NPDES PERMIT NO. NM0000116

FACT SHEET FOR
THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

APPLICANT

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DATE PREPARED

August 11, 2010

PERMIT ACTION

Proposed revocation and reissuance of the current permit issued with an effective date of May 1, 2006, and an expiration date of September 30, 2010.

RECEIVING WATER – BASIN

Corral Canyon, thence to Tijeras Canyon, thence to Rio Grande– Rio Grande Basin

DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. They are as follows:

4Q3	Lowest four-day average flow rate expected to occur once every three-years
BAT	Best available technology economically achievable
BCT	Best conventional pollutant control technology
BPT	Best practicable control technology currently available
BMP	Best management plan
BOD	Biochemical oxygen demand (five-day unless noted otherwise)
BPJ	Best professional judgment
CBOD	Carbonaceous biochemical oxygen demand (five-day unless noted otherwise)
CD	Critical dilution
CFR	Code of Federal Regulations
cfs	Cubic feet per second
COD	Chemical oxygen demand
COE	United States Corp of Engineers
CWA	Clean Water Act
DMR	Discharge monitoring report
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FCB	Fecal coliform bacteria
F&WS	United States Fish and Wildlife Service
mg/l	Milligrams per liter (one part per million)
ug/l	Micrograms per litter (one part per billion)
MGD	Million gallons per day
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMIP	New Mexico NPDES Permit Implementation Procedures
NMWQS	New Mexico State Standards for Interstate and Intrastate Surface Waters
NPDES	National Pollutant Discharge Elimination System
MQL	Minimum quantification level
O&G	Oil and grease
POTW	Publically owned treatment works
RP	Reasonable potential
SIC	Standard industrial classification
s.u.	Standard units (for parameter pH)
SWQB	Surface Water Quality Bureau
TDS	Total dissolved solids
TMDL	Total maximum daily load
TRC	Total residual chlorine
TSS	Total suspended solids
UAA	Use attainability analysis
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Service
WLA	Wasteload allocation
WET	Whole effluent toxicity
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plant

I. CHANGES FROM THE PREVIOUS PERMIT

Changes from the permit previously issued March 14, 2006, with an effective date of May 1, 2006, and an expiration date of September 30, 2010, are:

A. Delete effluent limitations and monitoring requirements for oil & grease, cadminum, lead, and selenium at Outfall 001;

B. Delete monitoring requirements for boron, mercury, molybdenum, and zinc at Outfall 001;

C. Add effluent limitation for total copper at Outfall 001; and

D. Add Outfall 004 and associated monitoring requirements.

II. APPLICANT LOCATION and ACTIVITY

The plant site is located at 11783 State Highway 337, in Bernalillo County, New Mexico, about 10 miles east of Albuquerque. Under Standard Industrial Classification (SIC) Code(s) 3241, the applicant currently manufactures Portland cement. The production processes include procurement of raw materials, raw milling, kilns, clinker cooling/storage, product finishing, product storage and load out.

III. EFFLUENT CHARACTERISTICS

Discharges occurred, according to submitted monitoring results, in July and August of 2006. Due to lack of discharge during the preparation of application for permit renewal, the permittee did not provide effluent characteristics in the application. But, the permittee sampled and monitored discharges when discharges occurred in 2006 pursuant to the current permit requirements. The current permit established monitoring requirements for several metals based on previous reasonable potential analysis. The geometric means, expressed in µg/l, of analytical results are listed below:

Metals	Conc.	MQL	2009MQL	WQS
Aluminum	2208*	100	2.5	750
Boron	39	100	100	5000
Cadmium	ND+	1.0	1.0	0.42
Copper	9.5*	100	0.5	11.4
Lead	4.0	5.0	0.5	77
Molybdenum	10.6	30	10	NA
Selenium	ND+	5.0	5.0	5.0
Zinc	11.4	20	20	30
Mercury	ND+	0.2	0.005	0.77

* Has RP to exceed WQS + ND means non-detect

IV. REGULATORY AUTHORITY/PERMIT ACTION

In November 1972, Congress passed the Federal Water Pollution Control Act establishing the NPDES permit program to control water pollution. These amendments established technology-based or end-of-pipe control mechanisms and an interim goal to achieve "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water," more commonly known as the "swimmable, fishable" goal. Further amendments in 1977 of the CWA gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry and established the basic structure for regulating pollutants discharges into the waters of the United States. In addition, it made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. Regulations governing the EPA administered NPDES permit program are generally found at 40 CFR §122 (program requirements & permit conditions), §124 (procedures for decision making), §125 (technology-based standards) and §136 (analytical procedures). Other parts of 40 CFR provide guidance for specific activities and may be used in this document as required.

