United States Environmental Protection Agency (EPA)
Region 10
Park Place Building, 13th Floor
1200 Sixth Avenue, OW-130
Seattle, Washington 98101
(206) 553-1214

NOTICE OF PROPOSED ISSUANCE OF A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES
and
NOTICE OF STATE CERTIFICATION

Public Notice No.: ID-002656-5

Public Notice Issuance Date:
Public Notice Expiration Date:

1. Applicant

PacifiCorp
Idaho Falls Pole Yard
2200 Leslie Avenue
Idaho Falls, ID. 83402

Permit No.: ID-002656-5

Contact: Jon Cowley, Supervisor
(208) 522-6811

PacifiCorp owns and operates a groundwater remediation project which treats creosote-contaminated groundwater on their Idaho Falls Pole Yard property. They propose to discharge treated groundwater to the Snake River at approximate river mile 795 in Bonneville County in eastern Idaho. A Fact Sheet is available.

2. Tentative Determination

The Region 10 Office of the EPA has tentatively determined to issue a discharge permit to the above listed applicant for wastewater discharges.

3. State Certification

This Notice will also serve as Public Notice of the intent of the State of Idaho, Department of Health and Welfare, Division of Environmental Quality to consider certifying that the subject discharge will comply with the applicable provisions of Sections 208(e), 301, 302, 303, 306 and 307 of the Clean Water Act. The NPDES permit will not be issued until the certification requirements of Section 401 have been met.

4. Public Comments

Persons wishing to comment on the tentative determinations contained in the proposed permit or wishing to request that a public hearing be held, may do so in writing, within 30 days of the date of this public notice. A request for a public hearing shall state the nature of the issues to be raised as well as the requester's name, address and telephone number. Comments must be mailed within this 30 day period to be considered in the formulation of final determinations regarding the application. All comments should include the name, address and telephone number of the commenter and a concise statement of the exact basis of any comment and the relevant facts upon which it is based.

All written comments and requests should be submitted to EPA at the above address to the attention of the Director, Office of Water.

Persons wishing to comment on State Certification should submit written comments within this 30 day period to the Administrator, State of Idaho, Department of Health and Welfare, Division of Environmental Quality, 1410 North Hilton, Boise, Idaho 83706.

5. Administrative Record

The proposed NPDES permit and other related documents are on file and may be inspected at the above address any time between 8:30 a.m. and 4:00 p.m., Monday through Friday. Copies and other information may be requested by writing to the EPA at the above address to the attention of the NPDES Permits Unit, or by calling (206) 553-1214. This material is also available from the EPA Idaho Operations Office, 1435 North Orchard Street, Boise, Idaho 83706.

FACT SHEET

United States Environmental Protection Agency (EPA)
Region 10
Park Place Building, 13th Floor
1200 Sixth Avenue, OW-130
Seattle, Washington 98101
(206) 553-1214

Date:

Permit No.: ID-002656-5

PROPOSED ISSUANCE OF A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE POLLUTANTS PURSUANT TO THE PROVISIONS OF THE CLEAN WATER ACT (CWA)

PacifiCorp
Idaho Falls Pole Yard

has applied for issuance of a NPDES permit to discharge pollutants pursuant to the provisions of the CWA. This Fact Sheet includes (a) the tentative determination of the EPA to issue the permit, (b) information on public comment, public hearing and appeal procedures, the description of the current discharge, (c) a listing of tentative effluent limitations, schedules of compliance and other conditions, and (d) a sketch or detailed description of the discharge location. We call your special attention to the technical material presented in the latter part of this document.

Persons wishing to comment on the tentative determinations contained in the proposed permit issuance may do so by the expiration date of the Public Notice. All written comments should be submitted to EPA as described in the Public Comments Section of the attached Public Notice.

After the expiration date of the Public Notice, the Director of the Office of Water will make final determinations with respect to the permit issuance. The tentative determinations contained in the draft permit will become final conditions if no substantive comments are received during the public notice period.

The permit will become effective 30 days after the final determinations are made, unless a request for an evidentiary hearing is submitted within 30 days after receipt of the final determinations.

