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Mr. Tim Spencer
Via e-mail: spencer.tim@deq.state.or.us

Ms. Stephanie Hallock
Oregon Dept. of Environmental Quality
Water Quality Division
811 SW 6th Avenue
Portland, OR 97204

Dear Mr. Spencer and Ms. Hallock,

I write to comment on the St. Johns Landfill, the draft remedial investigation on feasibility, scope of work and companion consent order. I also write to save DEQ and Metro considerable money on the proposed studies. It seems that DEQ is confused about what is in the St. Johns Landfill. The landfill did not drop from the sky. Its contents are simply described as most of the garbage and hazardous wastes disposed of in Multnomah County between 1940 and 1990. There was also the occasional hot load deemed too toxic for Washington County landfills. This knowledge alone should be compelling enough for DEQ to not allow rainwater to wash through that mound of garbage and hazardous waste into the surface waters and aquifers surrounding the landfill. Perhaps the fact that Rohne Polenc dumped 2,500 55-gallon drums of pesticide distillate containing dangerous levels of dioxin can provide motivation. From this one source alone over 137,000 gallons of a known carcinogen leaching into our ground water should be very convincing. DEQ may not feign ignorance of the strength of this distillate, it was used in DEQ tests at Alkali

Lake.

DEQ Steps to a Safe Landfill Closure

- Step 1 The first step DEQ must take in formulating a responsible closure plan is to require a working double-lined cap.
- Step 2 Require a comprehensive perimeter leachate collection system.
- Step 3 DEQ should be the lead agency in developing a safe water management plans for the dynamic system of sloughs and lakes that surround the landfill.
- Step 4 DEQ must characterize the sediments in the close vicinity of the landfill. That characterization must represent contaminated sediments no matter how deep they are. Construction in those sediments should be suspended until the danger of those sediments is known and relevant transport methods have been identified.
- Step 5 DEQ must find the limits of the leachate plume. The leachate plume is clearly off site and probably extends into the Troutdale Aquifer. Samples, not conjecture, should define the limit of off-site contamination.
- Step 6 The Columbia River tides control the landfill environment. Metro must stop tidal averaging for its data by accounting for the tide in all monitoring.
- Final Step When all of the above issues are addressed, then DEQ should require the studies and investigations found in the draft closure permit. There is no need for the consent order. DEQ should only issue a consent order when such an order has a recognizable legal need.

The landfill cover built by Metro has failed. If Metro is not going to move the landfill to Arlington, the mound of leachate rising high above the primary aquifer must be controlled. I personally participated in forming the Closure Plan formulated in 1989. That plan required a multi-layer cap over the entire landfill. That plan included a two-foot thick impermeable clay cap over a synthetic membrane and the maintenance for the steep slopes.

In 1993 I became aware of Metro's plan to pre-load the landfill with dredged spoils and change the cap design to a single membrane, with the very permeable dredged spoils placed on top. At that time it was very obvious that the pre-loading had changed the shape of the landfill and that the steep slopes would not be maintained. I was also very disturbed by the slip-shod installation of this single cap. The membrane was at times laid on top of exposed garbage and over leachate running from multiple seeps.

In 1993 I took those concerns to the EQC. The EQC made these issues agenda items. DEQ director Fred Hansen at that time stated that Metro was taking a high-risk gamble in changing the design of the landfill cover, and that if the gamble failed, Metro would have to replace the cover. DEQ should honor its promise to the people of North Portland and make its decision based on safe containment without only regard to cost.

In 1988 I made it very clear that it believed the financial assurance plan was seriously deficient in its ability to fund the program. DEQ assured the citizens of North Portland that the lack of finances would not drive the closure plan. DEQ has not kept that promise.

