Statement of Basis

FACILITY:	Devon SFS Operating, Inc. – Riverton Dome
PERMIT NO:	WY-0000671
RESPONSIBLE OFFICIAL:	Don DeCarlo, VP and General Manager
ADDRESS:	20 North Broadway, Ste 1500 Oklahoma City, OK 73102
PHONE:	307-857-4122 (Mike Mungas)
PERMIT TYPE:	Minor Industrial (Renewal)

Background Information

This proposed permit authorizes the discharge of produced water from outfall 001 (Latitude 42º 56' 18" N, Longitude 108º 20' 43" W) at the oil production wastewater treatment facilities for the Devon SFS Operating, Inc. – Riverton Dome oil production facility located in the SW 1/4 of the SW 1/4 of Section 25, Township 01 South, Range 04 East in Fremont County, Wyoming. This facility is located on Wind River Indian Reservation land and is thus in "Indian country" as defined at 18 U.S.C. 1151. EPA has not approved the State of Wyoming to implement the CWA NPDES program in Indian country. EPA directly implements the Clean Water Act (CWA) NPDES program on Indian country lands within the State of Wyoming. This permit expired on September 30, 2002 and was administratively extended.

Produced oil, water, and gas are separated using an oil treater, production treater, a skim tank, and skim pit.

Receiving Waters

The discharge from this facility will enter an unnamed tributary to the Little Wind River. The discharge point is approximately seven stream miles from the Little Wind River. The discharge provides wildlife and stock watering opportunities.

The Northern Arapaho and the Eastern Shoshone Tribes have adopted draft Tribal water quality standards for waters within the Wind River Reservation. However, the Tribes have not applied to EPA for treatment in a similar manner as a state status for CWA WQS nor have they submitted these standards to EPA for federal approval. While EPA generally may consider the tribally approved standards in setting permit effluent limits**,** no standards have been adopted for the unnamed tributary to which this facility discharges. Therefore, there are no water quality criteria to base development of water quality based limits. There are, however, applicable federal effluent limitation guidelines as discussed below.

Monitoring Data

Monitoring data from the permit application and DMRs for the period June 2001 to December 2005 is summarized in Attachment A.

Effluent Limitations

These permit activities are covered under the effluent guideline for onshore oil and gas operations, subject to the Oil and Gas Extraction Point Source Category (40 CFR Part 435). The Oil and Gas Extraction Point Source Category Subpart C - Onshore Subcategory establishes the effluent limitation for produced water from Onshore operations as "No Discharge" [40 CFR 435.32 (a)]. However, Subpart E - Agricultural and Wildlife Water Use Subcategory, allows the discharge of produced water from facilities west of the 98th meridian for use in agricultural and wildlife propagation. The effluent guideline further requires " . . . that the produced water is of good enough quality to be used for wildlife or livestock watering or other agricultural uses and that the produced water is actually put to such use during periods of discharge." There is also a daily maximum limit for Oil and Grease of 35 mg/L. This permit has historically had a more stringent limit of 10 mg/L Oil and Grease.

In previous permits for this discharge limits were only established for total radium 226, pH, and Oil and Grease. To ensure that this discharge is of sufficient quality for livestock and wildlife water use, and therefore meets the requirements of Subpart E, new limits will be established for specific conductance, total dissolved solids, chlorides, and sulfates. The following effluent limitations will be required for this facility upon the effective date of this permit:

Effluent Characteristic	Effluent Limitation		
	30-Day Average a/	7-Day Average a/	Daily Maximum a/
Specific Conductance, µmhos/cm			7500
Total Dissolved Solids, mg/L			5000
Chlorides, mg/L			2000
Sulfates, mg/L			3000
Total Radium 226, pCi/L			60
Oil and Grease, mg/L			10 b/
The pH of the discharge shall not be less than 6.5 nor greater than 9.0 at any time.			
The discharge shall be free from substances in amounts which would cause a visible sheen or visible deposits in the receiving water or adjoining shoreline.			
No chemicals which contain toxic substances listed pursuant to Section 307 (a) of the Act shall be added to the discharge at levels which exceed the notification criteria specified under Conditions 3.9 and 3.10 of this permit.			
There shall be no addition of hexavalent chromium.			
There shall be no discharge of floating solids or visible foam in other than trace amounts.			
The discharge shall not present a hazard to humans, wildlife, or livestock.			

a/ See Definitions, Part 1.1., for definition of terms.

b/ A monthly visual observation is required. If a visible sheen is detected, a grab sample shall be taken and analyzed immediately. The concentration of oil and grease shall not exceed 10 mg/L in any sample.