The proposed NPDES permit and other related documents are on file and may be inspected at the above address any time between 8:30 a.m. and 4:00 p.m., Monday through Friday. Copies and other information may be requested by writing to EPA at the above address to the attention of the Water Permits Section, or by calling (206) 553-1214. This material is also available from the EPA Idaho Operations Office, 1435 North Orchard Street, Boise, Idaho 83706.

TECHNICAL INFORMATION

1. Applicant

PacifiCorp
Idaho Falls Pole Yard
2200 Leslie Avenue
Idaho Falls, ID. 83402

Contact: Jon Cowley, Supervisor
208-522-6811

NPDES Permit No. ID-002656-5

2. Activity

PacifiCorp operates a groundwater remediation project to remove creosote compounds from groundwater beneath their former pole treating facility. Treated water is currently routed to the Idaho Falls wastewater treatment plant, with ultimate disposal to the Snake River. The proposed NPDES permit will allow groundwater to be discharged directly to the river following treatment and monitoring at the existing facility. The treatment system will continue to be operated in accordance with PacifiCorp's RCRA permit. In addition, PacifiCorp will comply with the NPDES permit requirements when that permit is issued.

3. Receiving Water

PacifiCorp proposes to discharge throughout the year to the Snake River at river mile 795. The state of Idaho Water Quality Standards and Wastewater Treatment Requirements (16 IDAPA 16.01.2150.01.1.) protect this segment (USB-30) for the following existing uses: domestic water supply, agricultural water supply, cold water biota, salmonid spawning, primary and secondary contact recreation.

Information obtained from the Idaho Department of Water Resources and the Idaho Department of Health and Welfare indicates that receiving water flow in this segment of the Snake River is controlled through a series of dams upstream of the treatment plant discharge. Available data indicate that the low flow in this segment will not be less than 1100 cfs (710 mgd).

4. Background

PacifiCorp applied for an NPDES permit on October 2, 1995. The permit would authorize a direct discharge of treated groundwater to the Snake River.

5. Project Description

Historically, the PacifiCorp Idaho Falls Pole Treatment Yard was a facility for non-pressurized creosote treatment of wooden electrical power poles. The poles were dipped into a treatment vat containing creosote until take up of creosote was completed, then they were removed and suspended over the tank to allow excess creosote to run off. The poles were then transferred to other areas of the site where they were left to cure and were stored until needed.

In July 1983, the company discovered that creosote was leaking from the pole yard. Since that time, all pole treating activities at the site have ceased. PacifiCorp now operates a hazardous waste management facility (HWMF) that remediates contaminated groundwater, the result of the leakage of creosote.

When creosote contamination was discovered in the ground water, PacifiCorp obtained a RCRA Part B permit to authorize the post-closure activities at the facility, including a corrective action plan for the removal and treatment of the creosote constituents in the groundwater. PacifiCorp operates an activated carbon filter treatment system in accordance with the RCRA permit (IDD000602631).

EPA has designated two groups of creosote constituents as priority pollutants of concern: phenols and polynuclear aromatic hydrocarbons (PAHs). Initial testing indicated that these compounds were present in average total concentrations of approximately 5 mg/l. Additional testing indicated that activated carbon treatment could remove these contaminants from the groundwater to a level of 1 μg/l or less.

A 6-month pilot study program (October 29, 1985 to April 29, 1986) involved pumping a maximum of 100 gallons per minute from six onsite wells, five of which showed creosote contamination. The pilot plant facilities were designed and built to operate 24-hours per day at a maximum flow rate of 100 gpm. To remove phenols and PAHs from the groundwater, an oil absorption column (OAC) was used to absorb the free oils frequently found in creosote. The OAC unit was followed by granular activated carbon (GAC) treatment to remove any soluble organic constituents. Treated water was discharged to the city of Idaho

Falls wastewater treatment plant. Spent OAC and GAC media were disposed of at a licensed hazardous waste disposal facility.

Current literature on the use of activated carbon to remove phenols and PAHs from groundwater states that phenol adsorption sites on GAC media are exhausted more quickly than sites for PAHs. This results in phenols breaking through the GAC media bed, appearing sooner than PAHs in the treated effluent. Therefore, daily effluent from the OAC unit and each GAC unit was sampled and analyzed onsite for the presence of phenols. A breakthrough signaled the plant operators to replace all the media. Phenols served as a parameter controlling media replacement during the pilot plant study. During the pilot study, breakthrough would occur in the OAC column before it occurred in the GAC columns.

