types of organisms responsible for oxygen depletion. Secondary Treatment Information, 48 Fed. Reg. 52272, 52273. The first type of organism is a heterotrophic organism that breaks down carbonaceous sources (fecal waste), and the second is an autotrophic organism that uses nitrogenous sources (urine and proteins). *Id.* When performing the CBOD5 test, a chemical is added to the effluent, killing the nitrifiers, and subsequently inhibiting the autotrophic organisms from depleting oxygen. *Id.* Thus, the CBOD5 only measures the carbonaceous biochemical oxygen demand and ignores the substantial oxygen depletion effects of the autotrophic organisms (NBOD). *Id.*

The Environmental Protective Agency recognizes a difference between CBOD5 and BOD5 concentration limits by setting different minimum levels of quality parameters. *Id.* at 52275. “[T]he test results BOD5 and CBOD5 parameters will not necessarily be equivalent. These differences indicate that substitution of the CBOD5 parameter for the BOD5 parameter without a change in the effluent limitations to account for the residual NOD exertion may be inappropriate.” *Id.* Under 40 CFR §133.102(a), for the two measurements to be considered equivalent, BOD5 minimum levels are set higher than the minimum levels using CBOD5. *Id.* at 52273 (“analyses were conducted to determine if appropriate adjustments should be made to account for the differences in the measurement of oxygen demand by the two test procedures [CBOD5 and BOD4]”; 40 CFR §133.102(a).

In fact the EPA has already considered the implications of allowing CBOD5 limitations to be equivalent to BOD5 limitations:

“The Agency is aware that some facilities are being intentionally operated in a mode that inhibits the growth of nitrifying bacteria to improve BOD5 test results and compliance with secondary requirements. Such measures to inhibit nitrification in facilities usually result in poorer effluent quality.... and may often result in greater sludge production and higher operation and maintenance costs.”

*Id.* at 52273.

The Department, in stating “[t]he CBOD5 concentration limits are considered equivalent to the minimum design criteria for BOD5 specified in Oregon Administrative Rules (OAR) 340-041” ignores this inconsistency and sets the rate of oxygen consumption to levels higher than sanctioned under OAR 340-041. NPDES Permit 101145, note 4 p 6. To not act to remedy this flaw would be in violation of the CWA, and will allow for dangerously high levels of biochemical oxygen demand in the

Williamette River in the vicinity of the discharge, depleting the oxygen and causing substantial damage to the river's wildlife and aesthetic value.

### **III. INAPPROPRIATE OMISSION OF TOTAL IMPACT ON DISSOLVED OXYGEN LEVELS (NOD)**

There is no mention within the permit pertaining to the omission of imposed requirements for NOD. The EPA states that "determination of whether NOD reduction is required should be a case-by-case decision for each receiving water segment." In keeping in line with the overall objective of the NPDES program, the proposed permit should, at the least, demonstrate a logical and reasonable reason for omitting limitation requirements for NOD.

The objective of the NPDES is to eliminate the discharge of pollutants into our Nations waters. 33 U.S.C. § 1251(a),(a)(1). A major source of biochemical oxygen depletion (BOD Pollution) is from the unregulated, uncontrolled NOD. Secondary Treatment Regulation, 49 Fed. Reg. at 36999. The EPA recognizes that "NOD accounts for the majority of the oxygen demand remaining in the effluent once secondary treatment is achieved." *Id.*

In *Maier, P.E. v. U.S.E.P.A.*, the court recognizes EPA's ability to "routinely" administer NOD and nutrient limitations in the NPDES permit on a case-by-case basis. 114 F.3d 1032, 1043. The reason EPA states for justifying its discretion is because the impact of NOD is "highly variable and dependent upon such factors as temperature and rate of flow of the receiving water body." *Id.* at 1036. This however does not justify the lack of analysis to determine whether NOD limitations are needed; especially considering that today's technology allows for the testing and controlling of NOD levels to be feasible and cost-effective. *Id.*

Taking into account the aforementioned, the Department should include within its proposed permit an analysis supporting its decision to exclude or include limitations on NOD. Also, the technological advances allowing the testing and control of NOD to be feasible and cost-effective support, at the least, an analysis to determine whether NOD limitations are warranted.