These limits are based on EPA's professional judgment to implement the requirements of the Oil and Gas Extraction Point Source Category Subpart C - Onshore Subcategory and Subpart E - Agricultural and Wildlife Water Use Subcategory [40 CFR 435] and consideration of: 1) current uses of the receiving waters; 2) the current desires of the Tribes to have similar requirements on the Wind River Reservation and in the State of Wyoming; and 3) State of Wyoming Chapter 2.H - Surface Discharge of Water Associated with the Production of Oil and Gas requirements.

The upper pH limit for this permit was increased from 8.5 to 9.0. This decision was based on the presence of naturally high pH waters in the area. WREQC concurred with this change.

There are no limits based on water quality standards proposed for this permit as EPA has not approved Tribal water quality standards for the unnamed tributary. Permit Condition 4.15.1 includes a reopener provision under which the permit may be reopened and modified, as appropriate, if Tribal Water Quality Standards are approved by EPA.

However, the EPA may use EPA's National Water Quality Criteria to set permit limits to achieve the goals of the CWA to ensure "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water…" (CWA § 101(a)) It should be noted that the quality of the produced water discharges may not meet these National Water Quality Criteria for aquatic life protection. However, the water must be of necessary quality for use by livestock and wildlife. EPA is including a permit re-opener clause and additional effluent monitoring to screen for hazardous/toxic constituents to develop data for future water quality based limits (see discussion under the "Hazard Screening Requirements").

Self-Monitoring Requirements

The following self-monitoring requirements are included in this permit for each outfall:

Effluent Characteristic	Frequency	Sample Type a/
Total Flow, mgd b/	Monthly	Instantaneous
Specific Conductance, µmhos/cm	Monthly	Grab
Total Dissolved Solids, mg/L	Once per three months	Grab
Chlorides, mg/L	Once per three months	Grab
pH, standard units	Monthly	Grab
Oil and grease, visual c/	Monthly	Visual c/
Sulfates, mg/L	Once per three months	Grab
Total Radium 226, pCi/L	Once per three months	Grab

a/ See Definitions, Part 1.1., for definition of terms.

b/ Flow measurements of effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained. The average flow rate (in million gallons per day) during the reporting period and the maximum flow rate observed (in mgd) shall be reported.

c/ A monthly visual observation is required. If a visible sheen is detected, a grab sample shall be taken and analyzed immediately. The concentration of oil and grease shall not exceed 10 mg/L in any sample.

Hazard Screening Requirements

EPA will include in the permit a reopener clause and additional effluent monitoring to screen for hazardous/toxic constituents and to develop data for future water quality based limits. Within 30 days of the effective date of this permit, a sample will be collected from each outfall and analyzed for the constituents specified below, at the required detection limits. Within 90 days of the effective date of this permit, a summary report on the produced water will be submitted to the US EPA and the Wind River Environmental Quality Commission. This summary report will include the results and detection limits for each of the constituents. Based upon the results of this screening, this permit may be reopened and effluent limits and monitoring requirements established for constituents that may present a hazard.

