



Upper Columbia River Group

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December 1, 2008

Honorable Bonnie Mager
Honorable Todd Mielke
Honorable Mark Richard
Spokane County Commissioners
Spokane, Washington

Re: Spokane County DBO Contract Comments

Dear Spokane County Commissioners,

Thank you for the opportunity to provide additional comments regarding the draft design-build-operate contract for the County's proposed wastewater treatment plant. These comments are submitted on behalf of Sierra Club Upper Columbia River Group and the Center for Environmental Law & Policy, and have been prepared with the assistance of the Center for Justice. As before, we urge the Commissioners to reconsider the technology choices it has made to date – before the commitments become irrevocable.

1. The County should not commit by contract to the design, construction and operation of a wastewater treatment plant which, as currently designed, is ineligible for requisite permits and state funding.

The County is committing over \$127 million dollars to build a wastewater treatment plant that relies on discharge to the Spokane River. In order to discharge into the river, the County must first obtain a § 404 permit from the Corps of Engineers, which in turn requires a §401 certification from Ecology. 33 U.S.C. § 1341; Ch. 173-225 WAC. The purpose of a § 401 certification is to ensure that a project requiring a federal permit is in full compliance with the salient provisions of the CWA and state law. A § 401 certification may not be issued if the proposed activity does not have the appropriate NPDES permit or will cause or contribute to violations of state water quality standards.

Because the County is building a new plant at a site for which no plant existed, it is a new discharger under federal and state law. Under these laws, existing dischargers who discharge into critically impaired waters and who are unable to meet necessary water quality standards may be given compliance schedules to meet these standards; new dischargers may not. Instead, new dischargers like the County must meet water quality standards upon commencement of discharge. The policy behind these regulations accommodates the costs and equities associated with forcing existing facilities to upgrade versus requiring new facilities to incorporate the latest technologies. "This distinction is based on the concept that new facilities have the opportunity to install the best and most efficient production processes and wastewater treatment technologies."¹

¹ Rules and Regulations, EPA, 40 C.F.R. Parts 122, 134, and 125, National Pollutant Discharge Elimination System Permit Regulations, 49 Fed. Reg. 37998 (September 26, 1984).

The Spokane River and Lake Spokane are critically impaired for the pollutant phosphorus. As a result, all Washington State Spokane River dischargers must reduce phosphorus concentrations in their discharge to background levels, or at least 10 ug/l. Although there are other plants in the country meeting this limit through various technologies, the County's chosen technology, MBR, cannot.²

Nevertheless, the Draft TMDL holds out the possibility of an NPDES permit through offsets from septic tank elimination. This is unavailing for several reasons. First, in a 2007 decision, the Ninth Circuit found there is nothing in the Clean Water Act or its regulations that provides an offset for new dischargers discharging pollution into impaired waters.³ Second, even if offsets were allowed to new dischargers, it is doubtful the County can demonstrate phosphorus reductions from its elimination program in a scientifically defensible manner.

To date, there has been no study with source-specific data sufficient to differentiate between human-caused phosphorus loading such as that from septic systems and natural background loading in area groundwater. Although the County tendered a memorandum on loading from septic systems to Ecology, peer reviewers, including scientists from Ecology, Sierra Club, and the County's current consultants on its Nonpoint Source Study, found the study insufficiently rigorous to meet credibility standards.⁴ Ecology found the study failed to quantify uncertainty in phosphorus loading and migration to the river, address variability in the effluent quality, provide an appropriate margin of safety, or account for attenuation as phosphorus migrates through the aquifer. Likewise, Sierra Club experts found the study failed to utilize scientifically defensible procedures and analyses. Finally, at the October 23, 2008 meeting of the Spokane County Nonpoint Source Advisory Committee, GEO Engineers presented findings regarding its review of the credible studies and data on phosphorus from nonpoint sources contributing to low dissolved oxygen in the Spokane River and Lake Spokane. GEO Engineers reported that the County's memorandum by HDR was rejected because it lacked data supporting its conclusions.⁵

² The following examples are taken from EPA's Advanced Wastewater Treatment to Achieve Low Concentration of Phosphorus at <http://yosemite.epa.gov/r10/water.nsf/Water+Quality+Standards/AWT-Phosphorus>. None of these plants were required to achieve the low phosphorus concentrations as those required in this watershed. Hence it is likely they could achieve even better performance if required. See:

