

# EXHIBIT 175

VOL III

Exhibit 175

MEMORANDUM FOR Chief, Public Works, Utilities Division, Waste Water Treatment Plant, AFZH-PWU, ATTN: (b)(6)

SUBJECT: Workplace Exposure Assessment

1. **PURPOSE.** This memorandum provides the findings and recommendations from an industrial hygiene workplace exposure assessment (WEA) conducted by (b)(6) from 29 April thru 19 March 2004.

2. **REFERENCES.** References are provided in Appendix A.

3. **PROCEDURES.** Assessment criteria, survey equipment and calibration, and methodologies are provided in Appendices B and C.

4. **BACKGROUND.**

a. The Fort Lewis Waste Water Treatment Plant (WWTP) is located on a plateau above Solo Point. About 70 percent of the site is covered with impermeable surface, primarily buildings and pavement. The remaining ground cover consists of gravel, dirt, and grass. The main operations building (bldg 7500) houses the biological laboratory, boilers, EDG, sludge pumping, and sodium hypochlorite solution pumping and storage. Sodium hypochlorite is stored in two, 3,000-gallon tanks on a covered concrete pad at the southwest corner of bldg 7500. Collocated with the main building are the following (Table 1). Four propane tanks used to supply fuel to the digesters are located between the 2 trickling filters and the sludge drying beds. A diesel fuel storage tank is located behind the secondary digesters. A chain link fence surrounds the facility. The fence is locked after hours to limit access to the site.

b. The WWTP has recently undergone renovation. The improvements are the first since 1973. The recent renovation modernized and increased the size of the operations building. A new laboratory was added to include two bench top laboratory ventilated cabinets. New break rooms, conference room, office spaces, boiler room, mechanical room, hypochlorite pumping room were also added. The secondary clarifiers, the sludge thickener, and the No. 2 Digester were also redone. One male and one female latrine each with a shower and personal lockers were also available. All areas of the operations building were illuminated with fluorescent fixtures. Outdoor areas were illuminated by pole- or wall-mounted lamps.

c. The WWTP has 10, full time personnel who work three shifts, 10-hours per day. The shifts are as follows: Day Shift 0600-1630; Swing Shift; 1300-2300; Night Shift: 2200-0800 hours. Nine of the ten personnel are Utility Systems Repairers and Operators (WG4742); one person is a Biological Science Laboratory Technician (GS0404).

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TABLE 1

BLDG	DESCRIPTION
7501	Headworks and mechanical room
7502	Sludge thickener and pump house
7503	Two chlorine contact chambers
7504	Four primary clarifiers, PE pumping, sludge pumping
7505	No. 2 secondary clarifier
7506	No. 1 secondary
7507	Secondary sludge pumping and chemical addition station (polymer & de emulsifier)
7508	De-chlorination storage and pumping
7509	No. 1 trickling filter
7510	No. 2 trickling filter
7511	No. 2 digester (primary), No. 2 gas compressor, sludge pumping
7512	No. 3 digester (secondary)
7513	No. 1 digester (primary), No. 1 gas compressor
7516	Sludge drying beds 1 through 24
7517	Shop and general purpose storehouse

d. The Utility Systems Repairers and Operators operate and maintain all units of the WWTP and other waste water facilities, such as lift stations. Personnel work inside and outdoors, day and night, in all types of weather conditions. Personnel are potentially exposed to pathogens while cleaning equipment and/or handling sludge (biological solids). Personnel enter permit required-required confined spaces that expose them to the potential of asphyxiation; and hazardous gases such as hydrogen sulfide, methane and carbon monoxide. Personnel also have the potential to fall into open tanks, or tanks filled with effluent water. Personnel are exposed to hazardous noise from pneumatic tools, grounds maintenance equipment, fork lifts, and pumps. Periodically personnel lift 5-gallon containers of oil or grease, maximum weight of approximately 45 pounds. Any heavier lifting is done using a fork lift, e.g., 55-gallon drum of sodium thiosulfate. Approximately once every month, personnel pour sludge (biological solids) from the digester into drying beds. This operation requires approximately 1.5 hours. Personnel work alone on the night shift and part of the swing shift.

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e. We visually examined the facility, talked with personnel, and consulted written records and SOPs to accurately assess potential health and safety hazards present. We performed ventilation surveys of the pump rooms, and the laboratory hoods, and an illumination survey of the outdoor areas personnel frequent after dark. We collected personal noise measurements and personal samples for hydrogen sulfide on all shifts. During the WEA, we also reviewed compliance with the following Occupational Health and Safety Administration (OSHA), and Department of the Army (DA) programs: Hazard Communication, Hearing Conservation, and Permit-required Confined Spaces.

## 5. FINDINGS/DISCUSSIONS.

### a. Hazard Communication.

(1) A written Facility Hazard Communication Program specifically for The WWTP was available with the MSDSs.

(2) The Material Safety Data Sheets (MSDS) were available and accessible to all personnel.

(3) An up-to-date chemical inventory was available with the MSDSs.

(4) Chemicals were properly labeled and stored.

### b. Noise Exposure and Hearing Conservation.

(1) The sources of hazardous noise (noise equal to or greater than 85 decibels, "A-weighted" (dBA) were as follows: Primary sludge pumping if two or more pumps operate, Headworks pump room, #1 Gas shed, Grounds maintenance equipment, Pneumatic tools, Fork lifts, Emergency power generator, Pedestal grinder. Table 3 of Appendix B contains the measurement data. We also performed a 1/3 octave analysis of the noise in the Head Works pump room. This information would be useful to an acoustic engineer when designing noise-reducing controls for this area. We have provided the data at enclosure 1.

(2) Employees wore earplugs while exposed to hazardous noise sources.

(3) We performed personal noise dosimetry on 6 April and 12 April 2004. Results showed noise exposure below the level which requires personnel to be on the hearing conservation program [85 dBA, time-weighted average, (TWA)]. Results are presented in Table 2 of Appendix B.

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c. Chemical Exposure Potential.

(1) We collected 4 personal samples for hydrogen sulfide to assess exposure potential during routine tasks. Measured concentrations were below the limit of detection for the sampling method, i.e., less than ( $<$ ) 0.2 ppm. Sampling data are presented in Table 1 of Appendix B.

(2) During the collection of ventilation measurements, we measured carbon monoxide (CO), hydrogen sulfide ( $H_2S$ ), percent oxygen (%O) and percent of the lower explosive limit for flammable gases (%LEL) in every area of the WWTP. The only area showed a detectable measurement was inside the No. 1 gas lifter shed. A reading of 1 part per million (ppm) of  $H_2S$  was observed, lasting for approximately 10 seconds.

(3) Potential exposure to biological pathogens, flammable gases, oxygen deficient atmospheres, oils, greases, and solvents is minimal due to natural and mechanical dilution ventilation, PPE, and infrequency of exposure.

e. Personal Protective Equipment (PPE) Other Than Respirators.

(1) PPE appropriate for the type and intensity of hazards present in the WWTP was readily available and in good condition.

(2) PPE available included: Impermeable aprons, Impermeable gloves, Face Shields, Impact resistant glasses, Chemical goggles, Protective footwear, Protective headgear, and foul weather gear.

f. Ventilation Surveys.

(1) We conducted ventilation surveys of exhaust ventilated areas, rooms and laboratory ventilated cabinets. The data are summarized in Tables 4 and 5 of Appendix B.

(2) All mechanically ventilated rooms and areas met or exceeded the recommended air exchange rate of 6 air changes per hour (ACH). The ventilated cabinets also met or exceeded the recommended flow rate of 80 to 100 cubic feet per minute per square foot of opening through the face as stated in reference 5.

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g. Emergency Washing Facilities.

(1) Plumbed shower/eyewash units were located as follows: near the two sodium hypochlorite storage tanks, in the sodium hypochlorite pump room, in the de-chlorination shed, in the laboratory.

(2) Travel distances to the shower/eyewash units were within the 50-foot limit required by reference 7.

(3) Eyewash units had been activated weekly with test results recorded.

(4) The boiler room in building 7500 presents a splash hazard for the body and the eyes, but the nearest eyewash and shower were located across a corridor and through two doors in the hypochlorite pump room.

h. Illumination. The following areas were below the minimum recommended levels of illumination: Secondary pump room upper stairs, Secondary digester, Path from Bldg 7500 to sludge pump room, Sludge pump room, Primary digester, Stairs of the primary digester. Table 6 of Appendix B contains the measurement data.

i. Permit-required Confined Spaces.

(1) Personnel have the potential to enter the following permit-required confined spaces: lift stations, primary and secondary clarifiers, and digesters. There is a written confined space entry SOP in place and available to personnel.

(2) In CY 2003, 3 permit entries were made. All spaces were reclassified as non-permit required by air monitoring to verify no hazardous atmosphere, and by the elimination of all other hazards in accordance with 29 CFR 1910.146(c)(7)(i).

(3) Air monitoring equipment was spanned with calibration gas before each use.

j. Employee Concerns. Employees expressed concerns about: working alone, creating a fire or conflagration hazard by venting methane gas from the digesters to atmosphere in preparation for maintenance on gas system lines, and bleeding methane gas from the digester gas piping system into work spaces rather than flushing the methane to the flame in preparation for gas system maintenance.

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5. RECOMMENDATIONS.

a. Hazard Communication (Reference 1). No recommendations at this time.

b. Noise Exposure and Hearing Conservation (Reference 2). Post signs to alert personnel to wear hearing protection at the entrances to the following areas: Primary sludge pump room, No. 1 gas compressor shed, and Head works pump room. We have provided an example at enclosure 2.

c. Chemical Exposure Potential (Reference 3).

(1) Exposure to gases or vapors is controlled. Based on the large volume of dilution ventilation, and the short duration of chemical use by personnel, overexposure is not likely. However, we need to collect more samples at random for hydrogen sulfide, carbon monoxide, and combustion gases. We will schedule the sampling in the future.

(2) Inform each person of her/his sampling results.

e. Personal Protective Equipment (PPE) Other Than Respirator (References 4). No recommendations at this time.

f. Ventilation (Reference 5). Ventilation systems are functioning to recommended standards.

g. Emergency Washing Facilities (References 6 and 7). Install one plumbed eyewash/shower unit in the boiler room of building 7500.

h. Illumination (Reference 8). Upgrade the illumination to at least the recommended minimum levels in the following areas: Secondary pump room upper stairs, Secondary digester, Path from Bldg 7500 to sludge pump room, Sludge pump room, Primary digester, Stairs of the primary digester.

i. Permit-required Confined Spaces (Reference 9). No recommendations at this time.

j. Employee Concerns.

(1) Two OSHA standards require that personnel do not work alone. They are 29 CFR 1910.269, electric power generation, transmission, and distribution; and 29 CFR 1910.146, permit-required confined spaces. In facilities and for operations that fall outside the scope of these two standards, there is no general OSHA Standard that deals with the situation of



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an employee "working alone" except in specific situations such as emergency response, or interior structural firefighting.

(2) Contact the Fort Lewis Safety Office so they can perform a Hazard Assessment of the current procedures for venting digesters and methane piping systems prior to maintenance.