Recovery of free creosote from each of the contaminated wells was higher than anticipated during the pilot plant operation. However, the treatment plant produced an effluent that was generally less than 10 μg/l total PAHs or phenols. The pilot facility pumped and treated approximately 7.0 million gallons of groundwater over the 6-month study period.

The pilot treatment system performed well at removing PAHs from the groundwater. The first unit, the oil absorption column, removed 93 percent of the total PAHs entering the treatment system during the study. The lead GAC column removed an additional 98 percent of its influent total PAHs, and the final GAC column polished the treatment plant effluent to the <10 μg/l level .

The system performed equally well at removing phenols from the groundwater. The OAC removed 55 percent of the total phenols entering the treatment system during the study. The lead GAC column removed an additional 95+ percent of its influent phenols, and the final GAC column polished the effluent to the <10 μg/l level.

The 6-month pilot plant study helped determine that OAC and GAC treatment systems are an effective treatment process for the removal of PAHs and phenols from groundwater. It also established that a full-scale treatment plant would need a pretreatment process to reduce influent concentrations of insoluble oils and to remove creosote slugs to prevent OAC unit overloads. Tests for the presence of phenols in the OAC unit effluent and the GAC unit effluent indicated the need to change the media.

The full-scale treatment plant includes a flocculation/sedimentation basin, two oil absorption columns operated in series, and three granular-activated carbon

columns operated in series. Two GAC units are used in the pre-treatment process, and the third unit is used for back-up.

In addition to the sampling required in the RCRA and the proposed NPDES permit, PacifiCorp monitors the pressure across the treatment columns daily. An increase in pressure indicates a buildup of pollutants in the treatment unit, and a backwash cycle takes place. When the facility first went online, backwash occurred every 3 to 4 days; now it occurs about once per month. Increased backwash frequency triggers the replacement of the media in all the treatment units, whether or not breakthrough of pollutants has occurred..

The plant also includes a primary emergency shutdown system. This system is designed to automatically shut down all pumps except the sump pump in the treatment building upon detection of high or low pressure in any plant or yard piping. Upon detection, a visual alarm is also activated. If the plant operator is not onsite, an automatic dialing service alerts the operator at home. All secondary containment lines drain flows into the building floor where the sump pump recycles it as influent to the treatment system. In addition to the primary system, a secondary emergency shutdown system is also in place. This secondary system consists of a mechanical float switch that shuts off the motor control center when the water level within the building rises above a set point.

This technology is state-of-the-art for treating groundwater contaminated with organic pollutants. EPA Region 10 considers it Best Available Technology (BAT) for this type of pollutant.

Since remediation commenced, PacifiCorp has discharged the effluent from the carbon activated treatment system into the City of Idaho Falls' publicly owned treatment works pursuant to a discharge agreement between PacifiCorp and the city. Now PacifiCorp intends to discharge the effluent directly to the Snake River at Outfall 001 pursuant to an NPDES permit. Design discharge flow is 0.288 mgd (0.45 cfs).

6. Basis of Limitations

The Clean Water Act (CWA) requires that all NPDES permitted discharges achieve technology-based effluent limitations established under Section 301, 306 or 402(a)(1) of the CWA. In the absence of effluent limitation guidelines for a particular industry, limits are derived on a case-by-case basis for industrial facilities using Best Professional Judgment (BPJ). BPJ is defined as the highest quality technical opinion developed by a permit writer after consideration of all reasonably available and pertinent data or information that forms the basis for the terms and conditions of an NPDES permit.

In addition, the NPDES regulations [40 CFR §122.44(d)(1)] specifically require that NPDES permits include effluent limitations for those pollutants that have a reasonable potential to cause or contribute to an in-stream excursion above the allowable ambient concentration of a state water quality standard (IDAPA 16.01.2003.20).