- Breckenridge S.D., Farmer's Korner WWTP, CO, capacity – 3 mgd; Type of treatment – BNR, chemical addition, filtration; Ave. Effluent Phosphorus Concentration – 7 ug/l ;Range of monthly ave. phos. concentrations – 2 to 3 ug/l;
- Summit County Snake River WWTP, CO, Capacity – 2.6 mgd; Type of treatment – BNR, chemical addition, filtration, Ave. Effluent Phosphorus Concentration – 10 ug/l, Range of monthly ave. phos. concentrations – 10 to 40 ug/l;
- Stamford WWTP, Stamford, NY, Capacity – 0.5 mgd; Type of treatment –Chemical addition, filtration; Ave. Effluent Phosphorus Concentration – 11 ug/l, Range of monthly ave. phos. concentrations – 5 to 60 ug/l;
- Walton WWTP, Walton, NY, Capacity – 1.55 mgd, Type of treatment – Chemical addition, filtration, Ave. Effluent Phosphorus Concentration – 10 ug/l; Range of monthly ave. phos. concentrations – 5 to 60 ug/l.

³ *Friends of Pinto Creek*, 504 F.3d. 1007 (9th Cir. 2007).

⁴ Onsite Sewage Disposal Systems Phosphorus Loading Estimate, May 31, 2006 (HDR).

⁵ Exhibits 1A-1D. Also attached is a letter from the Spokane County Commissioners to Jay Manning, Director of the Washington State Department of Ecology, regarding the County's noncompliance with the GMA and the consequent suspension of SRF funding. In this letter, the commissioners state, "The septic systems are one of the primary non-point sources contributing to documented violations of

Without offsets or a technology that would meet the stringent phosphorus limits required by the TMDL, the County is ineligible for an NPDES permit and hence ineligible for funding through the State Revolving Fund Loan Program (SRF). Moreover, SRF funding is unavailable without an approved facilities plan. In 2003, the County applied for an estimated \$ 73.5 million loan for its facility. By law, contracts for these loans must be signed within a year. In 2004, Ecology gave the County notice that as designed, its facilities plan was ineligible for an SRF loan.⁶ However, Ecology agreed to release up to \$8.5 million to allow the County an opportunity to revisit the shortcomings of its facilities plan. Unfortunately, the County declined to address alternatives in a substantive fashion over the past four years. Currently, Ecology has only issued a conditional approval of the County's facilities plan. Until the plan is amended by providing seasonal out of river discharge or utilizing a technology that will meet water quality standards, Ecology cannot issue final approval nor can it commit more SRF funding.

The County should not commit taxpayer funds for the building of plant that cannot be permitted or finally approved and will not be eligible for federal and state funding. The County should utilize the remaining money in its \$8.5 million loan to address the plan's deficiencies prior to entering into a contract.

2. It is fiscally irresponsible for the County to sign a 20 year contract with a private corporation for the design, construction and operation of a plant the design and cost of which are unclear.

Under the regulations governing State Revolving Fund loans, the County must demonstrate that design, build, operate (DBO) is the most cost-effective alternative for procurement. (WAC 173-98-800.) It is not clear that the Draft Service Contract (DSC) contains appropriate safeguards to provide incentives for efficiency and disincentives for cost escalation through privatization of the entire process.

Proponents of public-private projects often base their support on purported efficiencies in the private sector forged through competition. Here, there is arguably no competition. CH2M HILL was one of only two companies who bid on the project. Moreover CH2M HILL already services the largest wastewater facility in the area, the City's.

Private corporations are not public servants. Their allegiance is to their shareholders, not the public, and their primary motive, some would say duty, is profit. Clearly, no private corporation would enter into this contract without a guaranteed profit.

In the context of a DBO contract for wastewater services, profit is generally a percentage of the total amount the company spends on the construction, operation, and maintenance of the facility. Private companies thus have an incentive to unnecessarily inflate the costs in all areas. The upshot: A contractor will never spend \$1 million to do a job when it can spend \$10 million and thereby earn a higher fee. So, contractors actually earn more money by wasting taxpayer money.

dissolved oxygen water quality standards in the Spokane River and Lake Spokane." To date, there is no data supporting this statement. See Ex. 2D

⁶ Exhibits 2A-2C.

The higher the cost of construction, operation, repair and maintenance, the higher the profit. Because the public guarantees 100% payback on the costs, the contractor here has a guaranteed upside to spending more of our money. Additionally, any part of the profit that goes to corporate headquarters as profit is lost to this community.