### **IV. DEQ INAPPROPRIATELY COMBINED POINT SOURCE DISCHARGES WHEN CALCULATING THE EFFLUENT LIMITATIONS**

Applying CBOD5 and TSS mass load limits to the combined discharges from the listed outfalls (001A, 001B, 002A) is in violation of the CWA, CFRs and OARs. The CWA and applicable federal and state regulations are clear in requiring each point source to meet the sanctioned effluent pollution limitations. Therefore, the permit needs to be corrected to state that each specific outfall needs to be in compliance with the permit's effluent limitations.

The outfalls listed in this permit clearly fall within the CWA's and OAR's definition of a "point source." The CWA and Department of Environmental Quality have both defined a point source as "a discernable, confined, and discrete conveyance, including but not limited to a pipe, ditch, channel, tunnel, conduit ,... from which pollutants are or may be discharged." 33 U.S.C. §1362; OAR 340-041-0002. The CWA and OARs require that each outfall comply with the permit's effluent limitations. The CWA states that "Effluent limitations established pursuant to this section or section 1312 of this title shall be applied to all point sources of discharge of pollutants in accordance with the provisions of this chapter." 33 U.S.C. 1311. The outfalls in question are at considerable distances from each other, and there is simply no support for the Department's decision to treat them as one.

**Question #8:** How far are outfalls 001A, 001B and 002A from each other?

**Question #9:** What are the effluent limitations applicable to overflows 002B through 166 other than estimating flow duration and volume?

**Question #10:** Do the effluent limitations imposed on overflows 002B through 166 require compliance with state water quality standards?

**Question #11:** What is the legal justification for the blanket authorization of discharges from any and all overflow points in the event of anything less than a 1 in 5 year storm event with absolutely no control or effluent limitation?

## **V. THE EFFICIENCY LIMITS SET BY THE PERMIT ARE IN VIOLATION OF EPA'S ANTI-BACKSLIDING REGULATIONS**

Federal regulations provide that "effluent limitations, standards or conditions" must be at least as stringent as effluent limitations, standards, or conditions in the previous permit. 40 C.F.R. §122.44(l)(1); *see also* 33 U.S.C. §1342(o). This permit proposes a CBOD5 removal efficiency rate of 65 percent when monthly average daily flow is greater than 90MGD compared to a removal efficiency rate of 72 percent in the previous permit.

The exceptions to EPA's anti-backsliding provisions are not applicable in this situation. The proposed permit claims that increased influent mass load from SSOs is the reason for adjusting the effluent limitations. This reasoning is flawed because treating the increased influent mass load from SSOs is required under 40 C.F.R. §122.26 and OAR 340-041-0009(2). Allowing violations of permit parameters merely because a facility will have difficulty meeting the limit is counter-intuitive and a violation of federal and state law.

## **VI. THE PERMIT FAILS TO TAKE INTO ACCOUNT ALLOCATIONS ESTABLISHED THROUGH THE WILLAMETTE TMDL PROCESS**

The Willamette River TMDLs are due out in a month or two. This permit expired on May 31, 1998 nearly 6 ½ years ago.

**Question #12:** Why, after nearly 6 ½ years, is the agency finally acting on this permit just prior to completion of the Willamette River TMDLs?

## **VII. THE DEPARTMENT IS PERMITTING THE DISCHARGE OF TOXICS IN TOXIC AMOUNTS**

The fact sheet states that the Department has “little information concerning the discharge of [toxics] under this permit”, and therefore requests the permittee to monitor for select toxics. This is yet another example of the Department’s typical approach of “permit first and ask questions later”. The end result is that the permit authorizes the discharge of toxics in toxic amounts, and places absolutely no restriction on those toxics at all.

**Question #13:** How, particularly given that the City’s permit expired nearly 6 ½ years ago, can the Department possibly justify a failure to ever require the City to conduct monitoring for the toxics it is authorizing under this permit?

Thank you for the accepting and considering these comments. We look forward to your response.

Sincerely,

Mark Riskedahl and Adam Friedman,  
NEDC