

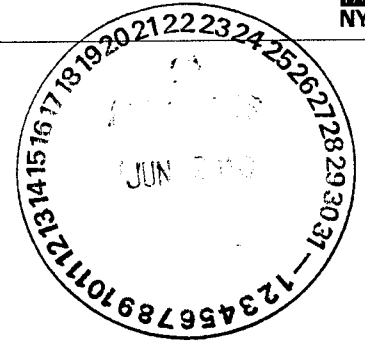
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June 18, 2010

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Mr. James P. Bearzi
Chief, Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

**Subject: Response to Notice of Approval with Modifications
Process Design Report for Wastewater Treatment Plant Work Plan
(Alternative Design)
Western Refining Company Southwest, Inc. (Gallup Refinery)
EPA ID# NMD000333211
HWB-GRCC-09-006**

Dear Mr. Bearzi:

This letter is in response to the Notice of Approval with Modifications for Western Refining's Process Design Report for Wastewater Treatment Plant Work Plan (Alternate Design) dated April 30, 2010 (Work Plan). The comments from the NOA with modifications and Western Refining's responses addressing those comments are included below.

Comment 1

In Section 2.2 (Refinery Wastewaters), page 4, the Permittee states "[i]n addition, two non-oil refinery wastewaters are discharged directly to Evaporation Pond No. 2 (EP-2). These sources are the water softener system and the reverse osmosis (RO) system."

NMED Response

The water softener and reverse osmosis effluent entering into EP-2 must be routed through the wastewater treatment system upstream of the API separator. Any alternatives that would discharge these waste streams to a location other than the wastewater treatment system must be approved by the New Mexico Energy, Minerals and Natural Resource Department Oil Conservation Division (OCD).

Western Refining Response

The two non-oil refinery wastewaters composed of the reverse osmosis (RO) system and the water softener system will be routed to the influent of the waste water treatment plant. This change is made on the flow diagram and is attached at the conclusion of this letter (ATTACHMENT A).

Comment 2

In Section 1.4 (Treatment Objectives), page 3, the Permittee states “[t]he treatment objectives for the WWTP upgrade are to provide water quality that is suitable for discharge to the unlined EP-1. Specifically, the objectives are for there to be no visible free oil, <0.5 mg/L benzene, and a wastewater quality that meets the definition of EPA RCRA non-hazardous.”

NMED Response

Effluent entering into Evaporation Pond 1 (EP-1) must be compliant with both the surface and groundwater quality regulations in accordance the NMAC 20.6.2 and 20.6.4. The effluent must meet the total petroleum hydrocarbon (TPH) levels found in Table 2a (TPH Screening Guidelines for Potable Groundwater (GW-1)) of NMED’s TPH Screening Guidelines (October 2006 and as updated). The Permittee must also comply with any other applicable state and federal regulations.

Western Refining Response

Western Refining’s understanding is that the subject of the WWTS effluent quality has been resolved and agreed upon in prior submittals and regulatory responses. A summary of these historical exchanges is provided below.

Document: April 15, 2009 Notice of Disapproval regarding the February 26, 2009 Work Plan for the upgraded WWTS.

Author: NMED.

Content: Comment 9 of that letter included the statement: “The effluent must comply with the Water Quality Control Commission standards found in 20.6.2.3103.”, referring to the WWTS effluent discharging into EP-1.

Document: May 26, 2009 letter to NMED (submitting the revised Work Plan)

Author: Western Refining

Statement: Responding to Comment 9: “Meeting the 20.6.2.3103 standards is not a stated treatment objective of the upgraded WWTS. The treatment objectives (as stated in Section 1.4 of the Report) are for there to be no visible free oil and <0.5 mg/L benzene. The concentrations of other parameters are expected to be consistent with the historical data reported for the EP-1 inlet under the GW-32 monitoring requirements.”

Document: September 1, 2009 Approval with Modification (regarding the revised Work Plan)

Author: NMED

Statement: Further responding to Comment 9: “As identified in the objectives, the effluent entering into EP-1 must not contain free oil, and benzene concentrations must be below <0.5 mg/L. However, these should not be the sole objectives of the WWTS upgrade. The WWTS and the effluent entering into EP-1 must comply with all applicable requirements found in the Oil Conservation Divisions (OCD) Discharge Plan GW-32, as well as comply with all other applicable regulations. Discharges to the unlined Evaporator Ponds must not create the potential for impacts to groundwater.”

