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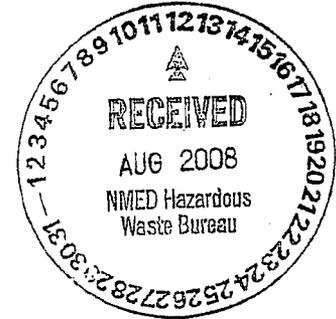
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

 **ENTERED**

CERTIFIED MAIL RETURN RECEIPT NUMBER: 7007 2560 0002 7736 5874

Ed Riege  
Giant Gallup Refinery  
Route 3, Box 7  
Gallup, NM 87301

*JUL 23 2008*



Re: Compliance Evaluation Inspection (CEI)  
Giant Gallup Refinery  
EPA ID# NMD000333211

Dear Mr. Riege:

Enclosed please find a copy of the Compliance Evaluation Inspection (CEI) report conducted at your facility on September 11-13, 2007. The CEI was conducted by the U.S. Environmental Protection Agency (EPA), under the authority of the Resource Conservation Recovery Act (RCRA).

During the inspection, areas of concern were observed. Please be advised that EPA will be communicating with you about the resolution of these concerns as they apply to RCRA. A copy of the CEI will be sent to the New Mexico Environment Department. If you have any questions, please contact me at (214) 665-8006. Thank you for your cooperation.

Sincerely yours,

Rhonda Smith, Chief  
Compliance Enforcement Section (6EN-HE)  
Hazardous Waste Branch  
Compliance Assurance & Enforcement Division

Enclosure

cc: Mr. Art Vollmer  
New Mexico Environment Department  
2905 Rodeo Park Dr. East, Bldg. 1  
Santa Fe, NM 87505

U.S. ENVIRONMENTAL PROTECTION AGENCY  
RESOURCE CONSERVATION & RECOVERY ACT  
COMPLIANCE EVALUATION INSPECTION REPORT

Facility Name: Giant Gallup Refinery

EPA ID Number: NMD000333211 Inspection Date: September 11-13, 2007

Facility Location: I-14, Exit 39 - 17 Miles East of Gallup  
Jamestown, NM 87347

Facility Mailing Address: Route 3, Box 7  
Gallup, NM 87301

Type of Industry: Oil Refinery  
Facility Representative: Ed Riege  
Telephone: (505) 722-3217

Facility Description: The facility is a crude oil refinery with a capacity of 20,000 barrels per day.

Type of Ownership:  Federal  State  County  Municipal  Private

Did facility request a copy of the report?  YES  NO

HW Activities:  Gen  Treatment  Storage (<90d)  
 Storage  Disposal  Transporter

Inspect. Type:  Lead  Overview  Subpart CC  
 CEI  CDI  Sampling  
 PCE  Land Ban  BIF  
 Multi-Media  Maquiladora

Inspection Participants:

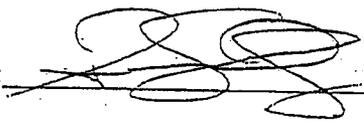
EPA RCRA Inspector: Craig Lutz (214) 665-2281

Facility Representatives: Ed Riege  
Jim Lieb  
Steve Morris  
Bryon Holbrook  
Stan Fiser  
Richard Schmidt

Other Participants: Tom Ripp, EPA  
Don Meyer, New Mexico Environment Department

Checklists Completed: (Indicate number attached.)

<input type="checkbox"/> Generator	<input type="checkbox"/> TSD	<input type="checkbox"/> Transporter	<input type="checkbox"/> Generator Supplement
<input type="checkbox"/> Containers	<input type="checkbox"/> Incinerator	<input type="checkbox"/> Landfill	<input type="checkbox"/> Surface Impoundments
<input type="checkbox"/> Tanks	<input type="checkbox"/> Land Ban	<input type="checkbox"/> Groundwater	<input type="checkbox"/> Land Treatment
<input type="checkbox"/> Used Oil	<input type="checkbox"/> BIF	<input type="checkbox"/> Waste Piles	<input type="checkbox"/> Thermal Treatment
<input type="checkbox"/> Subpart CC	<input type="checkbox"/> LOIS	<input type="checkbox"/> Closure	<input type="checkbox"/> Post Closure
<input type="checkbox"/> Subpart BB	<input type="checkbox"/> Subpart AA		
<input checked="" type="checkbox"/> Photographs	<input type="checkbox"/> Chemical, Physical, Biological Treatment		
<input checked="" type="checkbox"/> Attachments (facility documents)			

Reviewed by: 

Date: 6/30/08

# Giant Gallup Refinery— Narrative

## Introduction

The Giant Gallup Refinery is a petroleum refinery located 17 miles east of Gallup, New Mexico on Interstate 40. The Refinery has the capacity to process 20,000 barrels of crude oil per day. The main products are unleaded gasoline and low sulfur diesel.