6. We appreciate your efforts to provide employees with a safe and healthful working environment, and wish to thank shop personnel for their help and the pizza during this survey. We look forward to returning to the Waste Water Treatment Plant.

7. If you have any questions or comments concerning this evaluation, please contact (b)(6) (b)(6) at DSN (b)(6), COMM (b)(6) email (b)(6) or contact the undersigned at (b)(6).

2 Encl  
as

(b)(6)  
Chief, Industrial Hygiene Service  
Department of Preventive Medicine

CF:

Deputy Director, AFZH-PW, (b)(6) (b)(6)  
Utility Branch, AFZH-PW, (b)(6)

*Note: Reference to Trade Names, Specific Manufacturers or Vendors is for providing examples of product and services, and does not imply endorsement or that specific product, trade name, manufacturer or vendor.*

## APPENDIX A

1. Title 29 Code of Federal Regulations (29 CFR), 2003 rev, Section 1910.1200, Hazard communication.

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2. DA PAM 40-501, Hearing Conservation, 10 December 1998.

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3. American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values for Chemical Substances and Physical Agents, 2002 edition.

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4. 29 CFR, 2003 rev, Part 1910, Subpart I, Personal Protective Equipment.

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5. American Conference of Governmental Industrial Hygienists (ACGIH) *Industrial Ventilation, a Manual of Recommended Practice* 21<sup>st</sup> edition.

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6. 29 CFR, 2003 rev, Section 1910.151, Medical Services and First Aid.

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7. American National Standards Institute (ANSI) Z358.1-1998, Emergency Eyewash and Shower Equipment.

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8. Illuminating Engineering Society (IES) Lighting Handbook, 1987 ed, Application Volume.

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9. 29 CFR, 2003 rev, Section 1910.146, Permit-required Confined Spaces.

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**APPENDIX B**

<b>TABLE 1. Hydrogen Sulfide Monitoring Results</b>			
<b>Date</b>	<b>Person</b>	<b>Result and Type</b>	<b>Standard and Type</b>
6 April 2004	(b)(6)	<0.2 ppm <sup>1</sup>	5 ppm; TLV-TWA
	(b)(6)	<0.2 ppm <sup>2</sup>	5 ppm; TLV-TWA
	(b)(6)	<0.2 ppm	5 ppm; TLV-TWA
	Gibson, Brian	<0.2 ppm	5 ppm; TLV-TWA

**NOTE 1:** ppm means parts contaminant per million parts of air

**NOTE 2:** less than (<) indicates that the airborne concentration is below the detection limit for the sampling method

<b>TABLE 2. Personal Noise Dosimetry</b>				
<b>Date</b>	<b>Person</b>	<b>Shift</b>	<b>Result and Type</b>	<b>Standard and Type</b>
6 April 2004	(b)(6)	Day	77 dBA <sup>1</sup> ; TWA <sup>2</sup>	85 dBA; TWA
	(b)(6)	Day	76 dBA; TWA	85 dBA; TWA
	(b)(6)	Swing	77 dBA; TWA	85 dBA; TWA
12 April 2004	Gibson, Brian	Night	70 dBA; TWA	85 dBA; TWA

**NOTE 1:** dBA means "A-weighted" decibels

**NOTE 2:** TWA means time weighted average for the entire shift

<b>TABLE 3. Instantaneous Noise Levels, 29 March 2004, Day Shift.</b>			
<b>Building No.</b>	<b>Location</b>	<b>Result (dBA)<sup>Note 1</sup></b>	<b>Hearing Protection Required?</b>
7500	Sodium Hypochlorite Pump Room	82	No
7500	Boiler Room	<80	No
7500	Sludge Pump Room	<80	No
7507	Secondary Pump Room	75	No
7504	Primary Sludge Pump	83 to 85	Yes
7502	Sludge Thickener Room	83	No
7501	Head Works Pump Room	85	Yes
7512	Shop Air Compressor	81	No
7513	No. 1 Gas Compressor Shed	92	Yes

**NOTE 1:** dBA means "A-weighted" decibels

**TABLE 4. Air Changes per Hour (ACH) for Ventilated Rooms (All measurements compared to the minimum required of 6 ACH. All readings taken on 21 April 2004).**

Building	Room	Result (ACH)	Comments
7502	Sludge thickener pump room	16	Powered Exhaust Ventilation
7507	Secondary clarifier pump room	6	"
7513	No. 1 gas lifter room	60	"
7511	No. 2 gas lifter room	30	"
7508	De-chlorination shed	28	"
7500	Hypochlorite pump room	48	"
7500	Boiler room	11	"
7501	Headworks pump room	7	Powered Supply Ventilation

**Table 5. Laboratory Hood Ventilation, Water Laboratory, Building 7500.**

Hood	Results (CFM/ft <sup>2</sup> ) <sup>Note</sup>	Standard (CFM/ft <sup>2</sup> ) <sup>Note</sup>	Comments
BMC Fume Hood, East Wall	118	80 to 150	Sash height of 8 inches, sash lock position
BMC Fume Hood, South Wall	149	"	"
BMC Fume Hood, South Wall	114	"	Sash height of 15 inches

**NOTE:** CFM/ft<sup>2</sup> = cubic feet per minute per square foot of hood opening.

TABLE 6. Illumination Measurements (taken after dark).				
Location		Results Range (FC) <sup>Note 1</sup>	Average (FC)	Recommended Minimum (FC)
Head works	Outdoors	1.5 to 11.0	5.2	2 to 5 <sup>Note 2</sup>
	Inside pump room	31 to 102	55.6	20 to 50 <sup>Note 3</sup>
Sludge thickener	Outdoors	2.5 to 32	17.3	2 to 5 <sup>Note 2</sup>
Secondary pump room	Indoors	5.8 to 39	25	20 to 50 <sup>Note 3</sup>
	Lower stairs	3.9 to 13.8	7	5 <sup>Note 4</sup>
	Upper stairs	0.6 to 3.8	1.6	5 <sup>Note 4</sup>
Primary clarifier contact chambers	Outdoors	0.5 to 8.1	2.4	2 to 5 <sup>Note 2</sup>
Primary pump room	Indoors	10.3 to 25.6	18.3	20 to 50 <sup>Note 3</sup>
	Stairs	4.4 to 14.2	9.3	5 <sup>Note 4</sup>
Secondary digester (top)	Outdoors		<0.5	2 to 5 <sup>Note 2</sup>
Path from Bldg 7500 to sludge pump room	Outdoors	<0.5 to 2.4	1.1	2 to 5 <sup>Note 2</sup>
Sludge pump room	Indoors		6.8	20 to 50 <sup>Note 3</sup>
Path out of sludge pump room	Outdoors	4.3 to 9.3	6.8	2 to 5 <sup>Note 2</sup>
Primary digester (top)	Outdoors		<0.5	2 to 5 <sup>Note 2</sup>
	Top of stairs		<0.5	5 <sup>Note 4</sup>
	Mid-stairs		7.3	5 <sup>Note 4</sup>
	Stairs bottom		3.3	5 <sup>Note 4</sup>

**NOTES:**

1. FC equals foot candle

2. IES Lighting Handbook, 1987 ed., Page 2-45, Figure 2.26, *Absolute Minimum Illumination Levels for Safety*.

3. IES Lighting Handbook, 1987 ed., Page 2-14, Figure 2.1(iv), *Illumination Recommendations, Outdoor Facilities, Building Exteriors*.

4. IES Lighting Handbook, 1987 ed., Page 9-52, Figure 9-40, *Illumination Currently Recommended by the Petroleum, Chemical and Petrochemical Industry*.

## APPENDIX C

### I. ASSESSMENT CRITERIA.

#### A. *Ventilation Standards.*

1. Laboratory ventilated cabinet measurements were compared to criteria specified in the American Conference of Governmental Industrial Hygienists (ACGIH) *Industrial Ventilation Manual*, Page 10-39, and Figure VS-35-01.

2. Room dilution ventilation measurements were compared to the recommended air exchange rate for inside flammable storage room, 29CFR 1910.106(d)(4)(iv). This rate would make it unlikely that a flammable atmosphere would develop if methane leaked from piping systems.

B. *Safety and Occupational Health Programs.* Safety and occupational health programs were assessed using the criteria specified in Occupational Safety and Health Administration (OSHA), Washington Industrial Safety and Health Administration, Washington Industrial Safety and Health Administration (WISHA), Department of the Army (DA) standards, and National Fire Protection Association (NFPA).

C. *Exposure Standards.* Air sampling results were compared to the OSHA Permissible Exposure Limits (PEL), and the ACGIH Threshold Limit Values (TLV). The more stringent of these values was used to evaluate personal exposure and the recommendations that may follow.

E. *Illumination Standards.* We compared the measurements with those recommended by the Illuminating Society of American in their consensus standard, *IES Lighting Handbook, 1987 edition.*

II. SURVEY EQUIPMENT AND CALIBRATION. Survey personnel utilized the following survey instruments and supplies during the project. The instruments were calibrated against National Institute of Standards and Technology (NIST)-traceable instruments in accordance with the instrument manufacturer, DA, and USACHPPM procedures and requirements.

A. TSI VelociCalc™ Plus Air Velocity Meter, Model 8386A. This instrument is a heated-wire, digital anemometer capable of collecting and averaging air velocity measurements, velocity pressure and static pressure measurements, volumetric flow rates, and air temperature.

B. SHORTRIDGE Airdata™ Multimeter Model ADM860 with Series 8400 Backpressure Compensating Flow Hood Kit. This instrument measures in cubic feet per minute (cfm) corrected for local air density. The flow hood captures and directs the airflow from an outlet, or inlet, across the flow-sensing manifold within the flow hood base. This manifold simultaneously senses the total pressure, and the static pressure, at sixteen (16) precision orifices

spaced at the correct representative measurement points for the known cross-sectional area of the flow hood base. The sensed total pressure and static pressure are combined to a single differential pressure, which is transmitted to the meter for conversion to direct airflow readout. This instrument was last calibrated 18 January 2002.

C. MANNIX, Model EB833 Digital Barometer/Altimeter. This instrument is an electronic barometer and altimeter capable of measuring barometric pressure and altitude. The instrument was calibrated to primary standard barometer prior to use in accordance with the manufacturer's instructions.

E. CIRRUS Research, Noise Logging Dosimeters, Model CR:100. Units were calibration checked before and after each use with a CIRRUS reader unit; Model RC:100, last electro-acoustically calibrated 14 October 2003.

F. PHOTO RESEARCH LiteMate III™ Photometer System. This device is used for the field measurement of illumination. It is hand-held, and auto-ranging. It is capable of making cosine-corrected luminance measurements over its range.