Document: September 25, 2009 letter to NMED (submitting the Alternative Design Work Plan)

Author: Western Refining

Statement: In the last introductory paragraph of the letter: “We have no further response to Comments 1, 2, 4, 9, B, C, E, and G. They are either accepted or do not apply to the alternative design.”

Document: October 27, 2009 Notice of Disapproval (regarding the September 2009 Alternative Design Work Plan)

Author: NMED

Statement: Comment 5: “The effluent entering into the unlined Evaporation Pond (EP-1) must have benzene concentrations less than 0.5 mg/L. In addition, the treatment objective of the upgraded (WWTS) is for all effluent entering into EP-1 to comply with all applicable regulations. Discharges to the unlined Evaporation Ponds must not create the potential for impacts to groundwater. The Permittee must revise the Work Plan to state that benzene concentrations will be below 0.5 mg/L for benzene.”

Document: April 30, 2010 letter to NMED (submitting the revised Alternative Design Work Plan)

Author: Western Refining

Statement: Responding to Comment 5: “Work Plan Section 1.4 was revised to state that the effluent entering EP-1 must be <0.5 mg/L benzene, rather than ≤0.5 mg/L benzene. Also, the revised Section 1.4 states that the effluent entering EP-1 shall meet the definition of EPA RCRA non-hazardous as required by Condition 23 of our OCD Discharge Permit GW-032.”

Based on these past communications, Western Refining has designed the upgraded WWTS on the basis that the wastewater entering EP-1 shall:

- Contain <0.5 mg/L benzene
- Not contain visible free oil
- Shall meet the definition of RCRA non-hazardous
- Comply with GW-32 requirements
- Comply with all other applicable regulations
- Not create the potential for impacts to groundwater

Western Refining believes these commitments satisfy NMED’s objectives. Further, Western Refining assumes that our compliance requirements under NMAC 20.6.2 and 20.6.4 are already covered by our GW-32 permit or fall under “comply with all other applicable regulations.” However, as a clarification, our interpretation is that there are no numerical standards under NMAC 20.6.2 and 20.6.4 that apply to the effluent discharge into EP-1. For example, the standards under 20.6.2.3103 are for the concentration in groundwater, not for the wastewater discharge to a surface impoundment that may infiltrate into groundwater. Similarly, we are not in agreement with the requirement that the effluent discharge entering EP-1 shall comply with the TPH levels found in Table 2a. These requirements are for the TPH concentrations in groundwater, not for the

wastewater discharge to a surface impoundment that may infiltrate into groundwater. They are not applicable.

Comment 3

In Section 4.2.1 (Combined Process Sewer and Process Area Storm Sewer), page 8, the Permittee states “[c]leanouts will be installed on the gravity sewer to T27 and T28. Cleaning events will be scheduled on a regular, recurring basis with collected material managed along with similar material collected from the API Separator.”

NMED Response

The Permittee did not provide the frequency of regular cleaning (e.g., weekly, monthly, quarterly). The Permittee must notify NMED and OCD in writing of the cleanout details and schedule once they have been determined. The Permittee is responsible for documenting the cleanout operations and demonstrating they comply with the regulations. The documentation must be kept in the Facility operating record and be available for NMED and OCD review upon request.

Western Refining Response

When the system is fully operational, the frequency of cleaning will be quarterly. During the first year of operation the cleaning will be monitored and Western Refining will determine if cleaning should be performed on a more or less frequent basis. Minimal if any material is anticipated to be collected during the cleaning; however, if any is collected, it will be handled in an environmentally appropriate manner and may be recycled back into the refining process as oil bearing secondary hazardous material. The cleanout operation will be documented with the records being kept in the Facility operating record; the records will be available for NMED and OCD review upon request.

Comment 4

The Permittee addresses the Equalization Tank (EQ) in Section 4.2.3 and on page 11, states “[s]olids entering the EQ tank will accumulate as a sludge layer, which will require removal periodically, currently expected to be every three to five years.”

NMED Response

All sludges removed from the Equalization Tank must be managed as hazardous waste.