The permittee has requested the permit renewal feature the following changes to allow for the reclamation efforts:

- The storm water discharge from the mine will be separated from the process water discharge;
- Storm water discharges from the mine will be covered under the Multi-sector General Permit (MSGP) for industrial Facilities;
- A new retention pond and outfall will be built for the operations process water;
- The total concentration limits for metals be replaced with a dissolved concentration limits; and
- The new NPDES permit will have an integrated compliance plan for the construction of the above new retention pond and outfall.

The permittee's requests are discussed below. It is proposed that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a).

V. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

A. OVERVIEW OF TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations contained in 40 CFR §122.44 requires that NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, or the previous permit.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

Regulations promulgated at 40 CFR §122.44 (a) require technology-based effluent limitations to be placed in NPDES permits based on ELGs where applicable, on BPJ in the absence of guidelines, or on a combination of the two. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures. EPA establishes limitations based on the following technology-based controls: BPT, BCT, and BAT. These levels of treatment are:

BPT - The first level of technology-based standards generally based on the average of the best existing performance facilities within an industrial category or subcategory.

BCT - Technology-based standards for conventional pollutants.

BAT - The most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters. BAT effluent limits represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Regulations found in 40 CFR 411.13 and 411.17 define BAT and BCT effluent limitations, respectively, for cement manufacturing non-leaching process, and 40 CFR 411.37 defines BCT effluent guidelines for materials storage piles runoff from cement manufacturing facilities. Effluent limitations established at Outfall 001 in the current permit regulate overflows from Quarry #1 pond which store storm water runoffs from quarry areas, runoffs and process water effluents from plant area. The 40 CFR 411.37 ELG of 50 mg/l was the basis for establishment of TSS effluent limitation at Outfall 001. Effluent limitations for pH and TSS at Outfall 001 are retained until the facility dismantles Outfall 001. EPA did not establish 40 CFR 411.13 temperature limitation at Outfall 001 because discharges at Outfall 001 would be intermittent and the permit restricted discharges due to catastrophic or chronic precipitation events. The 40 CFR 411.17 TSS mass load limitation might not be applicable at Outfall 001 because the combination of storm runoff and process water.

The facility plans to separate runoffs from quarry areas from the process water discharges by constructing a new retention pond to hold process wastewaters and runoffs from plant area. Runoff from quarry areas will be reused and not be discharged. Once the new retention pond is constructed, Outfall 001 will be dismantled. Outfall 004 from the new pond will consist of non-contact once through cooling water, plant storm water runoff, vehicle and equipment cleaning water, and artesian well water flowing to the process area. Because all process water is contained by retention ponds and the discharge of overflow from retention ponds is infrequent, 40 CFR 411.13 ELG for temperature and part 411.17 ELG for TSS mass load are not established for overflow at Outfall 004. The 40 CFR 411.37 applies to runoff from the storage of materials including raw materials, intermediate products, finished products and waste materials which are used in or derived from the manufacture of cement. Based on the BPJ, EPA applies the 40 CFR 411.37 TSS

ELG of 50 mg/l and pH range to the overflow at Outfall 004. Because effluent limitations apply only when a discharge occurs, and EPA does not expect any discharge occurs prior to completion of new retention pond, EPA does not establish any compliance schedule for Outfall 004. Discharge restriction due to catastrophic or chronic precipitation events similar to the current condition set forth for Outfall 001 is proposed for Outfall 004.

C. WATER QUALITY BASED LIMITATIONS

1. General Comments

Water quality based requirements are necessary where effluent limits more stringent than technology-based limits are necessary to maintain or achieve federal or state water quality limits. Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on federal or state WQS. Effluent limitations and/or conditions established in the draft permit are in compliance with applicable State WQS and applicable State water quality management plans to assure that surface WQS of the receiving waters are protected and maintained, or attained.

2. Implementation

The NPDES permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations and/or conditions are included in the NPDES permits. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

3. State Water Quality Standards

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC amended through August 1, 2007). The facility discharges into Corral Canyon, thence into Tijeras Canyon in segment number 20.6.4.105 of the Rio Grande Basin. The designated uses for ephemeral stream, designated as segment number 20.6.4.97, are wildlife habitat, livestock watering, limited aquatic life, and secondary contact. EPA was unable to approve section 20.6.4.97 of the NM WQS because the State did not submit a Use Attainable Assessment (UAA) to support an aquatic life designation that does not meet the CWA §101(a)(2) objective as required by 40 CFR 131.10(j)(1). The CWA sections 101(a)(2) and 303(c) require water quality standards to provide, wherever attainable, water quality for the protection and propagation of fish, shellfish, wildlife, and recreation in and on the water, functions commonly referred to as “fishable/swimmable” uses. EPA's current water quality regulation effectively establishes a rebuttable presumption that “fishable/swimmable” uses are attainable and therefore should apply to a water body unless it can be demonstrated that such uses are not attainable. Prior to submittal of UAA, the designated uses of downstream perennial stream are applicable to

the receiving water. But, because the discharge is infrequent, and the proposed restriction that limits discharge to occur due to catastrophic or chronic storm events, EPA determines that the potential discharge will not likely cause chronic impact on aquatic life. Therefore, acute aquatic life criteria are used for RP screening.