### III. METHODOLOGY.

A. Ventilation. All measurements made with the TSI Model 8386A Air Velocity Meter and the Shortridge Airdata Multimeter™ were corrected by the instrument for variations from standard temperature and pressure (STP). We determined room air changes per hour (ACH) by measuring flow rate directly with the Shortridge Airdata™ Multimeter, or by conducting a multipoint traverse across the face of the duct opening. To determine the volumetric flow rate (Q), we multiplied the face velocity by the area of the duct opening. We determined ACH for each room by measuring the volume of each room and performing the following calculation:

$$\left( \frac{1 \text{ Air Change}}{\text{Room Volume}} \right) \left( \frac{\text{FlowRate}}{1 \text{ min.}} \right) \left( \frac{60 \text{ min.}}{1 \text{ hour}} \right) = \text{ACH}$$

B. Air Sampling. We performed air sampling to quantify employee exposure to Hydrogen sulfide.

1. For measurement of Hydrogen sulfide we used GASTEC Passive Dosi-Tubes™, Number 4D. Personnel wore the tubes in their breathing zones for full shifts. The monitor is direct reading. At the end of the sampling period, we read the length of the color change inside the tube, and divided that number by the actual sampling time in hours yielding the average gas concentration. This method meets or exceeds OSHA requirements for accuracy: MTE ≤ 25% at the PEL or TLV.

2. Air sampling data reported in this survey represents the working conditions existing at the time of the survey. Unless otherwise stated, sampling workload was "normal" during sampling.

C. Noise Dosimetry. Personnel wore the dosimeters for 90 percent of the normal working day of 10 hours. We used the projected 10-hour TWA for comparison with the standard of 85 dB(A) TWA.

D. Illumination Measurements. We measured indoor and outdoor illumination throughout the WWTP after dark.



# EXHIBIT 176

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DEPARTMENT OF THE ARMY  
MADIGAN ARMY MEDICAL CENTER  
TACOMA, WASHINGTON 98431-1100

REPLY TO  
ATTENTION OF:

MCHJ-PV-IH

27 June 2007

MEMORANDUM FOR Chief, Public Works, Utilities Division, Wastewater Treatment Plant,  
AFZH-PWU, ATTN: (b)(6) Fort Lewis, WA 98433.

SUBJECT: Results of the Industrial Hygiene Survey conducted at the Wastewater Treatment  
Plant, Building 7500.

1. Purpose. This memorandum provides results and recommendations based on the Industrial Hygiene Survey, conducted by Greg Porter, Industrial Hygiene Section, at the Wastewater Treatment Plant on 26 Jun 07.

2. References.

a. Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs), American Conference of Governmental Industrial Hygienists (ACGIH), 2007.

b. Title 29, Code of Federal Regulations (CFR), 1999 rev, Section 1910.134, Respiratory Protection..

c. Title 29, Code of Federal Regulations (CFR), 1999 rev, Section 1910.1000, Air Contaminants.

3. Findings.

a. (b) (b)(6) and (b) <sup>5 USC § 552 (b) (6)</sup> Public Works, contacted the MAMC Industrial Hygiene Section to assist with the assessment of three potential health hazards that were identified at the Wastewater Treatment Plant (WWTP). This survey was conducted on 26 Jun 07 by Greg Porter, (b) (b)(6) and (b) Ellerbrock.

b. Digester 2 has an oil/water separator compressor that must be drained multiple times a day. This process is located on the top of the digester in a small mechanical room. The compressor filter unit must be drained to remove the waste oil. This is performed manually by plant personnel. A valve is turned to drain waste oil into a bucket. Initially, the waste oil is forced out under pressure, and then it begins to spit out the oil with natural gas until ultimately the oil is completely removed and only gas is released. An Industrial Scientific TMX412 Multi-gas Meter (SN:9505055-015) was used to measure the percent methane, hydrogen sulfide concentration, and percent oxygen in the room during this operation. After most of the oil was removed, it took approximately 2-3 seconds from the time the oil began spitting out until it was cleared of oil and

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SUBJECT: Results of the Industrial Hygiene Survey conducted at the Wastewater Treatment Plant, Building 7500.

was releasing only gas. Within this 2-3 seconds, the methane was 2.5% (25,000 ppm) or 50% of the lower explosive limit (LEL) in the worker's breathing zone, and had displaced the oxygen content from 20.8% to 20.2%. The hydrogen sulfide concentration was 6 ppm. Because it is somewhat subjective on when the oil is completely drained (i.e. one person may drain it until it is spitting oil out, whereas another may drain it until it has stopped spitting any drops at all and then a bit longer to ensure it is empty), further monitoring was conducted. Within 5-6 seconds after the valve was opened allowing gas to escape, methane was 3.8 percent (38,000 ppm or 76% of the LEL), the oxygen had been displaced in the room to 19.6%, and the hydrogen sulfide concentration was 26 ppm. This short duration almost reached the LEL in a room where an electric motor was operating. All monitoring was performed with the door open. This is a RAC 1 eminent hazard due to the great potential for an explosion from the methane gas being ignited by sparks from the electric motor.

b. OSHA does not regulate methane as an air contaminant, however, ACGIH's TLV (Reference 2.a.) recommends an 8-hr time weighted average (TWA) concentration of 1000 ppm for methane as it is an aliphatic hydrocarbon gas. Due to the short durations of the exposures, it is unlikely that personnel would exceed the time weighted average for the day. The greater hazard from the methane is the potential for an explosion or the displacement of oxygen. OSHA considers an environment with an oxygen content below 19.5% as oxygen deficient, and requires a full-face pressure demand SCBA or supplied air respirator for the operation (Reference 2.b.). While the oxygen content was not quite below the 19.5% level, it is likely that it could be if the valve was open any longer than 5-6 seconds with gas entering the room. This would also be approximately the same time the LEL would likely be reached for the methane. OSHA has set a ceiling concentration of 20 ppm for hydrogen sulfide, with a one time 10 minute per work-shift peak of up to 50 ppm if no other exposures occur. ACGIH recommends an 8-hr TWA TLV of 10 ppm with a 15-minute Short Term Exposure Limit (STEL) of 15 ppm. The concentration in the room exceeded these limits.

c. Digester 2 had minor cracks and fissures in the concrete top, and there were some concerns expressed about the potential for methane and hydrogen sulfide gases escaping through these cracks into the atmosphere. While it is likely that a miniscule amount of gas does escape through these cracks, and also through the concrete itself because it is porous, it is not likely to be high enough concentrations to be of concern. There were no identified odors or other localized evidence on the top of the digester that would indicate a problem. There was some evidence that some areas of the top had been resurfaced, and the areas with visible cracks could be resurfaced as well if there is further concern.

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d. A pair of gloves were ordered several years ago for removing crucibles and Petri dishes from the laboratory ovens. These gloves were listed by the supplier as non-asbestos containing, however, a sample of the glove material reportedly revealed that it was 30% chrysotile. These gloves were recently turned in for disposal prior to this survey when they discovered they contained asbestos, however, pictures and accounts from personnel indicated that they were seldom used and were in excellent condition. The employee in the laboratory that purchased the gloves stated that she was the only one who had ever used them, and she seldom did because, like the other laboratory personnel, she preferred to use the tongs to remove the samples from the ovens. Based on the information available, it appears that little exposure from these gloves had occurred, if any. The employee was counseled that she could go to the Occupational Health Clinic to document her current condition and that these gloves had been in the laboratory if desired. She declined this as she stated that she was not concerned based on the good condition of the gloves and very infrequent use. She has been informed that she maintains the right to visit the clinic if she changes her mind.

**4. Recommendations.**

a. Ensure all personnel that perform the duty of draining the waste oil from the oil/water separator filter unit are trained to shut the valve immediately when it starts to spit the oil out instead of flowing; i.e. gas starts to escape from the filter unit. This requires that the unit will not be fully drained. A half face respirator with acid gas cartridges should be worn where there are intermittent or short duration exposures to hydrogen sulfide. This recommendation is a temporary measure until corrective actions are taken to remove this function from being performed manually in this room.

b. Take immediate corrective actions to remove the requirement for personnel exposures to the hazards from methane, hydrogen sulfide and oxygen deficient conditions during the draining of the filter unit. Options discussed with (b) (b)(6) included plumbing the filter drain outside the room so it can vent into the atmosphere, or preferably into a tank so that there would be no exposure to the personnel. If it is plumbed out to the atmosphere, it may have environmental implications that require regulatory actions, and the procedure of not fully draining the unit, but draining it until gas starts to be released and oil spits out will still be required to reduce the potential for hydrogen sulfide exposures. A half face respirator with acid gas cartridges would still be worn due to intermittent or short duration exposures to hydrogen sulfide. It was also discussed that ultimately it would be best from a safety and environmental aspect if this process could be replaced with an oil-free system as is on the other digester.

**MCHJ-PV-IH**

**SUBJECT: Results of the Industrial Hygiene Survey conducted at the Wastewater Treatment Plant, Building 7500.**

5. For further inquiries please contact (b)(6)

(b)(6)

*for*

EM

**Chief, Industrial Hygiene Service  
Department of Preventive Medicine**

CF:  
Ft. Lewis Safety Office, ATTN: (b)(6)

# EXHIBIT 177

VOL III

Exhibit 177



# Chapter 173-230 WAC

## CERTIFICATION OF OPERATORS OF WASTEWATER TREATMENT PLANTS

### WAC

173-230-010	What is the purpose of this regulation?
173-230-020	Definitions.
173-230-040	To whom does this rule apply?
173-230-061	Levels of certificates and qualifications.
173-230-065	How do I apply?
173-230-070	Examination.
173-230-080	Certificate term and renewal conditions.
173-230-090	Fees.
173-230-100	Suspension and revocation of a certificate.
173-230-110	Reciprocity.
173-230-120	Appeals.
173-230-130	Violations.
173-230-140	Classification of wastewater treatment plants.

### DISPOSITION OF SECTIONS FORMERLY CODIFIED IN THIS CHAPTER

173-230-030	Duties of the board. [Statutory Authority: RCW 70.95B.040, 87-22-006 (Order 87-36), § 173-230-030, filed 10/23/87; 78-11-016 (Order DE 78-16), § 173-230-030, filed 10/11/78; Order 73-30, § 173-230-030, filed 11/9/73.] Repealed by 99-24-117 (Order 98-18), filed 12/1/99, effective 1/1/00. Statutory Authority: Chapter 70.95B RCW.
173-230-050	Certification prerequisites. [Statutory Authority: RCW 70.95B.040, 87-22-006 (Order 87-36), § 173-230-050, filed 10/23/87. Statutory Authority: Chapter 70.95B RCW, 82-09-056 (Order DE 82-07), § 173-230-050, filed 4/16/82. Statutory Authority: RCW 70.95B.040, 78-11-016 (Order DE 78-16), § 173-230-050, filed 10/11/78; Order 73-30, § 173-230-050, filed 11/9/73.] Repealed by 99-24-117 (Order 98-18), filed 12/1/99, effective 1/1/00. Statutory Authority: Chapter 70.95B RCW.
173-230-060	Applications. [Order 73-30, § 173-230-060, filed 11/9/73.] Repealed by 82-09-056 (Order DE 82-07), filed 4/16/82. Statutory Authority: Chapter 70.95B RCW.