Parameter	Required Detection Limits and Required Units
Arsenic, Total	1 µg/L
Aluminum, Total Recoverable	50 µg/L
Ammonia, mg/L	50 µg/L
Cadmium, Total Recoverable	5 µg/L
Chromium (total), mg/L	7 µg/L
Copper, Total Recoverable	5 µg/L
Iron, Total Recoverable	50 µg/L
Lead, Total Recoverable	2 µg/L
Manganese, Total Recoverable	50 µg/L
Mercury, Total Recoverable	0.001 µg/L
Nickel, Total Recoverable	5 µg/L
Zinc, Total Recoverable	5 µg/L
Hardness, Total	10 mg/L as CaCO3
Uranium, Total Recoverable	5 µg/L
Gross Alpha and Beta Radiation	0.2 pCi/L
Dissolved Oxygen	1 mg/L
Selenium	0.05 mg/L
Boron	1 mg/L
Chemical Oxygen Demand	3 mg/L
Sulfide, mg/L	0.2 mg/L
Benzene, mg/L	0.005 mg/L
Ethylbenzene, mg/L	0.05 mg/L
Toluene, mg/L	0.05 mg/L
Xylene, mg/L	0.05 mg/L

Reporting Requirements

The facility is required to report effluent data semi-annually on a discharge monitoring report. If no discharge occurred during that period, the report is to be marked "no discharge".

Reopener Conditions

EPA will include in the permit reopener clauses for Water Quality Standards adoption and hazard screening. Permit Condition 4.15.1 includes a reopener provision under which the permit may be reopened and modified, as appropriate, if Tribal Water Quality Standards are adopted and approved by EPA. Permit Condition 4.16 includes a reopener provision under which the permit may be reopened and modified, as appropriate, if constituents are present that constitute a hazard.

Endangered Species Act (ESA) and National Historic Preservation Act (NHPA) Requirements

Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470(f) requires that federal agencies consider the effects of federal undertakings on historic properties. EPA has evaluated its planned issuance of the NPDES permit for Riverton Dome to determine whether this action will have an adverse effect on historic properties.

In August 2008, the Bureau of Indian Affairs (BIA) issued the Final Environmental Impact Statement (Final EIS) for the Riverton Dome Coal Bed Natural Gas and Conventional Gas Development Project. The area affected by the Riverton Dome NPDES permit is within the area assessed in the Final EIS. Consultation with the affected tribes on cultural resource inventories and site evaluations, as well as plans to avoid impacts to historic properties are covered in the Cultural Resources sections of the Final EIS. EPA used this information to assess the NPDES permit's potential effects to cultural resources, and to otherwise meet the requirements of Section 106 of the NHPA. EPA has concluded that the NPDES permit is likely to result in at most negligible direct and indirect impacts to cultural resources, including historic properties.

In October 2008, EPA notified the Tribal Historic Preservation Offices (THPOs) of the Eastern Shoshone and Northern Arapahoe Tribes of our planned issuance of this NPDES permit and requested their input on potential effects on historic properties. Neither THPO responded to EPA's request.

Section 7(a) of the Endangered Species Act requires federal agencies to insure that any actions authorized, funded, or carried out by an Agency are not likely to jeopardize the continued existence of any federally-listed endangered or threatened species or adversely modify or destroy critical habitat of such species. The area affected by the Riverton Dome NPDES permit is within the area assessed in the Final EIS. EPA used this information to evaluate if renewal of this existing NPDES permit with more stringent effluent limits is likely to adversely affect listed species or critical habitat. EPA has determined that its renewal of the existing permit is not likely to adversely affect threatened or endangered species or habitat.

Completed by:
Colleen Gillespie
U.S. EPA
May 28, 2008

Reviewed by Bob Shankland, SEE, 8P-W-WW, on June 16, 2008.

No comments were received during the public comment period from July 30, 2008 to August 29, 2008. However, a section on ESA and NHPA requirements was added to the statement of basis after public comment. Colleen Gillespie, December 30, 2008.

Devon SFS Operation, Inc - Riverton Dome			WY0000671	001
Parameter	Limit	Measurement - Units mg/L unless noted		Measurement Date
		Maximum	Average	
Specific Cond., umho/cm		13700	9499	6/30/01-12/31/05
pH	6.5-8.5	8.5	7.7	6/30/01-12/31/05
Flow, MGD		0.03456	0.01634	6/30/01-12/31/05
O&G	10	14.6	9.1	6/30/01-12/31/05
Radium 226, pCi/L	60	15.4		6/30/01-12/31/05
Sulfates		1780	388	6/30/01-12/31/05
Chlorides		2870	1747	6/30/01-12/31/05
TDS		9450	6061	6/30/01-12/31/05