EPWM - 006

GENERAL CORRESPONDENCE

2010 - 2015

TRANSMISSION VERIFICATION REPORT

TIME : 12/06/2010 13:17
NAME : OIL CONSERVATION DIS
FAX : 505-476-3462
TEL : 505-476-3440
SER.# : BROH8J847603

DATE,TIME	12/06 13:16
FAX NO./NAME	915758856422
DURATION	00:01:06
PAGE(S)	03
RESULT	OK
MODE	STANDARD ECM

Fax

To: Douglas Lynn

Fax: (575) 885-6422

Pages: 3, including this cover sheet.

Date: December 6, 2010

RE: Draft Part 34 Produced Water Use Permit

Mr. Lynn,

I am sending you a draft Part 34 Produced Water Use Permit. Please review and provide OCD with Comments. If you have any questions, please contact me at 505-476-3488. I was unable to send the permit via email because OCD is having major problems with our email due an "upgrade" to the system.

Thanks,

Glenn von Gonten
Acting Environmental Bureau Chief

Fax

To: Douglas Lynn

Fax: (575) 885-6422

Pages: 3, including this cover sheet.

Date: December 6, 2010

RE: Draft Part 34 Produced Water Use Permit

Mr. Lynn,

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Thanks.

Glenn von Gonten
Acting Environmental Bureau Chief

New Mexico Energy, Minerals and Natural Resources Department

DECEMBER 6, 2010

Mr. Douglas C. Lynn
Center of Excellence for Hazardous Materials Management
505 North Main Street
Carlsbad, New Mexico 88220

RE: Request for a Produced Water Use Permit
Center of Excellence for Hazardous Materials Management (CEHMM)
EPWM - ???
Facility Address: 67 East Four Dinkus Road, Artesia, New Mexico 88210
Facility Location: Section 16, Township 18 South, Range 26 East,
NMPM, Eddy County, New Mexico

Dear Mr. Lynn:

The Oil Conservation Division (OCD) has received and reviewed the Center of Excellence for Hazardous Materials Management's (CEHMM) request, dated November 30, 2010, for a produced water use permit pursuant to Subsection B of 19.15.34.12 NMAC. CEHMM requests approval to use treated produced water as a source of makeup water in one of their experimental algae propagation ponds for research and development at CEHMM's algae propagation – bio-fuel project facility on the grounds of the Agricultural Science Center of New Mexico State University. OCD understands that Controlled Aqua Systems (CAS) will treat produced water and will provide treated produced water to CEHMM pursuant to the terms and conditions specified within CAS's OCD issued permit EPWM -005.

CEHMM's request is hereby approved with the following understandings and conditions:

1. CEHMM shall comply with all applicable requirements of the Produced Water Rule (19.15.34 NMAC), the Oil and Gas Act (Chapter 70, Article 2 NMSA 1978), and all conditions specified in this annual permit.

2. CHEMM shall use treated produced water, only as proposed in their November 30, 2010 request or otherwise approved by OCD, as a source of makeup water in one of their experimental algae propagation ponds for research and development at CEHMM's algae propagation – bio-fuel project facility located at 67 E. Four Dinkus Road, Artesia, New Mexico 88210.

3. CEHMM shall submit a modification request and obtain OCD's Environmental Bureau approval prior to initiating any changes in the use of the produced water.

4. CEHMM shall notify OCD in writing 30 days prior to the discontinued use of produced water at CEHMM's algae propagation – bio-fuel project facility, located at 67 E. Four Dinkus Road, Artesia, New Mexico 88210.

5. CEHMM shall submit a proposal to OCD regarding the final disposition of any remaining produced water (treated, untreated, or comingled with other liquids) within the facility boundary after CEHMM determines that it will no longer use the produced water as proposed in the November 30, 2010 request or approved by OCD. CEHMM must obtain approval from OCD prior to any transport or disposal of produced water covered under this use permit.

6. CEHMM shall not accept any produced water (treated or untreated) under this use permit for the collection, evaporation, storage, or use, upon revocation, suspension, or termination of the New Mexico Environment Department Ground Water Quality Bureau's discharge permit DP-1634.

7. CEHMM shall comply with the appropriate hydrogen sulfide gas provisions of 19.15.11 NMAC.

8. CEHMM shall report all unauthorized discharges, spills, leaks, and releases of produced water pursuant to 19.15.29 NMAC.

This permit is approved for a period of one (1) year. **This use permit will expire December xx, 2011.** Renewal requests for annual permits shall be submitted 45 days prior to the expiration date. Permits may be revoked or suspended for violation of any applicable provisions and/or conditions. OCD may administratively modify this use permit at any time, by incorporating additional conditions, if it determines that such conditions are necessary and proper for the protection of fresh water, public health, and the environment.

Please be advised that approval of this request does not relieve CEHMM of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve CEHMM of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If there are any questions regarding this matter, please contact Brad Jones at (505) 476-34887 or brad.a.jones@state.nm.us.