**WAC 173-230-010 What is the purpose of this regulation?** When wastewater treatment plants are properly operated, public health and the state's waters are protected. Operators must meet minimum standards to assure they are competent to operate and maintain wastewater treatment plants. This rule establishes the requirements for obtaining a wastewater certificate and for the level of certificate required for an operator in responsible charge of a treatment plant. An operator in responsible charge of a wastewater treatment plant must be certified at a level that is equal to or greater than the classification of the wastewater treatment plant.

[Statutory Authority: Chapter 70.95B RCW, 99-24-117 (Order 98-18), § 173-230-010, filed 12/1/99, effective 1/1/00. Statutory Authority: RCW 70.95B.040, 87-22-006 (Order 87-36), § 173-230-010, filed 10/23/87. Statutory Authority: Chapter 70.95B RCW, 82-09-056 (Order DE 82-07), § 173-230-010, filed 4/16/82. Statutory Authority: RCW 70.95B.040, 78-11-016 (Order DE 78-16), § 173-230-010, filed 10/11/78; Order 73-30, § 173-230-010, filed 11/9/73.]

**WAC 173-230-020 Definitions.** (1) "Activated sludge process" means a biological wastewater treatment process in which a mixture of wastewater and activated sludge is agitated and aerated. The activated sludge is subsequently separated from the treated wastewater by sedimentation and wasted or returned to the process as needed.

(2) "Biofiltration" means the process of passing a liquid through a biological filter that contains fixed media on surfaces which develop zoogeal films that absorb and adsorb fine suspended, colloidal, and dissolved solids and release end products of biochemical action.

(3) "Certificate" means the certificate of competency issued by the director stating that an individual has met the requirements for a specific classification in the wastewater treatment plant operator's certification program.

(4) "Certificate holder" means the individual to whom a certificate is issued.

(5) "CEU" means continuing education unit that is a nationally recognized unit of measurement similar to college credit. One CEU is awarded for every ten contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction, and qualified instruction.

(6) "College credits" means credits earned toward a college degree or in course work that is relevant to the operation of a wastewater treatment plant. College credit also means CEUs. Forty-five CEUs equals forty-five quarter credits equals thirty semester credits.

(7) "Department" means the Washington state department of ecology.

(8) "Director" means the director of the department of ecology or the director's designee.

(9) "Extended aeration" means a modification of the activated sludge process that uses (b)(1) aeration periods and (b)(2) mean cell residence times for aerobic digestion of the biological mass by endogenous respiration and promotes the growth of nitrifying organisms.

(10) "GED" means a General Education Development certificate issued by a recognized education institution. A GED is equivalent to a high school diploma.

(11) "Group" and "class" for the purpose of operator certification and wastewater treatment plant classification are the same.

(12) "Lagoon" means any large holding or detention pond, usually with earthen dikes that is used to contain wastewater while sedimentation and biological stabilization occurs.

(13) "OIT" means operator-in-training. This is the entry level certification classification offered by the department.

(14) "Operating experience" means the routine performance of duties, on-site in a wastewater treatment plant, that affect plant performance or effluent quality.

(15) "Operator" means an individual who performs routine duties, on-site at a wastewater treatment plant, that affect plant performance or effluent quality.

(16) "Operator in charge of each shift" means the individual on-site at a wastewater treatment plant whose primary responsibility is to operate the wastewater treatment plant on a regularly run shift. The operator in charge of each shift is subordinate to the operator in responsible charge.

(17) "Operator in responsible charge" means the individual who is routinely on-site and in direct charge of the overall operation of a wastewater treatment plant.

(18) "Owner" means in the case of:

- A town or city, the city or town acting through its chief executive officer or the lessee if operated under a lease or contract;

- A county, the chairman of the county legislative authority or the chairman's designee;

- A sewer district, board of public utilities, association, municipality or other public body, the president or chairman of the body or the president's or chairman's designee;

- A privately owned wastewater treatment plant, the legal owner.

(19) "Primary wastewater treatment" means unit processes consisting of one or more of the following: Screening, comminution and grinding, flotation, precipitation, sludge pumping, and disinfection. Treatment consists of clarification followed by removal, treatment, and disposal of sludge.

(20) "Reciprocity" means the exchange of a valid out-of-state wastewater treatment plant operator's certificate achieved by passing a written examination for an equivalent level of certification without further examination.

(21) "Tertiary" means advanced physical/chemical or biological treatment of wastewater significantly beyond the conventional secondary stage to remove additional suspended and dissolved substances. These substances may include phosphorus and nitrogen, a high percentage of suspended solids, dissolved inorganic solids, toxic compounds, microorganisms, and complex organic compounds.

(22) "Wastewater certification program coordinator" means an employee of the department who is appointed by the director and who administers the wastewater treatment plant operator certification program.

(23) "Wastewater collection system" means any system of lines, pipes, manholes, pumps, liftstations, or other facilities used to collect and transport wastewater.

(24) "Wastewater treatment plant" means a facility used to treat any liquid or waterborne waste of domestic origin or a combination of domestic, commercial or industrial origin, and that, by its design, requires the presence of an operator for its operation. It does not include any facility used exclusively by a single family residence, septic tanks with subsoil absorption, industrial wastewater treatment plants, or wastewater collection systems.

(25) "Wetlands treatment" means those wetlands intentionally constructed and managed for the primary purpose of wastewater treatment.

[Statutory Authority: Chapter 70.95B RCW. 99-24-117 (Order 98-18), § 173-230-020, filed 12/1/99, effective 1/1/00. Statutory Authority: RCW 70.95B.040. 87-22-006 (Order 87-36), § 173-230-020, filed 10/23/87. Statutory Authority: Chapter 70.95B RCW. 82-09-056 (Order DE 82-07), § 173-230-020, filed 4/16/82. Statutory Authority: RCW 70.95B.040. 78-11-016 (Order DE 78-16), § 173-230-020, filed 10/11/78; Order 73-30, § 173-230-020, filed 11/9/73.]

**WAC 173-230-040 To whom does this rule apply?** This rule applies to anyone who owns or operates a wastewater treatment plant.

The operator in charge of the wastewater treatment plant must be certified at least at a level equal to or higher than the classification of the plant. When the plant is operated on more than one daily shift, the operator in charge of each shift must be certified at a level not lower than one level below the classification of the plant.

All individuals operating wastewater treatment plants who are not required to be certified are encouraged to seek certification.

[Statutory Authority: Chapter 70.95B RCW. 99-24-117 (Order 98-18), § 173-230-040, filed 12/1/99, effective 1/1/00. Statutory Authority: RCW 70.95B.040. 87-22-006 (Order 87-36), § 173-230-040, filed 10/23/87. Statutory Authority: Chapter 70.95B RCW. 82-09-056 (Order DE 82-07), § 173-230-040, filed 4/16/82. Statutory Authority: RCW 70.95B.040. 78-11-016 (Order DE 78-16), § 173-230-040, filed 10/11/78; Order 73-30, § 173-230-040, filed 11/9/73.]

**WAC 173-230-061 Levels of certificates and qualifications.** (1) There are five levels of certification offered by the department to individuals who meet minimum qualifications. Those minimum qualifications include required levels of education and experience.

(2)

Qualification Requirements for Operator Certification				
Certification level	Education required	Experience required	Substitutions allowed for education	Substitutions allowed for experience
Operator-in-Training	High school diploma or GED	3 months	One year of excess operating experience may be used for one year of high school or two years of grade school.	May use 3 college credits or CEUs in course work related to wastewater treatment plant operation for experience.
Group I	High school diploma or GED	1 year	One year of excess operating experience may be used for one year of high school or two years of grade school.	None.
Group II	High school diploma or GED	3 years	One year of excess operating experience may be used for one year of high school or two years of grade school.	May use relevant work experience or credits or CEUs for one year and six months of the operating experience.
Group III	High school diploma or GED and 2 years of college (90 credits or CEUs)	4 years with at least 2 years operating experience at a Class II plant	May use excess operating experience for college at a rate of one year of excess operating experience for half of the college (one year). Three years of excess operating experience may be used for the second year of college.	May use relevant work experience and/or excess credits for 2 years of the operating experience.

Qualification Requirements for Operator Certification				
Certification level	Education required	Experience required	Substitutions allowed for education	Substitutions allowed for experience
Group IV	High school diploma or GED and 4 years of college (180 credits or CEUs)	4 years with at least 2 years at a Class III plant	May use excess operating experience for college at a rate of one year of excess operating experience for one year of college for up to half of the college (two years). Three years of excess operating experience may be substituted for one year of college. This rate may be used for the remaining two years of college.	May use excess operating experience for credits. May use related work experience and/or excess credits for 2 years of the operating experience.

(3) Relevant work experience may be substituted for up to one-half of the operating experience required to qualify for the Group II, III and IV levels. This includes:

- (a) Environmental or operations consultant;
- (b) Environmental or an engineering branch of federal, state, county, or local government;
- (c) Wastewater collection system operator;
- (d) Water distribution system operator and/or manager;
- (e) Wastewater pump station operator; or
- (f) Water treatment plant operator.

Other related work experience may include building and equipment maintenance, boiler operation, machinist, laboratory technician, engineering, welding, or other related fields on a case-by-case basis with a written description of the duties performed on the job by the applicant.

(4) College credits substituted for an operating experience requirement cannot also be applied to the education requirement.

[Statutory Authority: Chapter 70.95B RCW. 99-24-117 (Order 98-18), § 173-230-061, filed 12/1/99, effective 1/1/00. Statutory Authority: RCW 70.95B.040. 87-22-006 (Order 87-36), § 173-230-061, filed 10/23/87. Statutory Authority: Chapter 70.95B RCW. 82-09-056 (Order DE 82-07), § 173-230-061, filed 4/16/82.]

**WAC 173-230-065 How do I apply?** Any person seeking certification must submit a completed application and fees to the department. Application forms are available from the wastewater certification program coordinator.

Applicants must meet minimum education and experience requirements to be eligible for examination or reciprocity. Applicants accepted for examination will be scheduled and notified of the date, place, time, and cost of the examination.

If the application is denied, the applicant will be notified of the reason for the denial.

[Statutory Authority: Chapter 70.95B RCW. 99-24-117 (Order 98-18), § 173-230-065, filed 12/1/99, effective 1/1/00.]

**WAC 173-230-070 Examination.** (1) The department will use written examinations to determine the competency of operators. If examinations are prepared by an organization other than the department, the applicant shall pay any costs associated with the use of the exam.

(2) Examinations will be held at least three times annually at places and times set by the department.

(3) The wastewater certification program coordinator or designee will score all exams. The applicant will be notified of the score. Examinations will not be returned to the applicant.

(4) Certificates will be issued to applicants who pass a written examination.

(5) An applicant who fails to pass the examination must reapply for further examination. No individual will be allowed to retake the same examination more than twice consecutively.

[Statutory Authority: Chapter 70.95B RCW. 99-24-117 (Order 98-18), § 173-230-070, filed 12/1/99, effective 1/1/00. Statutory Authority: RCW 70.95B.040. 87-22-006 (Order 87-36), § 173-230-070, filed 10/23/87. Statutory Authority: Chapter 70.95B RCW. 82-09-056 (Order DE 82-07), § 173-230-070, filed 4/16/82; Order 73-30, § 173-230-070, filed 11/9/73.]