By contrast, a facility built or at least operated by the local government has legal incentives and duties to cut-costs where possible while keeping quality high. Cost savings, or profit, are reinvested rather than distributed to shareholders and money spent on the facility and its employees stays in the community.

The DSC does not assuage concerns about privatization of this essential service. Although the DSC appears to contain a "Fixed Design/Build Price" of \$127,300,000 (Art. VII, § 7.4(B)), this price is subject to the many adjustments and formulae outlined in subsection (C) as well as reimbursement for state and use taxes. Under the facilities plan, upon which the design is based, the contractor's overhead and profit are fixed at 10% of the unit process costs while the contractor's engineering, administrative and legal costs are fixed at 25% of the total construction costs. (Final 2007, 2006 Amendment, ch. 9, Table 9-1.)

It is unclear what profit level is built into the DSC "fixed price," but it clearly is otherwise the contractor would have no incentive to bid. The design, for which the contractor is responsible, is not yet complete (Art. IV § 4.4) making it unlikely that the "fixed price" will not undergo revisions. Thus, as drafted, the DSC is hardly transparent and the taxpayer can easily anticipate costs much higher than those cited. Moreover, to the extent the DSC is actually a cost-plus contract, it is not eligible for SRF funding. (WAC 173-98-110.)

Additionally, the DSC provides a service fee based on the formulae set forth in Art. XIII as well as a 10 % mark-up for contingency and other costs for the performance of its major repair and replacement obligations to third persons. It is unclear whether the contractor has complete discretion to enter into subcontracts or whether these are also subject to the state's rules on bidding for government contracts. Nevertheless, given the profit requirement, there is an incentive to spend more than necessary.

The two largest components of O&M costs in MBR plants are membrane replacement and energy costs.⁷ Indeed, the membrane cassettes are included in the major repair and replacement charges under this contract. Despite recent improvements in MBR technology, these are still subject to fouling requiring costly repair and replacement. (*Id.*) Although the DSC cites a lifespan of 20 years, the literature values show a lifespan somewhere between three and seven or eight years. (A16-6.) Repair and replacement are likely to be a large expense. According to the DSC, there are six membrane cassettes with a unit price of \$ 178,226 each, for a total of \$1.3 million. It is likely that these repairs and replacements will be made by the vendor resulting in increased costs to the taxpayers and profit to CH2M HILL.

The energy costs of MBR plants remain 30 to 50% higher than more conventional technologies as well – a cost that will be passed on to taxpayers and will not impair the

⁷ *The Bottom Line, Experts Evaluate the costs of municipal membrane bioreactors, Water Environment & Technology* (2008). See also *Mass transfer coefficient determination of a two-phase flow for an UF membrane in a side-stream MBR*, MBR Network (2008) at www.mbr-network.eu.mrb-database/literature-details.php?VID=104.

contractor's bottom line.⁸ Where the same entity chooses the design, builds the plant and operates it, and the taxpayer reimburses all expenses, there is every incentive to increase costs throughout the life of the plant.

It is common sense that a private corporation must charge more for running a plant than a local entity. The County should retain control of this plant.

3. CH2M HILL's record as a service provider for the public sector raises concerns about its future performance.

CH2M HILL and its subsidiaries have a checkered past in providing services to the public. According to the Project on Government Oversight's Federal Contractor Misconduct Database, CH2M HILL was the subject of at least six enforcement actions from 2000 to 2006. These included the following:

1/1/06 – A \$2,000,000 criminal fine was levied against OMI, a CH2M Hill subsidiary, by the Department of Justice under a Deferred Prosecution Agreement for violations at two wastewater treatment facilities in Connecticut. Pursuant to the agreement, OMI was required to contribute \$2 million to community projects and take other agreed upon steps to enhance CWA compliance procedures at the two facilities. The violation related to the failure to comply with sampling and reporting requirements.

3/10/05 - A \$ 316,250 fine was levied against a CH2M HILL subsidiary by the Department of Energy for safety and operational events, including multiple personnel contamination events at the Hanford Tank Farms.

12/17/03 - An undisclosed settlement with the Department of Energy regarding alleged discrimination and a pattern of reprisal in violation of whistleblower protection provisions of various environmental laws on the part of CH2M HILL Hanford Group, Inc.

8/29/03 – An \$82,500 fine by the Department of Energy against the CH2M HILL subsidiary regarding noncompliance in the areas of quality improvement, failure to correct known quality problems, ineffective management assessments, failures to follow established procedure, and profound inattention to detail, reluctance to report events, and attempts to conceal problems by personnel.