Sincerely,

Glenn von Gonten
Acting Environmental Bureau Chief

GvG/baj

cc: OCD District II Office, Artesia

CEHMM Center of Excellence for Hazardous Materials Management
505 North Main Street • Carlsbad, New Mexico 88220 • 575.885.3700 • FAX 575.885.6422 • www.cehmm.org

November 30, 2010

Mr. Mark E. Fesmire, P.E. Director
NM Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: CEHMM Produced Water for Beneficial Use Permit Application

Dear Mr. Fesmire:

The Center of Excellence for Hazardous Materials Management (CEHMM) requests permission to use treated produced water as a source of makeup water in one of our algae ponds at our facility on the grounds of the Agricultural Science Center of New Mexico State University near Artesia pursuant to 19.15.34.12.B NMAC. The legal description of the CEHMM algal facility is Section 16, T18S, R26E in Eddy County.

The intent of this proposal would be to compare algal culture growth and lipid production between the pond with treated produced water and other ponds that use ground water for makeup pursuant to NMED Ground Water discharge permit DP-1634, as modified. A total of five ponds are currently constructed and in use.

The Supplemental Environmental Project (SEP) grant issued to CEHMM by the New Mexico Air Quality Bureau specifically speaks of "water purification" as one of the objectives.

Produced water is a waste product generated as part of oil and gas well development. This water is typically injected back into the ground. The idea that produced water can be cleaned to a quality equal to or better than ground water (see Attachment 1 for minimum water quality requirements) currently used by CEHMM. This makeup water has the potential to mitigate evaporation loss thus alleviating the need for appropriation of beneficial groundwater. This scenario poses an intriguing alternative for disposition.

The scope of this project will be restricted to research and development at one pond at the CEHMM facility. Should this project be successful, CEHMM would hope to work with the State to expand the use of treated produced water perhaps at the pilot or commercial scale.

The equipment used to purify produced water is provided by CAS, a firm which has applied to the New Mexico Oil Conservation (NMOCD) for a permit for their "Produced Water Treatment Facility" to be located at the CEHMM algae facility. Once NMOCD issues a permit to CAS, CEHMM would hope to have this firm begin to treat produced water acquired from their facility in the near proximity. Start-up of this activity is anticipated to be early 2011.

The CAS application includes a section on Hydrogen Sulfide detection. A vendor familiar with OCD detection requirements will be hired to provide detection equipment and installation. CEHMM will adhere to the CAS H2S Exposure Control Standard approved by OCD, and CEHMM employees will be trained in safety procedures associated with potential exposure to H2S. The detection equipment installed will include a call-out system to alert CEHMM and CAS personnel of H2S levels in excess of State mandates during non-working hours.

Sincerely,

Douglas C. Lynn
Executive Director

DCL:ss
Attachment

cc: Tom Bowles, Office of the Govenor
James Noel, NMEMNRD
Marcy Leavitt, NMED
Rebecca Cook, NMED

Chemistry Report

Source:	NMSU Well Water
Test Description	Full Chemistry Report

Nutrient	Quantity Measured
Potassium	175 mg/L
Sulfate	600 mg/L
Nitrate	.5 mg/L
Iron	.31 mg/L
Orthophosphate	.07 mg/L
Magnesium	340 mg/L
Calcium	640 mg/L
Total Hardness	980 mg/L
Carbonate	0 mg/L
Bicarbonate	177 mg/L
Hydroxide	0 mg/L
Silica	
Total Dissolved Solids	
Salinity	
Dissolved Oxygen	
pH	
Oxidative Reduction Potential	

New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Jim Noel
Cabinet Secretary

Karen W. Garcia
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division

August 9, 2010

Mr. Doug Lynn
Center of Excellence for Hazardous Materials Management
505 North Main Street
Carlsbad, New Mexico 88220

RE: Request for Permit Application Pursuant to 20.6.2 NMAC
Center of Excellence for Hazardous Materials Management (CEHMM)
Facility Address: 67 E. Four Dinkus Road, Artesia, New Mexico 88210
Facility Location: Section 16, Township 18 South, Range 26 East, NMPM,
Eddy County, New Mexico

Dear Mr. Lynn:

The Oil Conservation Division (OCD) understands that the Center of Excellence for Hazardous Materials Management (CEHMM) is proposing to use treated produced water as a water source for its experimental algae propagation ponds – bio-fuel project. New Mexico Water Quality Control Commission (WQCC) Regulations (20.6.2 NMAC) requires that CEHMM submit an application for a discharge permit regarding this project to OCD for review and approval. Please provide the information requested below in your permit application for this facility. Guidelines (the Oil Field Service Company Application Guidelines would most closely follow your application needs) for your reference may be downloaded at the following web site: http://www.emnrd.state.nm.us/ocd/EH-DischargePlanGuidlines.htm

Please submit the permit application with a filing fee (20.6.2.3114 NMAC) of $100.00. Please make all checks payable to the **Water Quality Management Fund**. There is also a discharge plan permit fee, based on the type of facility, which OCD will assess after processing your application.