**WAC 173-230-080 Certificate term and renewal conditions.** An owner may request a temporary certificate for an individual when the designated certified operator unexpectedly vacates the position. This request must be made in writing to the wastewater certification coordinator and must include an application

and fee. The department may issue a temporary certificate at its discretion. A temporary certificate may not exceed a one-year period, is nonrenewable, and cannot be transferred to another individual.

(1) Except for a temporary certificate, a certificate is valid from January 1 until December 31 of the same year or the year designated by the department.

(2) Except for a temporary certificate, a certificate is renewable only when the certificate holder demonstrates and provides documentation to the department of continued professional growth in the field. The department will mail renewal notices to all certificate holders eligible to renew before the certificate expires.

(3) Each certificate holder must accomplish one of the following activities during a three-year period ending December 31, 1979, and each three-year period after that date.

(a) Accumulate a minimum of three CEUs or college credits in coursework relevant to the field;

(b) Advance by exam to a higher level of certification in Washington's wastewater treatment plant operator's certification program. Advancement from OIT to Group I certification will not fulfill this requirement;

(c) Achieve certification by examination in the waterworks certification program administered by the Washington department of health in the water treatment plant operator, water distribution manager, or the cross connection control specialist classifications;

(d) Achieve certification by examination or advance by examination to a higher level in Washington's voluntary wastewater collection system operator's certification program administered by the Washington Wastewater Collection System Personnel Association.

(4) It is the responsibility of each certificate holder to meet the professional growth requirement and document that growth to the department before December 31 of the last year of the three-year period described in subsection (3) of this section. The department will mail a written notice to each certificate holder who has not fulfilled the continued professional growth requirement. If this requirement is not satisfied, the certificate is not renewable. Failure to renew a certificate for any reason will be handled as described in WAC 173-230-100.

(5) The department may collect renewal fees for a period not to exceed three calendar years. The department will notify certificate holders who are eligible for renewal as described in subsection (2) of this section the amount of fees owed and the date the fees must be paid.

[Statutory Authority: Chapter 70.95B RCW. 99-24-117 (Order 98-18), § 173-230-080, filed 12/1/99, effective 1/1/00. Statutory Authority: RCW 70.95B.040. 87-22-006 (Order 87-36), § 173-230-080, filed 10/23/87. Statutory Authority: Chapter 70.95B RCW. 82-09-056 (Order DE 82-07), § 173-230-080, filed 4/16/82; Order 73-30, § 173-230-080, filed 11/9/73.]

**WAC 173-230-090 Fees.** (1) Applications for certification by examination or reciprocity or a temporary certificate will be accepted for processing only when accompanied by a fee of fifty dollars.

(2) Applications for reexamination will be accepted for processing only when accompanied by an application fee. The department may waive a portion of the application fee for reexamination.

(3) Application fees are nonrefundable.

(4) Applications for certificate renewals will be accepted for processing only when accompanied by a renewal fee of thirty dollars for each year of renewal.

(5) All receipts will be paid into the state general fund.

[Statutory Authority: Chapter 70.95B RCW. 99-24-117 (Order 98-18), § 173-230-090, filed 12/1/99, effective 1/1/00. Statutory Authority: RCW 70.95B.090 (1) and (2) and chapter 70.95B RCW. 91-13-058 (Order 90-61), § 173-230-090, filed 6/17/91, effective 7/18/91. Statutory Authority: RCW 70.95B.040. 87-22-006 (Order 87-36), § 173-230-090, filed 10/23/87; 78-11-016 (Order DE 78-16), § 173-230-090, filed 10/11/78; Order 73-30, § 173-230-090, filed 11/9/73.]

**WAC 173-230-100 Suspension and revocation of a certificate.** (1) When a certificate is not renewed, the director will notify the certificate holder that the certificate is suspended for sixty days. If the certificate is not renewed during the suspension period, the director will mail a written notice of revocation to the owner of the wastewater treatment plant employing the individual as last known by the department and to the certificate holder at the address last known by the department. The notice of revocation mailed to the certificate holder will be sent by certified mail. If, during the revocation notice period, the certificate is not renewed, the certificate will be revoked ten days after the notice is mailed.

(2) Certificates may also be revoked when the director finds:

(a) Fraud or deceit in obtaining the certificate.

(b) Gross negligence in the operation of a wastewater treatment plant.

(c) Violation of the requirements of this chapter or the statute it implements or of any lawful rule, regulation or order of the department.

(3) No revocation will be made under subsection (2) of this section unless the operator has been notified that revocation is proposed, been advised of the reason and been given an opportunity to appear before the director and be heard on the matter.

(4) A certificate will be suspended immediately when the director is notified by the department of social and health services that a person is not in compliance with a support order or a residential or visitation order. If the person has continued to meet all other requirements for reinstatement during the suspension, the certificate will be reissued when the director is notified by the department of social and health services that the person is in compliance with the order.

If a certificate is revoked, the individual must meet all conditions of certification including application, fees, and passing a written examination to become certified.

(5) If revocation was made due to subsection (2) of this section, the operator will not be eligible to reapply for a certificate for one year from the date the revocation became final.

[Statutory Authority: Chapter 70.95B RCW. 99-24-117 (Order 98-18), § 173-230-100, filed 12/1/99, effective 1/1/00. Statutory Authority: RCW 70.95B.040. 87-22-006 (Order 87-36), § 173-230-100, filed 10/23/87. Statutory Authority: Chapter 70.95B RCW. 82-09-056 (Order DE 82-07), § 173-230-100, filed 4/16/82. Statutory Authority: RCW 70.95B.040. 78-11-016 (Order DE 78-16), § 173-230-100, filed 10/11/78; Order 73-30, § 173-230-100, filed 11/9/73.]

**WAC 173-230-110 Reciprocity.** The director may waive examinations for applicants holding valid wastewater treatment plant operators certificates or licenses issued by other states that have equivalent standards as determined by the department or its designee.

(1) Applications for reciprocity will be considered for approval only when the department receives confirmation from the certifying authority of the state or province in which the applicant is certified that the certificate is currently valid and was earned by passing a written examination. A copy of the exam passed by the applicant must also be released for review by the department or its designee.

(2) Certificates will be issued to each reciprocity applicant who meets the minimum education and experience requirements for the certification level requested and who passes a written examination comparable to Washington's exam as determined and approved by the director.

[Statutory Authority: Chapter 70.95B RCW. 99-24-117 (Order 98-18), § 173-230-110, filed 12/1/99, effective 1/1/00. Statutory Authority: RCW 70.95B.040. 87-22-006 (Order 87-36), § 173-230-110, filed 10/23/87. Statutory Authority: Chapter 70.95B RCW. 82-09-056 (Order DE 82-07), § 173-230-110, filed 4/16/82; Order 73-30, § 173-230-110, filed 11/9/73.]

**WAC 173-230-120 Appeals.** Decisions of the director under this chapter may be appealed within thirty days from the date of notice to the pollution control hearings board as required by chapter 43.21B RCW and chapter 371-08 WAC.

[Statutory Authority: Chapter 70.95B RCW. 99-24-117 (Order 98-18), § 173-230-120, filed 12/1/99, effective 1/1/00; Order 73-30, § 173-230-120, filed 11/9/73.]

**WAC 173-230-130 Violations.** Violation of this chapter is a misdemeanor. Each day of operation in violation constitutes a separate offense. Upon conviction, violators are subject to fines not exceeding one hundred dollars for each offense. Injunctions may be obtained for continuing violations.

[Statutory Authority: Chapter 70.95B RCW. 99-24-117 (Order 98-18), § 173-230-130, filed 12/1/99, effective 1/1/00; Order 73-30, § 173-230-130, filed 11/9/73.]

**WAC 173-230-140 Classification of wastewater treatment plants.** The director shall classify all wastewater treatment plants according to the following criteria.

Treatment Plant Classification Criteria		
Treatment type	Design flow MGD	Classification
Primary	≤ 1	I
	> 1 ≤ 10	II
	> 10 ≤ 20	III
	> 20	IV

Treatment Plant Classification Criteria		
Treatment type	Design flow MGD	Classification
Lagoon (Non-aerated)	All	I
Lagoon (Aerated)	≤ 1	I
	> 1	II
Biofiltration	≤ 1	II
	> 1 ≤ 10	III
	> 10	IV
Extended aeration	≤ 5	II
	> 5	III
Activated sludge	≤ 1	II
	> 1 ≤ 10	III
	> 10	IV
Wetlands	≤ 1	I
	> 1 ≤ 5	II
	> 5	III
Tertiary	≤ 5	III
	> 5	IV

Plants may be classified in a group different than indicated in this section if:

- (1) They have characteristics that make operation less complex or more difficult than other similar plants of the same flow range; or
- (2) The conditions of flow or the use of the receiving waters require an unusually high degree of plant operational control; or
- (3) They use an approved method of wastewater treatment that is not included in this section.

Beginning January 2000, the department may issue a one-time provisional certificate to the certified operator in responsible charge of a plant or the certified operator in charge of a shift at the plant only if the plant's rating level increased solely due to the adoption of the treatment type and design flow rating system. The provisional certificate will not apply if the rating of a plant increases due to an upgrade, to a change to treatment processes, or to flow. The provisional certificate will be issued only for the operation of a specific plant and may not be transferred if that certified operator leaves employment with that plant.

The holder of a provisional certificate must continue to meet all certificate renewal requirements.

[Statutory Authority: Chapter 70.95B RCW. 99-24-117 (Order 98-18), § 173-230-140, filed 12/1/99, effective 1/1/00. Statutory Authority: RCW 70.95B.040. 87-22-006 (Order 87-36), § 173-230-140, filed 10/23/87; 78-11-016 (Order DE 78-16), § 173-230-140, filed 10/11/78; Order 73-30, § 173-230-140, filed 11/9/73.]

# EXHIBIT 178



VOL

Exhibit 178

**MEMORANDUM OF UNDERSTANDING**  
**BETWEEN**  
**WASHINGTON STATE DEPARTMENT OF ECOLOGY**  
**AND**  
**FORT LEWIS ARMY GARRISON**

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**A. Introduction**

1. The Washington State Department of Ecology (Ecology) is concerned that the absence of a pretreatment requirement in Fort Lewis' current National Pollution Discharge Elimination System (NPDES) permit puts the Army at risk for violation of Washington State's Dangerous Waste Regulations (Chapter 173-303 WAC) and the Federal Facility Compliance Act of 1992 due to discharges other than domestic sewage, to the Fort's Federally Owned Treatment Works (FOTW).
2. The Dangerous Waste domestic sewage exclusion (WAC 173-303-071 (a) (ii)) specifically prohibits discharges of hazardous or dangerous waste to a sewer without either: (a) a state waste discharge permit, (b) a temporary permit, or (c) a pretreatment permit (or written discharge authorization) from a local sewage utility with delegated pretreatment program responsibilities pursuant to RCW 90.48.165. In addition, each discharge needs to be specially authorized in the permit and the waste accurately described in the permit application. Ecology has observed non-domestic wastewater discharges to the tributary sewer collection system into which the Fort's FOTW discharges. Ecology maintains that discharges to the FOTW need to meet pretreatment standards and Fort Lewis needs to provide oversight of discharges to their system, which might otherwise be dangerous wastes. Permit by Rule requires the permit to specifically cover the waste stream and constituents discharged; it must include an estimate of flow, the chemical characteristics of the waste stream, whether it is a batch or continuous discharge, and the treatment the waste receives. Ecology, through its regulation of Publicly Owned Treatment Works (POTW) has considerable expertise and experience in the development and enforcement of pretreatment standards.
3. Fort Lewis maintains that Ecology has no authority to regulate its pretreatment program since its NPDES permit is issued by EPA. Nevertheless, the Army Garrison at Fort Lewis will establish a robust pretreatment program for its Federally Owned Treatment Works.
4. Both parties wish to cooperate with each other in an effort to establish and implement such a program at Fort Lewis.