The Idaho Falls Pole Yard treatment plant has been in operation since March 14, 1988. Discharges have been under an indirect discharge permit to the Idaho Falls wastewater treatment plant. The most recent indirect permit was issued in 1994. Monitoring of the effluent for phenols and PAHs has occurred as prescribed in the RCRA Part B permit since startup. Between 1988 and 1993, phenols were monitored daily after each OAC unit and each GAC unit, and PAHs were monitored weekly in the effluent from the final GAC unit.

In the absence of any significant “hits” for either phenols or PAHs, in 1994 the company requested that monitoring be reduced to monthly for PAHs and weekly for phenols. This request was approved by the Division of Environmental Quality (DEQ), and the RCRA permit was subsequently modified to incorporate this change. The company and DEQ are currently working through the modification/reissue process which will further reduce monitoring required by the RCRA permit.

Figure J-1 summarizes all phenol monitoring data for the effluent of the treatment plant from March 14, 1988, to August 1994, and was included in the application submitted for this discharge. The horizontal axis represents time, monitoring on a weekly basis. The vertical axis represents detection in ppb or μg/l. Generally, spikes in effluent concentration correspond to spikes in the influent. The minimum value (2 ppb) for the vertical axis is the detection limit for the laboratory analysis. No phenol has been detected in the effluent samples from 1993 through 1996. Statistical analysis of the effluent data indicates that the maximum probable effluent concentration is less than 2 μg/l. This concentration is below the water quality criterion for phenols (21,000 μg/l). Therefore, phenol limits are not included in the proposed permit.

Figure J-2 summarizes the monitoring data for PAHs in the effluent of the treatment plant from March 1993 to March 1995. The horizontal axis represents time, monitoring on a monthly basis. The vertical axis represents detection in ppb (μg/l). The minimum value (2 ppb) for the vertical axis is the detection limit for the laboratory analysis. The only peak (8 ppb) on the graph (February 7, 1995), is the one value above the detection limit since December 1991. It should be noted that this treatment plant had a detected spike of PAHs in the influent of 6,620 ppb on April 5, 1990. The effluent for the time period March 1993 through December 1996 showed no detection except for the one sample in 1995. This elevated level is believed to be due to lab error.

The NPDES permit program normally uses the analytical Method Detection Limit (MDL) to determine compliance requirements for discharges to surface waters. However, in order to coordinate with PacifiCorp's RCRA Part B permit requirements, we used the Practical Quantitation Limits (PQL) values which are higher than MDL values. PQLs were incorporated during the corrective action phase of the RCRA permit to help eliminate false positives during sampling events. If statistical analysis showed there is no probability of water quality violations using these higher values, we are assured NPDES program requirements will be met. PQL is defined at the lowest accurately quantifiable level measurable using a particular analytical method. The RCRA Part B permit has established the PQL as the MDL X 10, or 2 μg/l.

Rather than monitoring for individual PAHs, the proposed permit includes one aggregate parameter that includes all carcinogenic PAHs identified in the ground water: Total PAH. This approach will coordinate the monitoring and reporting requirements of the RCRA and NPDES permits. The combined PQL value for the carcinogenic PAHs will be applied as the monthly average effluent limitation (12 μg/l) and 1.5 times that value (18 μg/l) for the maximum value for any single sample. Statistical analysis using the highest proposed effluent concentration (18 μg/l), a maximum effluent flow of 0.45 cfs, and a minimum stream flow of 1100 cfs, show the concentration in the river would be less than 0.007 μg/l which is below the most restrictive PAH criteria as identified in the RCRA Part B permit (0.012 μg/l). Therefore, the proposed PAH limits are protective of the designated uses for the Snake River at the point of discharge. Monitoring will consist of a quarterly grab sample in accordance with Method 8270.

As indicated in the information provided in the permittee's application, there are other constituents that are included in the "typical creosote compounds" list that have been detected in the ground water. Statistical analyses were conducted to determine the maximum probable effluent concentration for each of these parameters. The maximum concentration was then compared to the water quality standard for that parameter to determine the statistical probability for the discharge to cause or contribute to a violation of water quality standards. There was no reasonable probability of a violation. Therefore, no limits are being proposed for these parameters.

Flow, pH, Temperature: The treatment plant maximum design flow is 0.288 mgd; this limit will be included in the permit, along with a requirement to monitor daily as is currently being done.