The permittee is encouraged to contact NMED on conducting a UAA study.

4. Permit Action - Water Quality-Based Limits

Regulations promulgated at 40 CFR §122.44(d) require limits in addition to, or more stringent than effluent limitation guidelines (technology based). State WQS that are more stringent than effluent limitation guidelines are as follows:

a. TOXICS

The current permit established monitoring requirements for aluminum, boron, cadmium, copper, lead, mercury, molybdenum, selenium, and zinc. Effluent data demonstrated the discharge has RP to exceed the applicable WQS for aluminum and copper. Therefore, effluent limitations and monitoring requirements for total aluminum and total copper are established at Outfall 001. In accordance with 40 CFR 122.45(c), total recoverable metal concentration must be established as effluent limitations. The exceptions listed in that sub-section refers to technology-based, not WQ-based, criteria. The permittee must report total or total recoverable metal concentrations for compliance purpose. Because State WQS for aluminum and copper were dissolved-based criteria, the linear partition coefficient for copper to convert dissolved copper concentration to total concentration is used to calculate the maximum daily effluent limitation. However, because a partition coefficient for aluminum is not available, the effluent limitation for total aluminum is based on the dissolved criteria. The permit proposes to include monitoring for dissolved aluminum, dissolved copper, and hardness (CaCO3) for later RP analysis. Monitoring requirements for the rest of metals are proposed to be removed from the permit renewal because data demonstrated no RP.

Because the future discharge at Outfall 004 will not contain mine drainage from quarry areas as the discharge at current Outfall 001, previous data will not be representative for discharges at Outfall 004. Therefore, WQ-based effluent limitations are not proposed in the permit. Instead, the permittee is required to collect at the minimum of one representative sample per year, after completion of new retention pond and Outfall 004, for total and dissolved metals and water hardness.

b. Oil & Grease

Effluent data demonstrated the discharge has no RP to contribute to or cause exceedance of current effluent limitation. Also, the operation has no RP to generate oil & grease. EPA proposes to replace the numerical oil and grease limitation with the narrative “no visible sheen” limitation.

D. MONITORING FREQUENCY FOR LIMITED PARAMETERS

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity, 40 CFR §122.48(b), and to assure compliance with permit limitations, 40 CFR §122.44(i)(1). Sample frequency is based on the November, 2009, NMIP. Based on the discharge frequency of the facility, the NMIP requires that pH has daily monitoring frequency and all other limited parameters have weekly monitoring frequency requirements. Flow is proposed to be monitored daily by estimate. Grab sample type is proposed because a discharge would be the overflow from a retention pond.

E. WHOLE EFFLUENT TOXICITY LIMITATIONS

Procedures for implementing WET terms and conditions in NPDES permits are contained in the NMIP, July 2009. Table 11 of Section V of the NMIP outlines the type of WET testing for different types of discharges. The 48-hour WET testing for toxicity will be maintained for the proposed permit term. The frequency is increased to 1/year. The CD of the discharge was previously determined to be 100%. The test species shall be *Daphnia pulex*.

During the period beginning the effective date of the permit and lasting through the expiration date of the permit, the permittee is authorized to discharge from Outfall 001 and/or Outfall 004 to the Corral Canyon. WET testing is established at Outfall 001 and Outfall 004, respectively. Because there was no data to analyze WET RP therefore conditions from the last permit will be carried over. WET will be performed at first discharge. A grab sample type is established because if a discharge occurs, it comes from a retention pond which provides a relative similarity of effluent characteristics and EPA does not expect such a discharge will last long.

VI. FACILITY OPERATIONAL PRACTICES

A. BEST MANAGEMENT PRACTICES

1. The operator shall take reasonable steps to maintain maximum capacities of retention ponds to contain the process wastewaters and storm water runoffs from manufacturing areas.

2. Discharges are restricted to overflows from the retention pond due to catastrophic or chronic precipitation events.

3. Discharges of storm water runoff from access roads in undisturbed areas shall be covered under the NPDES Multi-Sector Storm Water Permit.