The facility has notified as a large quantity generator (LQG) of hazardous waste. The previous RCRA comprehensive evaluation inspection (CEI) was conducted by the New Mexico Environment Department (NMED) on October 25, 2005. The last CEI conducted by the Environmental Protection Agency (EPA) was on August 23, 1989.

The facility operates a zero discharge wastewater system under a permit from the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division (OCD) (Attachment 20). The authority to issue wastewater permits under the Clean Water Act has not been delegated to the State of New Mexico. As a zero discharge facility, the Giant Gallup refinery has never been issued a permit under the authority of the Clean Water Act (CWA) and, therefore, the facility does not appear to qualify for a RCRA exemption for wastewater treatment units under 40 CFR Section (1)(g)(6).

The EPA lead inspector, Craig Lutz, arrived at the facility at 8:30 a.m. on September 11, 2007 accompanied by Tom Ripp from EPA Headquarters and Don Meyers from the NMED. Mr. Lutz showed his credential to Ed Riege, the Environmental Contact for the facility. Mr. Riege escorted the inspectors to a conference room for the opening meeting. The facility representatives at the opening meeting were Ed Riege, Jim Lieb, Steve Morris, Bryon Holbrook, Richard Schmidt and Stan Fisher. Mr. Lutz explained the purpose for the inspection and that the facility was targeted based on the amount of time since the last inspection.

The facility stated that the correct regulatory status of the facility is still as a LQG. Western Refining purchased the facility on May 31, 2007. In the past, the facility had gone by the name Ciniza Refinery, but is now the Giant Gallup Refinery. After a short safety training, the facility provided a short drive through site tour to familiarize the inspectors with the lay out of the facility.

## Operations/Processes Review

Richard Schmidt, the Training Supervisor, provided the process overview. The refinery consists of the following units: Crude Distillation, Reformer, Naphtha Hydrotreating, Distillate Hydrotreating, Fluid Catalytic Cracking (FCC), Isomerization, and Alkylation. The process flow diagrams are included in Attachment 2.

The facility generates two spent catalyst waste streams. One is from the FCC catalyst and the other is from the defluorinator. Both catalyst wastes are considered by the facility to be nonhazardous and are sent to the industrial landfill in Thoreau, New Mexico for disposal.

During the process review, wastewater streams were identified that are managed in the process sewer. One is a waste stream from the Crude Distillation Unit Desalter. The facility stated that a new wastewater stripper (Photo 30) has been constructed to treat this wastewater stream. According to 2005 Benzene NESHAP report, the average benzene concentration in this waste stream is 45 mg/l (Attachment 11, Table 1, Page 1, Sample N1). The hazardous waste characteristic limit for benzene is 0.5 mg/l. When the unit begins operation, the benzene that is removed from the wastewater would be vented to the atmosphere. The unit is not designed for reclamation or product recovery. Mr. Lutz asked the facility what exemption they were going to use to treat the wastewater with an air stripper so that a RCRA permit would not be required. Without a CWA discharge permit, the wastewater treatment unit exemption would not apply to this facility. Ed Riege stated that he would supply the exemption requirement for the wastewater strippers.

In the Alky unit there are two waste streams that are discharged to the wastewater system. One is spent potassium hydroxide from the bottom of the KOH tower. The other is a stream from the caustic wash that is neutralized before it is discharged to the sewer.

The wastewater system consists of a series of sumps and collection lines in the process area. All of the wastewater is collected into one pipe that discharges into a weir box located on the west side of the facility. From the weir box, the wastewater flows through an API separator, through a pair of air strippers to remove benzene and out to an aeration basin of earthen construction.