In addition to the information below, please submit a draft public notice for review and approval by the OCD. The notice must include the information as required by Subsection F of 20.6.2.3108 NMAC. Also, please provide the proposed newspaper and proposed posting locations for OCD approval in accordance with Subsection A of 20.6.2.3108 NMAC.

Please provide the following information:

1. Operator name, contact person name and telephone number;

2. Physical address of the proposed facility;

3. Legal description (unit letter(s) or to the quarter-quarter section) of the proposed facility;

4. Attach the name, telephone number and address of the landowner of the facility site;

5. Quantity, quality and flow characteristics of the modified discharge into the algae ponds;

6. Attach a plat and topographic map showing the proposed facility's location in relation to governmental surveys (quarter-quarter section, township and range); highways or roads giving access to the proposed facility site; watercourses; fresh water sources, including wells and springs; lakebed, sinkhole or playa lake (measured from the ordinary high-water mark); and inhabited buildings within one mile of the property boundary of where the discharge site/facility is proposed and existing or proposed wells to be used for monitoring;

7. Attach a description of the proposed facility with a diagram indicating the location of fresh water algae ponds, produced water algae ponds, tanks, fences and cattle guards, and detailed construction/installation diagrams of pits, liners, dikes, piping, sprayers, tanks, roads, fences, gates, berms, pipelines crossing the proposed facility, buildings and chemical storage areas

8. Attach engineering designs, certified by a registered professional engineer, including technical data on the detailed designs of surface impoundments pursuant to the design and construction requirements of 19.15.17 NMAC regarding permanent pits.

9. Attach plan for management of oil field wastes which includes a description of waste streams generated from the operation of the algae ponds and the development of bio-fuels and identify the method and/or facility for disposal. Also include the anticipated monthly volume of waste and the method of storage.

10. Attach a description of all materials stored or used at the facility.

11. Attach a routine inspection and maintenance plan to ensure permit compliance.

12. Attach a hydrogen sulfide prevention and contingency plan that complies with those provisions of 19.15.11 NMAC, if applicable.

13. Attach a contingency plan for reporting and clean-up of spills or releases.

14. Attach a closure plan sufficient to close the facility in a manner that will protect fresh water, public health, safety and the environment. The closure plan shall comply with the requirements contained in 19.15.17.13 NMAC regarding a permanent pit.

15. Attach a best management practice plan to ensure protection of fresh water, public health, safety and the environment.

16. Attach a demonstration for each of the following siting criteria as each pertains to the property boundary of the proposed facility:
    (a) wetland(s) within 500 feet;

(b) subsurface mine(s) within the area in which the produced water algae ponds are proposed. If present, the operator must demonstrate that the permanent pit's construction and use will not compromise subsurface integrity;
(c) unstable area(s) within the area in which the produced water algae ponds are proposed. If present, the operator must incorporate engineering measures into the design to ensure that the permanent pit's integrity is not compromised; and
(d) flooding potential of the site (a 100-year floodplain FEMA map).

17. Attach geological/hydrological data including:
    (a) a map showing names and location of streams, springs or other watercourses, and water wells within one mile of the site;
    (b) laboratory analyses, performed by an independent commercial laboratory, for the constituents listed in Subsections A, B, and C of 20.6.2.3103 NMAC of ground water samples of the shallowest fresh water aquifer beneath the proposed site;
    (c) depth to, formation name, type and thickness of the shallowest fresh water aquifer;
    (d) soil types beneath the proposed surface waste management facility, including a lithologic description of soil and rock members from ground surface down to the top of the shallowest fresh water aquifer;
    (e) construction diagrams of existing monitoring wells and associated lithologic logs;
    (f) geologic cross-sections; and
    (g) potentiometric maps for the shallowest fresh water aquifer.

18. Any additional information that may be necessary to demonstrate that the discharge permit will not result in concentrations in excess of the standards of Section 20.6.2.3103 NMAC or the presence of any toxic pollutant at any place of withdrawal of water for present or reasonably foreseeable future use. Detailed information on site geologic and hydrologic conditions may be required for a technical evaluation of the applicant's proposed discharge plan; and

19. Attach the names and addresses of the surface owners of the real property on which the proposed facility is sited and surface owners of the real property within 1/3 mile of the property boundary of where the discharge site/facility is proposed.

OCD may require additional information to demonstrate that the proposed facility's operation will not adversely impact fresh water, public health, safety or the environment and that the proposed facility will comply with division rules and orders

If there are any questions regarding this matter, please do not hesitate to contact me at (505) 476-3487 or brad.a.jones@state.nm.us.

Sincerely,

Brad A. Jones
Environmental Engineer

BAJ/baj

cc: OCD District II Office, Artesia