The substandard landfill cover did, however, provide useful positive information. For the single year the plastic membrane worked, the mound of leachate in the landfill fell significantly. The drop in leachate elevation during the first year of Metro's landfill cover was almost

identical to the predicted value. This demonstrates that a well constructed and maintained landfill cover can reduce the leachate mound to the same level as the primary aquifer that includes the sloughs and lakes around the landfill. The DEQ may have some other theory for why the leachate mound took a precipitous drop with the installation of the membrane and then later returned to normal. DEQ should not accept this best-case scenario without Peer Review. DEQ should resolve the issue of whether the cap has failed, if any such reasonable doubt exists, by obtaining the opinion of a licensed and bonded engineer. It has become Metro's practice to employ graduate students for its studies; this practice should stop.

The first step DEQ must take in formulating a responsible closure plan is to require a working double lined cap over the landfill.

Metro must be required to prevent rainfall from entering the landfill. Metro should not be rewarded by the removal of necessary requirements for its incompetent and cavalier treatment of DEQ closure requirements. DEQ has clearly stated its position on the requirement for keeping landfills dry and its policy of collecting and treating landfill leachate. A clear, simple DEQ policy statement can be found in its brochure for children "*Reduce Reduce Reduce:*"

"Leachate is dealt with by two primary approaches. The first approach to dealing with the problem of leachate is to keep the landfill as protected and dry as possible so that excess leachate is not formed. In Oregon this is how it is handled. This means that garbage is not receiving much air or water and will not break down for an unknown period of time. Modern landfills with leachate monitoring systems will test the leachate for presence of hazardous constituents. If the leachate is not hazardous, it is removed and sent to the waste water treatment facility. Hazardous leachate is processed the same as any other hazardous waste."

These policies are not evident in the new closure permit or consent order. People who live in the close vicinity of the St. Johns Landfill have long thought there was one set of rules for St. Johns and another for the rest of the State.

The only landfill closure plan that the public participated in was the 1989 closure plan. Although the 1989 closure plan did not specifically include a perimeter leachate collection system, it clearly envisioned one. Metro has done some work on this issue. Whenever garbage could be seen washing into the sloughs around the landfill Metro has covered that area with riprap, and in some few areas has installed short squat leachate cut off walls. The riprap placed directly on exposed garbage only covers the exchange of leachate and water from the slough from sight. It is hard to see how short leachate cut off walls could do any more than delay the obvious leachate stream reaching the sloughs for the length of time it takes to flow around these cut-off walls. This cosmetic approach to leachate is hardly the policy DEQ promises to school-children in the quote above.

The second step DEQ must take in formulating a responsible closure plan is to require a comprehensive perimeter leachate collection system.

The first consideration in developing a complete water management plan for the sloughs and lakes surrounding the landfill should be the safety of the children who use those sloughs and lakes. Probably every child raised in St. Johns has found his way to Smith and Bybee Lakes, with or without permission to go there.

To this point Metro's desire seems only to solve the water quality problems of the North Slough by diluting the North Slough with the waters of Smith and Bybee Lakes. If Metro were to seek a real solution, it makes much more sense to isolate the leachate-loaded North Slough from the Lakes. DEQ has not given any indication that it is even aware of the dynamic nature of the surface water system or aware that while DEQ proposes more studies decisions concerning water management are made without the consideration of the safety of the population of North Portland.

At this very moment decisions concerning the management of surface waters are being made that foreclose a low-tech solution to water quality in the North Slough. DEQ seems oblivious to the relationship of water quality to water management in the St. Johns landfill area.

The risks occasioned by these sediments represent actual deaths.

Step 3. DEQ should be the lead agency in developing a safe water management plans for the dynamic system of sloughs and lakes that surround the landfill.

The time for the DEQ to step up to the plate for safe water quality management is at hand. There is enough data to guide the decision to protect people of North Portland from a decision to reduce the quality of the surface waters of to that of the North Slough.