Western Refining Response

All sludges removed from the Equalization tank will be managed as hazardous waste or may be recycled back into the refining process as oil-bearing secondary hazardous material.

Comment 5

In Section 4.2.5 (DGR System), page 12, the Permittee states “[t]he [Dissolved Gas Flotation] DGF float material will be skimmed from the top of the DGF using a variable speed scraping mechanism. The skimmed float will be sent to the DGF float management system, which will consist of “Float Tanks.” The purpose of the tanks will be to provide storage capacity and reduce the volume of oily solids through gravity

separation. Oily solids collected in the Float Tanks will be recycled to the refining process (on-site or off-site).”

NMED Response

The DGF float is K048 listed waste. Therefore, any float from the DGF management system that is not recycled through the refining process must be managed as a hazardous waste.

Western Refining Response

All float material removed from the DGF management system that is not recycled through the refining process will be managed as a hazardous waste.

Comment 6

In Section 4.2.7 (Pilot Travel Center Pretreatment), page 13, the Permittee discusses biologically treating the sanitary wastewater in an aeration lagoon system that will discharge by gravity to Evaporation Pond 2.

NMED Response

As part of this Approval with Modifications, the Permittee must provide documentation that demonstrates the Permittee has obtained approval from the NMED Liquid Waste Program to operate the aeration basins and discharge the treated sanitary wastewater to the Evaporation Ponds. This documentation must be provided in the Response Letter. In addition, the Permittee must comply with their Biohazard Plan and update the plan as necessary to reflect any changes resulting from the new wastewater treatment system.

Western Refining Response

The NMED Liquid Waste Program’s John Roderick of NMED’s Gallup office was contacted by Beck Larsen of Western Refining on June 8, 2010. Mr. Roderick stated that his program does not have jurisdiction over sanitary waste water discharges greater than 2,000 gallons per day. He referred us to the NMED Groundwater Bureau. On June 10, 2010 Western Refining left a message for Mr. Bill Olson of Groundwater Quality and as of this letter he has not returned the call. If the Groundwater Bureau does not have jurisdiction, then Western will work with the OCD which Mr. Olson indicated had jurisdiction on past sanitary waste water projects.

Comment 7

In Section 4.2.8 (Evaporation Pond1), page 13, the Permittee states “[t]he [Macro Porous Polymer Extraction] MPPE clean wastewater effluent will be free of floating oil and will have a benzene concentration of 0.5 mg/L and will be RCRA non-hazardous.”

NMED Response

The benzene concentration of the MPPE effluent must be less than 0.5 mg/L and meet the water quality standards discussed in Comment 2.

Western Refining Response

The benzene concentration of the MPPE effluent will be less than 0.5mg/L and meet the

water quality standards as discussed in Western Refining's response to Comment 2.

Comment 8

In Section 4.4 (Management of Off-Spec Wastewater), page 14, the Permittee states "[t]he MPPE process monitoring will consist primarily of two daily measurements (at approximately 7:00 am and 7:00 pm) of benzene in samples of wastewater. These samples will be analyzed at Gallup Refinery's on-site testing laboratory using Gas Chromatograph/Mass Spectrometer (GC/MS). The results will be available almost immediately – that is, within a few hours of sample collection. To account for the fact that our on-site method is not identical to the EPA-approved method, and to divert proactively, we will use 0.4 Mg/L of benzene as a trigger for diversion."

NMED Response

In addition to the sample collection described above, the Permittee must also collect one duplicate sample a week, selected at random for analysis by an off-site certified laboratory for diesel range organics (DRO extended), benzene, toluene, ethylbenzene, total xylenes (BTEX), general chemistry parameters as defined by OCD, and pH (pH can be analyzed either by the laboratory or in the field). The Permittee must submit laboratory results received by the last Friday of each month to NMED and OCD (submittal by e-mail is acceptable). If any effluent sample results detect hazardous waste, the Permittee must notify NMED within one business day of this discovery. If the sample results exceed the cleanup standard referenced in Comment 1, NMED and OCD must be notified within five business days of discovery. See also Comment 17 for sampling and monitoring startup requirements.

Western Refining Response

NMED's reference to Comment 1 is assumed to be a reference to Comment 2. Western Refining has no additional response to this comment and agrees to the testing schedule requested.