## **B. Understandings**

Without conceding the validity of each other's positions, the parties set forth the following mutual understandings about how Fort Lewis will develop and implement an Industrial Pretreatment Program. The parties' goals are to collectively develop a program which will meet Ecology's Domestic Sewage Exclusion and Permit by Rule requirements, and all applicable standards set by state law within its entire sanitary sewer service area. Nothing herein, should be interpreted as imposing any legally-binding requirement on Fort Lewis or the Department of the Army.

### **1. Develop and implement a pretreatment program:**

Fort Lewis will submit a letter to apply for an NPDES permit modification to the Environmental Protection Agency (EPA) by June 15, 2007. This application should include milestone dates for tasks needed to develop a pretreatment program as identified in 40 CFR Part 403 and EPA guidance.

### **2. Develop Milestones for specific tasks:**

Fort Lewis will provide EPA (and a copy to Ecology) with a report within 30 days of each milestone date confirming if the milestone was met and if not, the reason and impact of other milestones.

- a. Identify all industrial wastewater discharges, as defined under WAC 173-216-030(8) that are potentially subject to pretreatment requirements in all areas served by their sanitary sewer system. Compile the results and submit the industrial wastewater discharge survey by July 15, 2007.
- b. Develop Pretreatment Program Procedures for:
  - i. Sampling and inspecting potential sources of industrial wastewater discharges. Submit the draft procedure by August 30, 2007.
  - ii. Issuing permits or other control mechanisms.
  - iii. Developing Fact Sheets.
  - iv. Develop a method/system for keeping the survey current.
  - v. Tracking Performance Data.
  - vi. Annual Pretreatment Reporting to EPA.
  - vii. Submit the draft procedures for the above items ii-vi by March 1, 2008.
- c. Develop technically based local limits. The parties understand that site specific "local limits" developed as part of a delegated pretreatment program are considered "Pretreatment Standards" by 40 CFR 403.5. Therefore discharges meeting local limits of an approved pretreatment program, may be discharged under this provision. Submit a report on the above milestones by June 1, 2008.
- d. Develop and submit a draft Enforcement Response Plan by May 1, 2008.
- e. Assess whether sufficient authorities and resources are available to implement the program including:
  - i. Legal sufficiency statement that Fort Lewis has the requisite authorities, directly or through agreements to fully implement the program in all areas served by their sanitary sewer system.

- ii. Assessment of the staffing and a finding that sufficient resources are available to implement the program.
    - iii. Submit a report on legal authorities and resources available by May 1, 2008.
  - f. Develop a training program for tenants and government and Army personnel on their pretreatment related roles and responsibilities by January 15, 2008.
  - g. Within seven days of obtaining Ecology's written concurrence of the final pretreatment program developed by this MOU, but no later than August 1, 2008, Fort Lewis will submit their pretreatment program as developed to EPA with a request to EPA to incorporate the program provisions into their NPDES permit at the time of renewal. If, by August 1, 2008, Ecology has not provided written concurrence with the final pretreatment program, the Fort will nonetheless provide its pretreatment program to EPA.
- 3. Fort Lewis will take or has taken the following Interim Actions:**
- a. Inspecting and monitoring industrial users at a frequency commensurate with the potential environmental threat posed by their operations.
  - b. Employed a civil/environmental engineer to assist in the development of the pretreatment program on a full time basis.
  - c. Provide and document formal and on the job training of tenants on their pretreatment related roles and responsibilities. This training is to include the unit and environmental compliance officer(s) regarding industrial wastewater discharges.
  - d. The following infrastructure and system maintenance projects:
    - i. Perform an engineering analysis (capacity and flow analysis, etc.) of oil/water separators on Fort Lewis by September 30, 2007.
    - ii. Double the overall level of effort for routine servicing, maintenance, and repair of each oil/water separators, grease traps, etc. on Fort Lewis by October 15, 2007.
    - iii. Redesign the fuel purging facility located at Bldg. 9577 to isolate it from the sanitary sewer system and convert it to a facility that recycles and reuses the process water. The design to be completed such that solicitation and award of contract for construction can be accomplished, subject to availability of funds, before the end of calendar year 2007.
    - iv. No later than July 1, 2007, increase on-site Fort Lewis contracted staff by two full time personnel to augment the inspection capabilities of the pretreatment program. Include the initiation of routine inspections of industrial dischargers to the Fort Lewis sewer system not located on Fort Lewis proper (McChord AFB, Camp Murray, and the VA).
    - v. These interim actions are subject to change by mutual agreement by both parties.

**4. Fort Lewis and Ecology agree to the following timetable:**

- a. Ecology will endeavor to provide Fort Lewis comments on the draft pretreatment program within three weeks of receiving each submittal identified. Ecology will separate the comments into those it considers to be required and those it considers to be recommended. Should Ecology not be able to provide comments by the date below, Ecology will notify the Fort's lead staff person at the earliest possible time and provide a date when comments can be expected.
- b. Within three weeks of receiving Ecology's comments Fort Lewis will submit for Ecology's review, a final draft incorporating any required changes for specific tasks for EPA's final approval.
- c. Fort Lewis will implement the pretreatment plan in accordance with the milestones established in the plan and as required in implementing the NPDES permit.

**5. Project Lead Staff:**

- a. Ecology's Lead Staff person for the MOU is (b) (b)(6) (b)(6) Ecology's Pretreatment Technical Lead is (b) (b)(6) Both can be reached at:

Department Of Ecology  
Southwest Regional Office  
Mail Stop 47775  
Olympia WA 98504-7775

- b. Fort Lewis's Lead Staff Person is:

(b)(6)  
Public Works  
ATTN: IMNW-LEW-PE  
Box 339500 MS 17  
Fort Lewis, WA 98433-9500

- c. All communication and deliverables shall be sent to the Lead staff person mentioned above.

**C. Dispute Resolution**

Both parties will endeavor to resolve disputes arising from content and or lack of contact in required submittals. Upon lack of resolution and notice, either party may terminate the MOU.

**D. Reservation of Rights**

Fort Lewis enters this MOU as a matter of good stewardship and comity, and nothing herein should be interpreted as waiving any jurisdictional, sovereign immunity or other legal argument. The military services reserve the right to assert any available defense.

This MOU does not constitute an admission or waiver by any party regarding the scope of State regulatory authority to take enforcement actions for Dangerous Waste violations at signatory facilities or any defense thereto. In addition, this document does not limit Ecology's ability to assert enforcement actions against signatory facilities for Dangerous Waste violations.

Although this MOU is not a settlement agreement, the parties agree this MOU and any allied documents and discussions related to this MOU shall not be used as evidence against either party to the MOU in any subsequent administrative or judicial action or proceeding, but any documents or evidence that would have been admissible notwithstanding the discussions relating to this MOU shall not be affected by this understanding.

**E. Availability of Funds**

It is the expectation of the parties to this MOU that Fort Lewis will fully fund the commitments in this MOU.

Fort Lewis agrees to seek sufficient funding to fulfill its commitments under this MOU. However, any requirement for payment or obligation of funds by Fort Lewis established under the terms of the MOU shall be subject to the availability of funds, and no provision herein shall be interpreted to require obligation or payments of funds in violation of the Antideficiency Act, 31 USC 1341. In cases where payment or obligation of funds would constitute a violation of the Antideficiency Act, the timeframes established requiring payment or obligation of such funds shall be appropriately adjusted.

**F. Effective Date**

This MOU will become effective on the last date of signature of all parties.

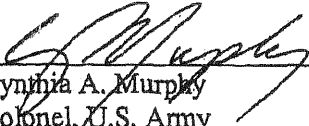
**G. Term**

This MOU will remain effective until Ft. Lewis applies for and receives a renewed NPDES Permit which incorporates the standards outlined above. However, either party to this MOU may withdraw upon 14 days advance, written notice to the other party.

(b)(6)



Hazardous Waste and Toxics Reduction  
Southwest Regional Office

  
Cynthia A. Murphy  
Colonel, U.S. Army  
Commanding

4/6/07  
Date

6/6/07  
Date

# EXHIBIT 179



VOL III

Exhibit 179

9 August 2007

## INFORMATION PAPER

SUBJECT: MOU between Fort Lewis and Washington State Department of Ecology

1. Purpose. To provide information on the establishment of a Wastewater Pretreatment Program (WWPP) at Fort Lewis

2. Facts.

a. Fort Lewis operates a federally-owned treatment works that serves the Fort, Madigan Army Medical Center, McCord Air Force Base, Camp Murray, American Lake VA hospital and Clover Park district schools. The treated wastewater is discharged to Puget Sound by a permit issued by EPA, Region 10.

b. To alleviate Ecology concerns of potential discharge of hazardous waste into the wastewater system, the GC signed an MOU on 6 Jun 07 to establish a WWPP. Fort Lewis had recognized the need for a WWPP before negotiations with Ecology began, and had already started developing the program. Before it was signed, the MOU was staffed through Fort Lewis SJA, and through DA Environmental Law Division. While the MOU formalizes the agreement and establishes a cooperative path forward with Ecology, it does not legally bind Fort Lewis to any actions. It should be noted that all actions specified in the MOU were actions that Fort Lewis had intended to take regardless of any agreement with Ecology. The MOU can be terminated by either party with 14 days notice, for any reason.

c. Actions required by the MOU include: 1. Develop milestones for these specific tasks: identify all wastewater discharges subject to pretreatment requirements; develop pretreatment program procedures; develop local limits; develop an enforcement response plan; assess whether sufficient authorities and resources are available to implement the program; and develop a training program. 2. Undertake interim actions, including: inspect and monitor industrial users; employ an engineer to oversee program; provide training for tenants on pretreatment roles and responsibilities; perform engineering analysis of oil/water separators; increase level of effort maintaining oil/water separators; redesign the fuel purging facility; and increase contracted staff by two FTEs to help develop and implement program. All interim actions are subject to change by mutual agreement of both parties.

d. Resources required to fulfill this MOU include a \$700k one-time contract with CH2M Hill to develop the initial program, perform sampling, develop local limits, etc; \$85k per year to fund the on-site contractor that will oversee program implementation and operation; \$80k per year for approximately two years to fund two ORISE interns to support program development and initial implementation; and approximately \$141k to fund improvements to pretreatment infrastructure.

e. Resources to support this MOU have already been programmed, and in most cases, executed. The \$700k one-time contract to CH2M Hill has already been awarded. The professional engineer that oversees the pretreatment program is already

on the job, and the two interns are currently being recruited. As stated above, all actions required by this MOU were anticipated as requirements prior to and independent of the agreement with Ecology, and Fort Lewis continues to program and execute pretreatment requirements in accordance with current guidance and practices.