State Water Quality Standards require a pH between 6.5 and 9.0 standard pH units for discharges to waters protected for cold water biota. This limit will be included in the permit. Daily monitoring will be required, which is currently being done.

Temperature will also be monitored on a daily basis for this discharge.

Other Parameters: Years of monitoring data from this facility indicate there is no detection of common pollutants such as BOD, TSS, fecal or nutrients at levels or frequencies that warrant inclusion of limits or monitoring requirements in the permit. Likewise, metals and cyanide are either not detected or the occasional "hit" is at such a low level that there is no likelihood of a water quality standard violation; therefore, limits and routine monitoring are not included in the proposed permit for these parameters.

7. Biomonitoring

At the minimum flow in the river (1100 cfs) and the maximum design discharge rate for this facility (0.45 cfs), the dilution ratio is more than 2000:1. Because of the high dilution and the type of discharge, the Agency does not believe that toxicity testing is necessary.

8. Monitoring Requirements

Self-monitoring of permit parameters is necessary for the permittee to demonstrate compliance with effluent limitations and to assure that state water quality standards are being met. Monitoring frequencies are based on the Agency's determination of the minimum sampling frequency required to adequately monitor plant performance. Required sample types are based on the Agency's determination of the potential for effluent variability. These determinations take into consideration several factors, of which the most important are size and type of facility. We have also considered the monitoring requirements of the RCRA program, and the amount of data available on this treatment facility.

The permittee shall monitor for the parameters limited in the proposed permit to adequately assess treatment facility performance and characterize the effluent. Proposed treatment facility monitoring requirements are summarized below:

Effluent Monitoring Requirements				
Parameter	Units	Location	Frequency	Sample Type
Flow	MGD	Effluent	Daily	Reading
pH	Standard Units	Effluent	Daily	Grab
Temperature	°C	Effluent	Daily	Grab
Total PAH	μg/l	Effluent	Quarterly*	Grab

*PAH data will be submitted on Discharge Monitoring Report Forms (DMRs) for the months of January, April, July, and October. Analytical Method 8270 will be used for Total PAH samples with a PQL of 2 μg/l.

9. Quality Assurance Requirements

To ensure that quality data are collected, permits require the development of a Quality Assurance Plan. The purpose of the Quality Assurance Plan is to establish appropriate sampling, handling and analytical procedures for all effluent and ambient water samples taken. A Quality Assurance Plan has been developed for this facility and has been in place since plant start-up through RCRA program requirements.

The permittee must use analytical methods approved in 40 CFR 136 as well as achieve method detection limits (MDL's) when sampling for the parameters listed above.

10. Sludge

Sludge generated as a result of the facility operation (approximately one 55-gallon drum per year) is treated as hazardous waste under RCRA authority, and is disposed of in accordance with the facility's RCRA permit.

11. Endangered Species Act Consultation

An Endangered species list requested by EPA was received from the U.S. Fish and Wildlife Service on December 3, 1996. Listed species include the Gray Wolf, Bald Eagle, Peregrine Falcon, Whooping Crane, and the Ute's Ladies Tresses (a plant). There are no listed species under the jurisdiction of the National Marine Fisheries Service in the project area per personal communication with Kathi Moynan on February 25, 1997.

Construction of a discharge line from the treatment plant to the Snake River will occur once the permit is issued. This construction will cover a distance of approximately 3/4 mile. The disturbance will last up to 6 weeks between approximately May 15 and July 1.

US Fish & Wildlife personnel concur that the project will not impact the listed species under their jurisdiction.

12. State Certification

Because state waters are involved in this permitting action, the provisions of Section 401 of the Act apply. In accordance with 40 CFR §124.0(c)(1), public

notice of the draft permit has been provided to the State of Idaho agencies having jurisdiction over fish, shellfish, and wildlife resources.

Under Section 401, EPA may not issue a permit until the State certifies that the permit will result in water quality standards being met or until the State waives its right to certify. As part of its certification, the State must include any more stringent conditions required to ensure that water quality standards are met. EPA must include these conditions in the final permit. Therefore, the final permit may contain changes based on the state's 401 certification.

13. Permit Term

This permit shall expire five years from the effective date.