Comment 9

In Section 5 (Project Schedule), the Permittee provides a schedule to complete the construction of the Wastewater Treatment Plant upgrade. The schedule indicates the system will take 24 months to install.

NMED Response

NMED does not approve the proposed schedule. The Wastewater Treatment System must be installed and operational on or before September 4, 2010 as required by NMED's September 1, 2009 *Approval with Modification Process Design Report for Wastewater Treatment Plant Upgrade (REV. A)*. As a reminder, the Permittee submitted a work plan *Process Design Report For Wastewater Treatment Plant Upgrade* dated February 26, 2009, which was revised (*Process Design Report For Wastewater Treatment Plant Upgrade (REV. A)*, dated May 26, 2009) and approved by NMED and OCD on September 1, 2009 and September 3, 2009, respectively. It was the Permittee's choice to propose an alternate design to the wastewater treatment system rather than the system

already approved by NMED; therefore, this is not good cause to propose a two-year extension. Further, the Permittee could have taken immediate action upon the September 1 and 3, 2009 approvals, but instead submitted an alternative design on September 25, 2009. NMED provided the Permittee with a Notice of Disapproval on October 27, 2009; again, the Permittee could have taken immediate action subsequent to receiving the comments, but submitted a response to this NOD over six months later (received by NMED on May 3, 2010). The Permittee's delay in providing NMED and OCD the appropriate documents for the wastewater treatment system does not constitute reason to extend the deadline.

Western Refining Response

As requested in the email sent on June 14, 2010 from Ann Allen to James Bearzi, Western Refining would like to meet with NMED. During the meeting, Western Refining will make a presentation highlighting all of the improvements that have been implemented to control benzene and present a detailed timeline for the installation of the new waste water treatment system.

Comment 10

In Attachment D (Process Design Report, Western Refining Southwest Inc., January 21, 2010), Section 1 (Introduction), page 3, the Permittee discusses how effluent from the MPPE system contained benzene concentrations less than 0.5 mg/l.

NMED Response

The Permittee must clarify in the Response Letter if samples were analyzed by the on-site laboratory or a certified off-site laboratory, identify the analytical method and provide the final laboratory report.

Western Refining Response

All samples for the MPPE pilot operation were analyzed at an off site laboratory. The certification for that laboratory is attached at the end of this letter. The laboratory analysis from the pilot demonstration is also attached in the attachments of this letter (ATTACHMENT B).

Comment 11

In Attachment D (Process Design Report, Western Refining Southwest Inc., January 21, 2010), page 5, the Permittee states "[t]his historical data is visually displayed in appendices 7-10."

NMED Response

Attachment D does not contain Appendices 8-10. The Permittee must submit the missing Appendices 8-10 to complete the record.

Western Refining Response

The appendices 7-10 have been added to the report. The complete report with an updated table of contents is located in the attachments of this letter (ATTACHMENT C).

Comment 12

In Attachment D (Process Design Report, Western Refining Southwest Inc., January 21, 2010), page 7, Section 2.1 (MPPE process description), the Permittee states “[d]uring the pilot plant trial, the unit was periodically sampled by Western Refining. Each morning and evening the unit was switched from fire water to process waste water and vice versa.”

NMED Response

It is not clear why the Permittee used fire water in this pilot study instead of a continuous use of process wastewater. In the response letter, the Permittee must provide an explanation for the use of fire water instead of process wastewater.

Western Refining Response

The demonstration of the MPPE process was very labor intensive and required constant supervision during the operation. The demonstration was only performed during the day light hours in order to maintain safety for the personnel operating the unit and to take advantage of the warmer day time temperatures. At night the unit was put in a standby mode and fire water was introduced to create a continuous movement of fluid. This kept the unit from freezing and destroying the components. The MPPE unit, as will be constructed, will be completely winterized to allow for continuous operation. The samples for the test run were never taken during the time when fire water was introduced. Once the system was back on line during day light hours, process water was introduced for a minimum of one hour before samples were retrieved.