(b)(6) /IMWE-LEW-PWE/DSN 347-1766

Approved by: \_\_\_\_\_

# EXHIBIT 180

VOL III

Exhibit 180

## Violations

1. **WAC 173-303-145(2): Failure to provide required notice of a spill or discharge to Ecology.**

On May 4, 2006, Ft. Lewis wastewater treatment staff recorded in the operators log a "bad fuel smell." Ecology analyzed the retain sample, which confirmed the presence of either red diesel or number 2 diesel. According to Annual Reports, Ft. Lewis has sent diesel and JP-8 fuels off-site as D001 and WT02 hazardous waste.

2. **WAC 173-303-145(3): WAC 173-303-145(3): Failure to take appropriate mitigation and control actions after a spill or discharge.**

When asked what actions they took to mitigate the spill or determine the source of the spill, Ft. Lewis staff stated they contacted their supervisor. However, the supervisor did not report the incident within 24 hours to Ecology or EPA, and failed to determine the source of the spill or discharge, and failed to perform the effluent sampling required in their NPDES permit. Fort Lewis did not notify EPA of any incident until June 8, 2006.

3. **WAC 173-303-141(1): Failure to send dangerous waste to a permitted TSD facility. This violation is the result of not meeting and or qualifying for the Domestic Sewage Exclusion found in WAC 173-303-071(3)(a) and/or the Permit by Rule Requirements found in WAC 173-303-802(5).**

On May 4, 2006, Ft. Lewis wastewater treatment staff recorded in the operators log a "bad fuel smell." Ecology analyzed the retain sample, which confirmed the presence of either red diesel or number 2 diesel. According to Annual Reports, Ft. Lewis has sent diesel and JP-8 fuels off-site as D001 and WT02 hazardous waste. Ecology reviewed the operators' log located at the treatment work and found other incidents of failure to send hazardous waste and/or potential hazardous waste to permitted treatment, storage, or disposal facility.

4. **WAC 173-303-200(1)(b) and by reference 640(5)(d): Failure to adequately label tanks.**

We observed one tank in the purge area without a hazardous waste label. Fort Lewis corrected this violation within 24-hours. No further action required.

# EXHIBIT 181

VOL III

Exhibit 181





STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

October 10, 2007

**CERTIFIED MAIL**  
**7007 0710 0004 2567 1320**

(b) (b)(6)

Public Works  
ATTN IMNW-LEW-PE  
Box 339500 MS 17  
Fort Lewis, WA 98433-9500

Re: Extension Granted for Developing Technically Based Local Limits and  
Ambient Monitoring

Dear (b) (b)(6)

Thank you for meeting with Ecology to discuss your progress in developing the Pretreatment Program at Fort Lewis. The meeting was productive and informative.

Fort Lewis requested an extension for Developing Technically Based Local Limits. We agreed in the MOU to have the Local Limits developed by June 1, 2008. Ecology will grant the request for the extension, and revise the MOU date to January 15, 2009.

Ecology is comfortable with Fort Lewis taking 12 ambient water quality samples, if the following additional parameters are included:

- Temperature
- pH
- Dissolved Oxygen
- Alkalinity
- Hardness
- Total Ammonia (NH<sub>3</sub>+NH<sub>4</sub>) - N
- Nitrate+Nitrite - N
- Total Nitrogen - N

(b) (b)(6)

October 10, 2007

Page 2

In addition, to these parameters, Fort Lewis agreed to provide Ecology with a summary report of the ambient monitoring data.

We understand CH2M Hill will complete the Industrial User Survey soon, and you will forward the summary report on October 19, 2007. We look forward to seeing the summary report.

Ecology is encouraged by the progress made to date, and commend you on your efforts. If you have any questions, please contact me at 360/407-6618.

Sincerely

(b)(6)

(b)(6) (b)(6) Compliance Inspector  
Hazardous Waste and Toxics Reduction

cc:

(b)(6)

# EXHIBIT 182

VOL III

Exhibit 182

## Workers claim Fort Lewis dumps contaminants into Puget Sound

05:54 PM PDT on Thursday, March 29, 2007

By (b)(6) / KING 5 News

FORT LEWIS, Wash. – Workers at the Fort Lewis sewage treatment plant say they can no longer stay silent and watch it happen. They say the Fort is allowing dangerous contaminants to flow unchecked into Puget Sound, and now these workers have blown the lid off a simmering problem.

Fort Lewis waste water treatment plant

These workers have nothing gain and a lot to lose by coming forward, and their message is now being heard by federal environmental regulators, but the frustrating thing here, is they may be powerless to make the Fort change its ways.

The Fort Lewis waste water treatment plant sits on a bluff above Puget Sound. The water it treats flows from there through a pipe to an underwater outfall hundreds of feet out in Puget Sound.

It's what's going through that pipe that has waste water workers upset.

"We have oil coming in all the time, these days anyway, and we have test results that show it's coming in and it's going out," said (b)(6) who has spent 30 years processing waste water from Fort Lewis and McChord Air Force Base.

(b) and fellow workers say over the last year, the bases are allowing waves of petroleum product to go down the sewer.

"We asked them what it was and they were telling us it was diesel fuel... and some other stuff," said (b)(6)

Public Utility workers say they watched personnel illegally dump toxic petroleum products right into the sewer system.

Petroleum products can completely throw off the biological treatment at the plant and in some cases, according to the workers, bypass it all together.

That's why Fort motorpool and other workers are supposed to recycle all engine fluids and keep them away from the sewer.

Fort Lewis officials say the claims of dumping are unfounded. They say their test show no or only tiny traces of petroleum going out of the plant.

But somehow the petroleum is getting in. The EPA knows this because it's in the sludge – the finished product of the treatment plant.

"About 2 percent hydrocarbons, 2 percent of oil or petroleum products," said Tom Eaton, EPA. "That's very high for sludge."

The Fort is quick to point out that just because petroleum product is going into the plant, it doesn't mean it's making its way into Puget Sound.

But both the EPA and state Ecology Department are concerned enough about the amount of petroleum in the system, they are asking for immediate changes.

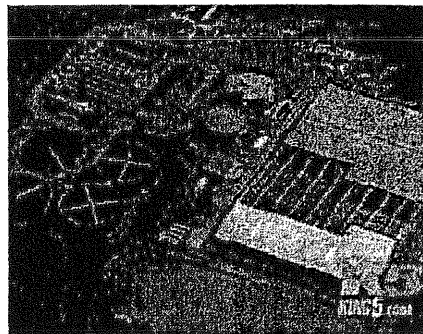
Another part of the frustration is that Fort Lewis has a different form of contract or permit with the federal government. They are not required to meet the same standards as a normal city, such as Seattle.

The EPA says they are not in actual violation of the permit, but they would like to tighten that system up.

KING 5 received a statement from Fort Lewis, saying: "We have been partnering the State Ecology and EPA to improve our pre-treatment plan because we think it's the right thing to do." Signed by (b) (b)(6) (b)(6)

(b)(6)

(b)(6) said they have a strong environmental program and they want to comply, and they dispute almost everything that was said by the workers.



# EXHIBIT 183

VOL III  
Exhibit 183

## Oil from two military bases may be reaching Puget Sound

Friday, March 30, 2007 - 12:00 AM

By (b)(6)

Seattle Times environment reporter

Fort Lewis Army base and neighboring McChord Air Force Base have been flushing oil through their sewage system, which feeds into Puget Sound.

The pollution has triggered concerns among state and federal environmental officials, first alerted to the problem last year by a company that found sewage sludge at the treatment plant contaminated with up to 2 percent oil.

The state Department of Ecology is asking the Army to sign an agreement that it will work to keep oil from getting into sewage pipes and the Sound, or face possible legal action.

"It's a grave concern to the state because Fort Lewis discharges directly into Puget Sound," said Ecology spokeswoman (b)(6).

Fort Lewis officials said they already are taking steps to keep oil from reaching sewer pipes. They said they haven't decided if they will sign an agreement with the state.

But they note that the Army treatment plant, which takes effluent from the Air Force base as well, remains in compliance with its federal permit, and that recent tests of treated wastewater headed for the Sound don't raise a concern.

"There's not much oil going out in our effluent," said (b)(6) at Fort Lewis' public-works department. "The numbers we've got don't indicate a problem."

It's not clear how much oil has flowed into the Sound through the plant's pipe for treated wastewater, which extends into the Sound north of the Nisqually River.

The plant isn't designed to filter out oil, so at least some is expected to have gotten through, said Howard, the Ecology spokeswoman. A group of current and former plant employees, who late last year filed a federal whistle-blower complaint about plant operations, estimated it could have been 5 gallons a day.

The sewage plant typically flushes out about 5 million gallons of treated wastewater every day, the equivalent of that created by a city of 50,000 people, said Tom Eaton of the federal Environmental Protection Agency (EPA), which regulates the plant.

The problem appears to stem at least partly from poor maintenance practices on the base, said state Ecology inspector (b)(6) (b)(6).

Her focus fell partly on oil-water separators, devices designed to trap oil that's mixed with water and keep it from flowing into sewer pipes. When she went to the base in spring 2006, (b)(6) said, (b)(6) found one separator with a broken part that apparently hadn't been repaired in three years. (b)(6) said the separators were also being emptied once a year, even if they filled up and overflowed before that.

(b)(6) said she was also told that people might be dumping fuel from vehicles before they are deployed, rather than properly disposing of the fuel.

While (b)(6) couldn't confirm that was happening, (b)(6) found levels of diesel fuel in the oil-water separators that made her suspicious.

"I think that there's a big enough arrow that's pointing in that direction," (b)(6) said.

(b)(6) (b)(6) head of Fort Lewis' environmental division in the public-works department, bristled at the idea people were dumping fuel on base. "That's an unfounded allegation," (b)(6) said.

Meanwhile, members of the whistle-blower group complain Fort Lewis managers have ignored their concerns.

"Nobody is listening to us," said (b)(6) who said (b)(6) has worked there as a sewage-plant operator for more than 20 years.



Among their complaints: That the plant isn't conducting aggressive tests of effluent, isn't repairing leaky sewer pipes, tried to downplay concerns about the contaminated sludge, and is allowing an unqualified employee to work as manager.

A Fort Lewis spokesman, (b)(6) said officials there couldn't respond to the whistle-blower complaint Thursday because they hadn't fully reviewed it.

U.S. Rep. Adam Smith, D-Tacoma, whose district includes Fort Lewis, was told of the issue this week, said (b)(6). (b)(6) very concerned about it; (b)(6) going to be in contact with the base, probably within the next 24 hours," (b)(6) said.