The city and Metro have long been aware that the sediments in the Columbia and North Sloughs adjacent to the landfill are hazardous. The Corps of Engineers ended plans to dredge that section of the Columbia Slough in the early 1980's when the EPA pointed to previous studies demonstrating the dangers of those sediments. DEQ's proposed new risk assessment underwrites the contention that Metro's risk assessment, mandated by the EQC in 1994, was severely flawed, yet that flawed risk assessment delineated as a hot spot the east end of the North Slough. Metro currently has plans to dredge and construct a water control facility in that contaminated area. The project that Metro proposes will most certainly transport those hazardous sediments throughout Smith Lake, yet it seems DEQ sits on the sidelines with no opinion.

Step 4: DEQ must characterize the sediments in the close vicinity of the landfill. That characterization must represent contaminated sediments no matter how deep they are. Construction in those sediments should be suspended until the danger of those sediments is known and relevant transport methods have been identified.

It is very difficult to understand how DEQ can recognize the need for studies of the risks

of the sediments and the methods of transport of those sediments and at the same time allow work in those sediments and allow un-considered transport of those sediments in the construction of surface water control structures and future operation of those structures.

Step 5: DEQ must find the limits of the leachate plume. The leachate plume is clearly offsite and probably extends into the Troutdale Aquifer. Samples, not conjecture, should define the limit of off-site contamination.

Previous offsite leachate sampling wells have found volatile organic compounds characteristic of landfills, yet DEQ disregarded these findings. The given reason for disregarding the findings was that the VOCs may have come from some other polluter. A better result is reached by assuming such compounds are from the landfill until a serious credible alternative is proven. Additionally, offsite monitoring wells were abandoned when methane gas was present. Landfill methane gas drives contaminants. The characteristics of landfill gas are recognizable. Offsite wells abandoned due to methane gas should be assumed to be within the leachate plume until there is proof otherwise.

Step 6. The Columbia River tides control the landfill environment. Metro must stop tidal averaging its data by accounting for the tide in all monitoring.

Surface water and aquifer monitoring must take the tide into account. DEQ has been aware of Metro's use of tidal averaging in the presentation of its monitoring data since 1986. In 1986 Fishman Inc. developed the first water quality database for the section of the Columbia Slough near the landfill. At that time Mr. Fishman informed DEQ of the need to consider the tide in future water quality monitoring. Present monitoring data is invalidated by Metro's refusal to consider tidal effects on the measurement of flow and pollution. For DEQ to continue to allow tidal averaging in the presentation of water quality data is an abdication of its duty to truthfully

consider the effects of the landfill on surrounding surface waters. For example if a daily measurement, rather than hourly measurement, is taken, that reading should be taken at the lower of the two daily low tides. The "low-low" tide will be the reading with the highest flow, or highest level of pollution, and therefore the most relevant for the purposes a comprehensive landfill closure.

The Final Step: When all of the above issues are addressed, then DEQ should require the studies and investigations found in the draft closure permit. DEQ should only issue a consent order when such an order has a recognizable legal need.

To some it might seem that DEQ's intention in issuing the new closure permit and the consent order is to remove any remnant of an actual landfill closure plan by replacing conditions that already exist with studies that have no timeline or described end. There is no need for the consent order at this time. The consent order gives complete discretion of the enforcement of DEQ regulations and policies to the DEQ and Metro project managers. There is no need to exclude citizen participation in any form while the discussion is still at the "planning-to-study" stage.

Please do not consider this comment to say that all of the studies and monitoring DEQ now proposes are not necessary. This comment simply says that the physical requirements of DEQ for any landfill (such as an effective landfill cap) should not be sacrificed in order to conduct a risk assessment a generation after it was needed. In fact I ask DEQ to include dioxin testing in any sediment sampling, risk assessments or leachate profiles.

A comment letter that asks for a comprehensive plan rather than more studies, already a generation after comprehensive closure plans were required, should not surprise the DEQ and the EQC. The only constant in this process is Metro's determination to reduce the cost of closure of the St. Johns Landfill.

I sincerely appreciate the opportunity to comment on the draft proposals. Please feel free to contact me if you have any questions.

Yours truly,

<original signed by W.M. Jones>
William Michael Jones