Comment 13

In Attachment D (Process Design Report, Western Refining Southwest Inc., January 21, 2010), page 21, the Permittee provides the conclusions of the MPPE pilot study. The Permittee concluded the “MPPE technology proved to be very capable of lowering the benzene concentrations well below the EPA required level of 0.5 mg/l” and “can also remove other dissolved hydrocarbons like Toluene, Ethylbenzene, Xylenes, VPH and EPH (both aliphatics and aromatics) to any level required.” NMED has the following concerns regarding Appendix D:

- a. Page 8 states, “[i]s it important to note that many of the results were below the detection range of the test method and lab equipment. This is important as the values with the (>) symbol are depicting a worse case scenario.” This statement cannot be verified because the detection range of the test method and laboratory instrument was not provided, nor was the laboratory results.
- b. Page 8 states “[i]t is unknown as to exactly how far the effluent result is below the detection limit. Therefore, the range could vary from say 9% to as great as 99% removal efficiency. However, the removal efficiencies are calculated for informational purposes.” Again, the detection limit was not provided. The range of 9% to 99 % removal of hydrocarbons is broad and implies the system capabilities are variable in the extent of removal of hydrocarbons. The calculations used to determine the removal efficiencies were not included and it is not clear how the percentages were determined.

- c. The summary tables are not presented in a clear manner. For example, Table 3.2 provides volatiles in concentrations in mg/l with alternating inlet and outlet results. The alternating inlet and outlet data is not clear, and the rows should be labeled accordingly. In addition, Table 3.4 provides alternating VPH-1 inlet and outlet data; the outlet concentrations are higher than the inlet concentration (e.g., the inlet sample QA24L collected on 11-30-09 states <500 µg/L MTBE and the outlet samples QA24E collected on 11-30-09 states 5.7 µg/L; this data would imply the system was not operating correctly).

It is the Permittee's responsibility to install a system that is capable of meeting the effluent discharge requirements and all other applicable regulations. The Permittee must demonstrate that the MPPE system treats the process wastewater in compliance with established standards and is protective of human health and the environment. No revision is necessary; however, the Permittee must take the above comments into consideration when designing and installing the system.

Western Refining Response

The above comments are appreciated and will be utilized.

Comment 14

Page 6 of the Permittee's *Response to Notice of Disapproval Process Design Report for the Wastewater Treatment Plant Work Plan (Alternative Design)*, dated April 30, 2010, the Permittee's response to Comment 8, item d states "[w]e do not understand NMED's basis for limiting the accumulation of solids in the bottom of T27/T28 to less than 2 feet. The res-suspension mixing described under Item b and in the revised Work Plan will ensure that the 90-day accumulation period is not exceeded. Therefore, the amount of sludge that accumulates in the interim is not relevant to complying with this requirement. We request relief from the requirement that solids accumulation be limited to less than 2 feet."

NMED Response

The Permittee is relieved of the two foot accumulation. If Tanks T27 and T28 are cleaned out by any method other than the mixing method described in the Work Plan, all removed solids accumulated in the bottom of the Tanks must be managed as hazardous waste.

Western Refining Response

Western Refining will appropriately handle the recovered solids from T27 and T28 as hazardous waste or may recycle them as oil-bearing hazardous secondary materials in a refining process.

Comment 15

Page 11 of the Permittee's *Response to Notice of Disapproval Process Design Report for the Wastewater Treatment Plant Work Plan (Alternative Design)*, dated April 30, 2010, Comment 18 states "[i]n Section 4.5 9Tank Design, Secondary Containment, and Leak

Detection, page 11, the Permittee states "In the event that there are new tank(s) or ancillary equipment not covered by the CAFO, such as those upstream of the API separator, those systems will be designed to the standards in accordance with GW-032 and related OCD requirements."

NMED Response

The secondary containment must be able to contain a volume equal to 1 1/3 of the tank capacity and/or volume of all interconnected tanks. The Permittee must comply with all OCD requirements.

Western Refining Response

The secondary containment will provide a volume of retention equal to 1 1/3 the largest tank, the Equalization Tank. Pumping and valving that will be physically connected to, and located between, the tanks will prevent free flow from occurring from multiple tanks in the unlikely event one tank should fail.

Comment 16

Page 10 of NMED's *Notice of Disapproval Process Design Report for the Wastewater Treatment Plant Work Plan (Alternative Design)*, dated October 27, 2009, NMED states "[i]n addition, an electronic version of the revised Work Plan must be submitted with all changes shown in red-line strikeout."