(b)(6) (b)(6) or (b)(6) @seattletimes.com

# EXHIBIT 184

VOL III

Exhibit 184

## State wants Fort Lewis to prevent oily discharges in Puget Sound

**KNDU – KNDO March 30, 2007**

FORT LEWIS, Wash. The state Ecology Department is asking Fort Lewis to sign an agreement that it will do a better job of filtering oil out of at its wastewater treatment plant.

The state is concerned because the Fort Lewis plant, which also serves McChord Air Force Base, discharges directly into Puget Sound. Fort Lewis says it's already taking steps to keep oil out of the sewer system.

The chief of environmental compliance for Fort Lewis, (b)(6), says it's in compliance with its federal permit and it doesn't see much oil in its wastewater.

A group of current and former wastewater plant employees filed a whistleblower complaint about the plant last year.

Washington Ecology Department spokeswoman (b)(6) says it's a grave concern to the state.

The Environmental Protection Agency says the plant flushes out about five (m) million gallons of treated wastewater a day, about the same as a city with 50-thousand people.

(Seattle Times)

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# EXHIBIT 185

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## Fort Lewis, Ecology reach deal

Post will take steps to keep hazardous wastes from hitting Puget Sound

(b)(6) (b)(6) **The News Tribune**

Published: June 7th, 2007 01:00 AM

Fort Lewis officials promised Wednesday to help protect Puget Sound by intercepting hazardous wastes before they enter the post's sewage treatment plant.

The agreement between the Army and the state Department of Ecology follows a state investigation that began about a year ago after a contractor reported a problem.

The state's findings were buttressed by a federal whistle-blower complaint that oil and other contaminants were spilling into the Sound, said K. Seiler, an Ecology Department manager. The complaint came from about a dozen Fort Lewis treatment plant employees.

The memorandum of understanding signed in a ceremony Wednesday at the post includes a timeline for developing and implementing a so-called pretreatment program for industrial wastes from the post and other sources, state officials said.

"Protecting and restoring the health of Puget Sound is a top priority for Gov. (Chris) Gregoire and Ecology, and this agreement will help eliminate potential sources of industrial pollution to an already fragile ecosystem," said (b)(6) Ecology Department director.

The post's Solo Point plant processes sewage from about 90,000 people daily. It serves not only Fort Lewis, but also McChord Air Force Base, Camp Murray, American Lake Veterans Administration Hospital and some Clover Park School District schools.

"We are seriously committed to preserving the land and water for which we've been given stewardship responsibility," said (b)(6) Fort Lewis garrison commander.

In May 2006, Ecology Department officials responded to a report that Alkai, a private contractor, had found excessive amounts of oil in the sewage sludge. An Ecology Department investigator subsequently found broken and clogged oil-and-water separators, evidence that the Solo Point plant probably discharged oil and improperly treated sewage into Puget Sound, Seiler said.

Earlier this year, the whistleblowers filed their complaint with the Defense Department's Office of Special Counsel. They said the sewage plant dumped 5 gallons of oil and unknown amounts of other contaminants into Puget Sound every day. Sources included vehicles and jets. Employees also complained about improper operations and lack of maintenance, oversight and reporting, as required under the post's wastewater discharge permit.

Fort Lewis officials began working on a design for treatment of hazardous wastes in September 2006.

On Wednesday, Fort Lewis officials promised to inventory all hazardous waste sources by Jan. 15, 2008. Already, Army officials are committed to spending \$500,000 to develop and design necessary improvements, Seiler said.

"There are a couple of high-priority tasks that we know currently need to be done," Seiler said. "The expectation is that this is going to be a (b)(6) effort."

Initially, Ecology Department officials expect Fort Lewis to conduct an engineering analysis of all oil-and-water separators and to improve maintenance to prevent overflows, Seiler said.

Another problem area identified by the Ecology Department is the post's fuel purging facility, where petroleum products are removed from vehicles before shipment overseas. The goal is to isolate the facility from the post's storm drains, which might carry contaminated runoff into the sewers, Seiler said. Fort Lewis officials promise to have a redesign by the end of this year, (b) said.

Fort Lewis officials also promise to establish a permit program for hazardous waste disposal and to work with the U.S. Environmental Protection Agency to modify its wastewater discharge permit.

(b)(6) of Orting, a sewage treatment plant operator who has worked at Fort Lewis for 22 years, said (b) and the other workers had asked (b) (b)(6) to be included in the discussions before Wednesday's agreement became official.

"We were totally ignored, and that's not right," (b) said. "I'd just like to find out where they got the information about what's going on at the plant because they didn't ask any of us."



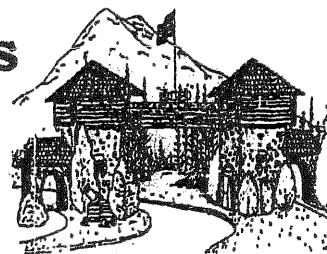
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**U.S. Army  
I Corps & Fort Lewis  
Fort Lewis  
Washington  
NEWS RELEASE**



News release no. 87-07

June 6, 2007

**Ecology and Fort Lewis forge new agreement**

**FORT LEWIS, WA.**--The Washington Department of Ecology (Ecology) and Fort Lewis today announced an agreement to eliminate potential discharges of hazardous wastes to the Fort's wastewater treatment plant.

The memorandum of understanding signed today outlines the steps and timeline Fort Lewis will follow to develop and implement a pretreatment program for any industrial wastes generated by the Fort and other potential sources that use the garrison's wastewater treatment plant: Madigan Army Medical Center, McChord Air Force Base, Camp Murray, the American Lake VA Hospital and Clover Park district schools.

Ecology and Fort Lewis officials agree that intercepting and pretreating industrial wastes is important because the Fort's wastewater treatment system was not designed to handle hazardous waste. A pretreatment program will intercept, capture and appropriately manage industrial wastes, providing an even stronger measure of protection.

"Protecting and restoring the health of Puget Sound is a top priority for Governor Gregoire and Ecology, and this agreement will help eliminate potential sources of industrial pollution to an already fragile ecosystem," explained (b)(6) director of Ecology.

Ecology has been working on many initiatives to protect and restore Puget Sound from industrial, agricultural, chemical, residential and municipal pollution. Since the Fort Lewis wastewater treatment plant services five other sources, this agreement has the potential to protect the Sound from the pollution of a city-sized population.

Fort Lewis and Ecology had previously agreed in principle on the need for a pretreatment program at the military installation. For that reason, Fort Lewis began working on design of such a system in September 2006 and hired a professional engineer in December to start the assistance and inspection component of such a program. The memorandum of understanding formalizes this agreement and establishes a path forward for cooperation between the state and Fort Lewis.

(more)

2/2/2/ecology

"We are seriously committed to preserving the land and water for which we've been given stewardship responsibility," said Colonel Cynthia A. (b)(6) Fort Lewis garrison commander. "We've (b)(6) been an environmental leader in Washington State and among defense establishments, and this agreement teams us with the Department of Ecology to protect the natural resources of this beautiful region."

Under the cooperative agreement, Fort Lewis will identify, sample and inspect all sources of industrial wastewater currently discharging to the Fort's treatment plant. Then, through the issuance of discharge permits or other administrative controls, Fort Lewis will limit discharges to the treatment plant to those pollutants that the plant can effectively treat and control.

The Fort will ask the Environmental Protection Agency (EPA) to amend its current National Pollution Discharge Elimination System permit to incorporate the pretreatment program.

###

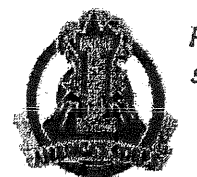
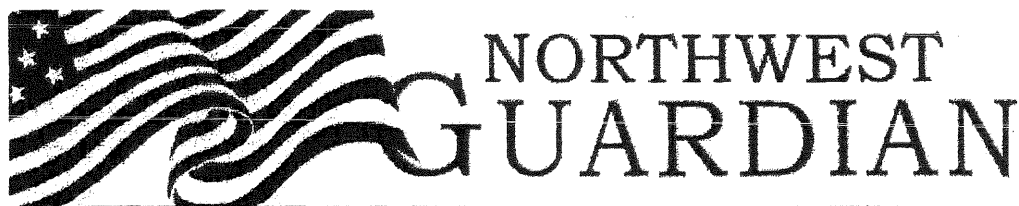
Media contact: (b)(6), Ecology communications manager, (b)(6)  
(b)(6) Fort Lewis public affairs, (b)(6)

Ecology Web site: <http://www.ecy.wa.gov>

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GUARDIAN WEEKEND

LEWIS LEDGER

VIEWPOINT

FORUM

## NEWS

# Fort Lewis, Department of Ecology sign agreement on pollution control

Northwest Guardian

Published: June 7th, 2007 01:19 PM

OLYMPIA — The Washington Department of Ecology and Fort Lewis announced an agreement to eliminate potential discharges of hazardous wastes to the fort's wastewater treatment plant.

The memorandum of understanding signed Thursday outlines the steps and time line Fort Lewis will develop and implement a pretreatment program for any industrial wastes generated by the fort and other potential sources that use the garrison's wastewater treatment plant: Madigan Army Medical Center, Mc Air Force Base, Camp Murray, the American Lake VA Hospital and Clover Park district schools.

Ecology and Fort Lewis officials agree that intercepting and pretreating industrial wastes is important because the fort's wastewater treatment system was not designed to handle hazardous waste. A pretreatment program will intercept, capture and appropriately manage industrial wastes, providing an even stronger measure of protection.

"We are seriously committed to preserving the land and water for which we've been given stewardship responsibility," said Col. Cynthia A. Murphy, Fort Lewis garrison commander. "We've long been an environmental leader in Washington State and among defense establishments, and this agreement teams the Department of Ecology to protect the natural resources of this beautiful region."

Ecology has been working on many initiatives to protect and restore Puget Sound from industrial, agricultural, chemical, residential and municipal pollution. Since the Fort Lewis wastewater treatment plant services other sources, this agreement has the potential to protect the Sound from the pollution of a city-sized population.

Fort Lewis and the Department of Ecology had previously agreed in principle on the need for a pretreatment program at the military installation. For that reason, Fort Lewis began working on design of such a system in September 2006, and hired a professional engineer in December to start the assistance and inspection component of such a program. The memorandum of understanding formalizes this agreement, and establishes a path forward for cooperation between the state and Fort Lewis.

"Protecting and restoring the health of Puget Sound is a top priority for Governor Gregoire and Ecology. This agreement will help eliminate potential sources of industrial pollution to an already fragile ecosystem," explained (b)(6) director of Ecology.

Under the agreement, Fort Lewis will identify, sample and inspect all sources of industrial wastewater discharging to the fort's treatment plant. Then, through the issuance of discharge permits or other administrative controls, Fort Lewis will limit discharges to the treatment plant to those pollutants that the plant can effectively treat and control. The fort will ask the Environmental Protection Agency to amend its current National Pollution Discharge Elimination System permit to incorporate the pretreatment program.

**THE NORTHWEST GUARDIAN** - To suggest story ideas or submit copy contact us at:

Building 2025, Fort Lewis, Washington 98433 or call (b)(6) or (b)(6)

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