6/25/00 – A \$50,000 fine by the Department of Energy against the CH2M HILL subsidiary based on quality problems with the procurement of safety class piping which could have resulted in "significant consequences to the public and the environment."⁹

Other incidents involving this corporation include the following:

- In Spokane, a judge ordered CH2M HILL to pay an estimated \$ 6 million in connection with the 2004 death of a City employee when the roof of a digester at Spokane's wastewater treatment plant collapsed.¹⁰

⁸ MBR Network, 2006.

⁹ See <http://www.contractormisconduct.org>.

¹⁰ See http://www.kxly.com/Global/story.asp?S=9198152&nav=menu683_2_10.

- In Stockton, California, OMI, the water division of Colorado-based CH2M HILL, and Thames Water were awarded a 20-year, \$600 million contract to privatize the city's water department. Due to rising rates, increased leakage, skyrocketing maintenance backlogs, constant staff turnover, and an eight million gallon sewage spill that contaminated a mile-long stretch along the San Joaquin River popular for swimming, these companies were voted out. As reported, the CH2M HILL managers at the plant failed to notice the spill for 10 hours and failed to notify the public for another three days. Upon resuming control over the system, the city faced a huge backlog of maintenance problems requiring millions to fix.¹¹
- In August 2008, the City of East Cleveland filed a \$14 million lawsuit in Cuyahoga County Common Pleas Court against the local and global offices of CH2M HILL as well as the city's former mayor and a local businessman over a contract to provide utility services. The suit alleged that under the contract, CH2M HILL was paid \$3.9 million to provide Water Department services that the city had provided for only \$1.4 million.¹²
- On July 7, 2005, a CH2M HILL subsidiary spilled 85 gallons of radioactive waste at the Hanford Plant for which it faces potential fines.
- In Los Angeles, the Department of Water and Power sued CH2M HILL for allegedly overcharging the utility up to \$4.5 million on the Owens Valley restoration, according to a city audit.¹³
- According to the Associated Press, CH2M HILL was once more fined \$82,500 for violating nuclear safety requirements at Hanford which resulted in employee contamination with radioactivity on Sept. 21, 2005 and another in March.¹⁴
- In 2003, federal agents seized documents and computer files from wastewater plants operating by OMI in Santa Paula, California. In June of 2006, the company settled the complaint in which it had been charged with "unlawful, unfair or fraudulent acts." See *Thirst, Fighting the Corporate Theft of our Water*, A. Snitow and D. Kaufman (2007) citing "OMI Pulling Out as Santa Paula Wastewater Treatment Operator," *Santa Paula Times*, Feb. 11, 2004; C. Miller, "Two OMI Plants in Hot Water," *Stockton Record*, Mar. 19, 2003; Press release from County of Ventura District Attorney, <http://da.countyofventura.org/06-051.htm>, June 29, 2006.

The performance of private contractors has grown by 200% during the Bush administration with a correspondent increase in government spending and decrease in oversight. Given the lack of transparency governing the true costs of this contract in conjunction with this company's reported problems in fulfilling government contracts, we would urge the County not to enter into contract with CH2M HILL and to operate the facility itself on behalf of the public. We would also urge the County to increase transparency and incentives for cost control in any contracts it signs for the design and construction of its County wastewater treatment services.

¹¹From "Drinking at the Public Fountain, The New Corporate Threat to Our Water Supplies," Alan Snitow and Deborah Kaufman (Copyright 2008).

¹² See <http://www.naplesnews.com/news/2008>.

¹³ See <http://ronkayela.com/2008/08/>.

¹⁴See <http://www.nytimes.com/2006>.

4. Scalability and Effectiveness of Dual Sand Technology

During the public hearing, Commissioner Mielke questioned whether other technologies, such as continuous backwashing upflow dual sand (CBUDS), have been developed above 1 million gallons per day (MGD). EPA Region 10's recent report, entitled *Advanced Wastewater Treatment to Achieve Low Concentration of Phosphorus*, provided a detailed assessment of treatment technologies achieving very high levels of phosphorus removal.