NMED Response

An electronic version with red-line strikeout was not submitted. The Permittee is required to submit an electronic version in red-line strikeout and this was not provided; an explanation for not providing the documentation must be included in the Response Letter.

Western Refining Response

The omission of the red line submission was an oversight of Western Refining. It is included with this letter (ATTACHMENT D).

Comment 17

System Startup Requirements: The Permittee must implement the following sampling requirements upon initial startup to the wastewater treatment system:

- a. The Permittee must collect daily duplicate effluent samples from the MPPE for the first fifteen days from startup. One sample must be sent to a certified offsite laboratory for the analyses of DRO extended, BTEX, general chemistry parameters as defined by OCD, and pH (pH can either be analyzed by the laboratory or in the field). The other effluent sample must be analyzed for the same constituents at the refinery on-site laboratory for comparison purposes.
- b. The Permittee must collect duplicate effluent samples from the MPPE two times a week for 90 days after the initial 15 day period of continuous operation. One sample must be sent to a certified offsite laboratory for

analyses of DRO extended, BTEX, general chemistry parameters as defined by OCD, and pH (pH can either be analyzed by the laboratory or in the field). The other effluent sample must be analyzed at the refineries on-site laboratory for comparison purposes. In addition, the Permittee must also analyze an effluent sample once a month during this 90-day period for priority pollutant metals and semi-volatile organics (SVOCs) by a certified off-site laboratory.

- c. After the 90-day sampling period, the Permittee may collect duplicate samples weekly for chemical analyses specified in Comment 7. NMED will evaluate the need for additional analysis after the 90-day startup period, see item h of this Comment.
- d. The Permittee must collect flow rate measurements from the flow meters at the influent location to the API separator and effluent from downstream of the MPPE daily for the first 15 days of startup, two times a week during the following 90 days and weekly thereafter.
- e. The Permittee must collect air samples two times a month for the initial two months, once a month for the third month, and quarterly thereafter. The samples must be collected from the sample location labeled "ATM" from the "carbon" box located in Figure 1 (Wastewater Treatment Plan Work Plan Flow Diagram). The samples must be analyzed for VOCs using EPA Method TO15.
- f. The Permittee must submit all received laboratory results and flow meter data by the last Friday of each month beginning with the initial system startup to NMED and OCD (submittal by e-mail is sufficient). NMED and OCD must be notified within one business day of discovery if the effluent samples are determined to be hazardous. NMED and OCD must be notified within five business days if the effluent samples exceed the cleanup standards as referenced in Comment 1.
- g. The Permittee must monitor and record all occasions when the Surge Tanks (Tanks T27 and T28) are used and describe the event that caused these Tanks to be used. This information must also be submitted on the last Friday of each month.
- h. Following the initial 90 days of startup, NMED and OCD will establish long-term monitoring and sampling requirements and a schedule for submittal of monitoring reports for the wastewater treatment system.

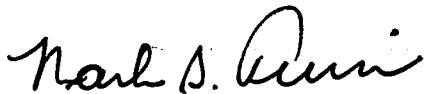
Western Refining Response

It is assumed that Comment 17 letter f. is referring to Comment 2 not Comment 1. Otherwise, with respect to a. through g., Western Refining agrees.

In reference to Comment 17 h., at the conclusion of the 90 days of successful operation, the sampling schedule outlined in Comment 8 will be utilized.

Please contact Ed Riege at (505) 722-0217 if you have any questions regarding the contents of this letter.

Sincerely,

A handwritten signature in black ink that reads "Mark B. Turri". The signature is written in a cursive style with a large, prominent initial 'M'.

Mark B. Turri
General Manager

cc: Ed Riege
Ann Allen
Don Riley
Shane White
OCD
EPA Region 6

LIST OF ATTACHMENTS

ATTACHMENT A: PROCESS FLOW DIAGRAM

ATTACHMENT B: LABORATORY CERTIFICATION AND RAW DATA

ATTACHMENT C: WHITTIER FILTRATION MPPE RESULT REPORT

ATTACHMENT D: RED LINE VERSION OF WORK PLAN

ATTACHMENT A: PROCESS FLOW DIAGRAM