4. If a discharge of storm runoffs from mining areas is necessary, the discharge must comply with effluent limitations established at Outfall 001.

As described in section IV above, the permittee requested that storm runoff from the mine to be covered by the MSGP. EPA clarified with the permittee that storm runoff from access roads in forest areas will be covered by the MSGP and the permittee has no plan to discharge runoff from quarry areas.

B. OPERATION AND REPORTING

The applicant is required to operate the treatment facility at maximum efficiency at all times; to monitor the facility's discharge on a regular basis; and report the results quarterly. The monitoring results will be available to the public.

VII. 303(d) LIST

The Tijeras Arroyo (Canyon), a tributary to Rio Grande, is listed as being impaired for benthic-macroinvertebrate bioassessment and nutrient/eutrophication biological indicators and the probable causes include channelization, drought-related impacts, on-site treatment systems, rangeland grazing, wastes from pets, and unknown sources. EPA does not consider that the discharger is a probable contributor to the impairment because of the nature of operation and the frequency of discharges. No additional pollutants are established to address the stream impairment. A reopener language in the permit allows additional permit conditions if warranted by future changes and/or new TMDLs.

VIII. ANTIDEGRADATION

The NMAC, Section 20.6.4.8 "Antidegradation Policy and Implementation Plan" sets forth the requirements to protect designated uses through implementation of the State water quality standards. The limitations and monitoring requirements set forth in the proposed permit are developed from the State water quality standards and are protective of those designated uses. Furthermore, the policy sets forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use. The permit requirements and the limits are protective of the assimilative capacity of the receiving waters, which is protective of the designated uses of that water, NMAC Section 20.6.4.8.A.2.

IX. ANTIBACKSLIDING

The proposed permit is consistent with the requirements to meet antibacksliding provisions of the Clean Water Act, Section 402(o) and 40 CFR §122.44(l)(i)(B)(1), based on information available after permit issuance which justify the application of a less stringent effluent limitation. New effluent information that was not available at the time the previous permit was issued has been discussed in Part V above.

X. ENDANGERED SPECIES CONSIDERATIONS

According to the most recent county listing available at USFWS, Southwest Region 2

website, http://www.fws.gov/southwest/es/EndangeredSpecies/lists/ListSpecies.cfm four species in Bernalillo County are listed as endangered or threatened. The Black-footed ferret (*Mustela nigripes*), Rio Grande silvery minnow (*Hybognathus amarus*), and the Southwestern willow flycatcher (*Empidonax traillii extimus*) are listed as endangered. The Mexican spotted owl (*Strix occidentalis lucida*) is listed as threatened. The American bald eagle (*Haliaeetus leucocephalus*) was previously listed as endangered; however, the USFWS removed the American bald eagle in the lower 48 states from the Federal List of Endangered and Threatened Wildlife Federal Register, July 9, 2007, (Volume 72, Number 130).

EPA evaluated the effects of listed species by reviewing a report titled "Threatened and Endangered Species Survey of Kirtland Air Force Base (KAFB), New Mexico" dated April 1995, when EPA issued the permit to the GCC Rio Grande in 2000. Based on information available, black-footed ferrets were extirpated in New Mexico. Mexican spotted owl and southwestern willow flycatcher were not observed in the area and the discharge would be much diluted by runoff if it ever reaches Rio Grande to cause any effect on Rio Grande silvery minnow. Therefore, EPA determined that this permit renewal action has no effect on the listed endangered or threatened species, and does not modify the habitats of those species.

XI. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The reissuance of the permit should have no impact on historical and/or archeological sites.

XII. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if State Water Quality Standards are promulgated or revised. In addition, if the State establishes a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that TMDL. Modification of the permit is subject to the provisions of 40 CFR §124.5.

XIII. VARIANCE REQUESTS

No variance requests have been received.

XIV. CERTIFICATION

The permit is in the process of certification by the State Agency following regulations promulgated at 40 CFR 124.53. A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service prior to the publication of that notice.

XV. FINAL DETERMINATION

The public notice describes the procedures for the formulation of final determinations.

XVI. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION(s)

EPA Application Form 2A received February 5, 2010.

B. 40 CFR CITATIONS

Citations to 40 CFR are as of July 2, 2010.

C. STATE OF NEW MEXICO REFERENCES

New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, as amended through August 1, 2007.

Procedures for Implementing National Pollutant Discharge Elimination System Permits in New Mexico, November 2009.

Statewide Water Quality Management Plan, December 17, 2002.

State of New Mexico 303(d) List for Assessed Stream and River Reaches, 2008 - 2010.