A copy of this report is attached (Ex. 3A). This report made several important conclusions regarding treatment technologies such as CBUDS:

- The cost of applying tertiary treatment for phosphorus removal is affordable, when measured by the monthly residential sewer fees charged by the municipalities that operate these exemplary facilities. The monthly residential sewer rates charged to maintain and operate the entire treatment facility ranged from as low as \$18 to the highest fee of \$46.
- There appeared to be no technical or economic reason that precludes other dischargers from using any of the tertiary treatment technologies that are employed at these WWTPs. Any of these technologies may be scaled as necessary to fulfill treatment capacity needs after consideration of site specific conditions.
- Other pollutants that commonly affect water quality such as biochemical oxygen demand, total suspended solids, and fecal coliform bacteria are also significantly reduced through these advanced treatment processes.

It is important to note that MBR technology was not considered by the EPA report as a phosphorus removal technology worth evaluating as part of its evaluation. Indeed, this conclusion is mirrored by the comments recently submitted by Veolia that indicated that other technologies are more effective in phosphorus removal. The findings of EPA's report are consistent with the attached chart, completed as part of a technology review in New York, which indicates that the performance and operation of a CBUDS is superior to the County's proposed microfiltration technology. See attachment (Ex. 3B)

As far as scalability of CBUDS technology, based upon review of the available literature and discussions with engineers from vendors (including BlueWater and Parkson), there is no reason why CBUDS filters cannot be scaled to any size application, including Spokane County's proposed facility. There are numerous examples of large CBUDS:

- The Walton and Stamford WWTPs in New York have peak treatment capacities of 4.5 and 1.5 MGD, respectively. Each of these installations has demonstrated outstanding phosphorus removal performance. These plants are featured in the attached EPA report. See attachments (Ex. 3C).
- BlueWater filters will be installed at a WWTP in Marlborough, Massachusetts, which will have an average design capacity of 4 MGD and peak hydraulic capacity of 12 MGD. BlueWater is also getting excellent P-removal results in Florida. See attachment (Ex. 3D).
- The Moscow, Idaho WWTP is installing Parkson filters which will be run in single stage mode during the winter and as two stage filters during the summer. The average daily flow is 2.25 to 2.50 MGD with peak flows approach 6 MGD.
- The LOTT Budd Inlet Advanced WWTP installed Parkson filters with at least 1 MGD capacity to generate reclaimed wastewater.

Other examples of the application of Parkson's CBUDS filters to both a water and wastewater treatment setting in a variety of ranges (including many over 1 MGD) are detailed in the attached chart (Ex. 3E).

5. Cost-Effectiveness Wastewater Treatment

Finally, we would reiterate that the County has failed to date to prepare a cost-effectiveness analysis that compares the various technologies available that could achieve better phosphorus removal results and/or produce Class A reclaimed water. Until such an analysis is produced and objectively considered by the County, it is not in the public interest to enter into a contract for construction of any plant, and certainly not the expensive facility proposed by CH2MHill.

Thank you for the opportunity to provide these additional comments.

Yours very truly,



Rachael Paschal Osborn
Executive Director, Center for Environmental Law & Policy
Spokane River Project Coordinator, Sierra Club Upper Columbia River Group

And on behalf of:

Rick Eichstaedt, Attorney
Bonne Beavers, Attorney
Center for Justice

Attachments:

EXHIBIT 1

- 1A) DOE letter to Bruce Rawls, Feb. 8, 2007
- 1B) Gary Andres, Review of HDR Phosphate Study Report, June 27, 2006
- 1C) Gary Andres, Review of HDR Phosphorus Loading Estimate, Jan. 15, 2007
- 1D) Joel Massman, Technical Memorandum re Review of HDR Onsite Sewage Disposal Systems Phosphorus Loading Estimate, Oct. 8, 2007

EXHIBIT 2

- Letters re: SRF funding
 - 2A) Dept. of Ecology to Spokane County, Nov. 7, 2003
 - 2B) Dept. of Ecology to Spokane County, Aug. 2, 2004
 - 2C) Dept. of Ecology to Sierra Club, Aug. 18, 2004
 - 2D) Spokane County to Dept. of Ecology, Aug. 12, 2008

EXHIBIT 3

- 3A) USEPA, Advanced Wastewater Treatment to Achieve Low Concentration of Phosphorus, April 2007.
- 3B) USEPA & NYC DEP/NYS DOH 1998 Comparison of 2 Filter Technologies
- 3C) Walton Effluent Total Phosphorus Time Series for 2003, et al.
- 3D) Blue Water Technologies, Blue Pro Pilot Project Report (Feb. 2008)
- 3E) DynaSand D2 Advanced Filtration Systems Reference List
- 3F) Hook, G., "The Ultimate Challenge for Technology: 0.02 mg/l Effluent Total Phosphorus"