After researching the issue of the air stripper exemption from the RCRA permitting requirements, the facility offered the following information. Jim Lieb stated that the facility had unpermitted discharges to a fork of the Puerco River in 1990 and prior years. These unpermitted discharges made the facility subject to the CWA and, therefore, the facility is eligible for the wastewater treatment unit exemption. The facility provided Attachment 18 as part of the explanation of the units' regulatory status. Mr. Lutz stated that the intent of the wastewater treatment unit exemption was to insure that the units were regulated, and subject to inspection by either the CWA or RCRA. Mr. Lutz did not agree with the exemption being applicable to a facility by an illegal act, such as discharging wastewater without a permit. Ed Riege provided a letter from the NMED dated July 13, 1995 to support the exemption for the air strippers (Attachment 7). Based on the letter, it appears that Giant Refining submitted a Part A RCRA application for the air strippers and the API separator. The NMED informed Giant Refining that the units should not have been included on the permit application because they are part of the process wastewater treatment system and covered by the New Mexico Energy, Minerals and Natural Resources Department (ENMRD). Mr. Lutz stated that the regulations are clear that the discharge permit must be issued under the authority of section 402 or 307b of the CWA. ENMRD had not been delegated authority to issue permits under the CWA.

The new API separator was installed in 2004. The unit immediately began leaking through cracks in the concrete base. Giant reported the leaks to NMED. Three monitoring wells were installed in July 2007. The sample results from the wells were submitted to NMED (Attachment 8). The separator has a liner that was constructed as secondary containment to control leaks. There is a pipe between the separator and the liner that allows for monitoring to determine if the unit is leaking (Photo No. 18). Because of the leaks, the unit is getting retrofitted with a stainless steel liner, wax seals and leak protection. Mr. Lutz informed Ed Riege, Jim Lieb and Byron Holbrook that leaking inground units are not eligible for WWTU exemptions and are regulated as surface impoundments if the unit manages a hazardous waste.

Steve Morris provided a summary of the benzene sampling that the facility routinely performs (Attachment 9). Quarterly samples are collected at the inlet weir box to the new API separator, flare drum, and hydrocarbon blow-down drum. Sampling is also conducted at the outlet of the aeration basins during normal conditions. Sampling was also performed at this location during a spill that occurred in 2005.

According to Jim Lieb, they assure compliance coming out of the Benzene Strippers by insuring that the strippers are operating. There are two strippers and each has a separate pump. Steve Morris admitted that there have been some incidences of benzene exceeding the characteristic limit of 0.5 mg/l. According to Attachment 9, sample locations AL-1 and the Benzene Stripper Outlet are the same sampling point. Samples collected on 3/22/07 and 4/5/2007 were 3.4 ppm and 4.4 ppm benzene respectively. Since this is a wastewater very low in solids, the total benzene represented by these samples is equivalent to the TCLP results and it appears that hazardous waste is discharged to Lagoon 1 from the Benzene Strippers.

There is a requirement in their state issued wastewater permit to perform integrity testing of the wastewater treatment system. The test is performed by filling the sump and units to at a pressure of least 3 pounds per square inch (psi) over their operating pressure and measuring units to determine if the water levels drop. This is equivalent of water column of 6.9 feet of water. The water column actually used in the testing appears to be a minimum of 4 feet of water. Ed Riege stated that the alky unit had some leaks and the entire underground system was replaced in that unit. There were other leaks that only required sections of pipeline to be replaced. The records associated with integrity testing are included as Attachment 10. The inspector reviewed the most recent reports from the integrity tests and no significant leaks were reported.

The oil collected by the new API separator is shipped to the Motiva Refinery in Norco, Louisiana. Byron Holbrook stated that the oil is inserted in the refinery at the coker. Giant has not received TCLP results on the coke. The sludge is scraped out into the API sump, picked up by a vacuum truck, and placed on the south side of the Bundle Cleaning Pad to dewater. The sludge is disposed of as a K051 hazardous waste and is sent offsite for disposal. Based on the product that is recovered by the API separator, the unit and the rest of the wastewater system appear to function as a reclamation unit.

## Site Tour

The site tour took place on September 12, 2007. The first area visited was the Bundle Cleaning Pad. The pad is used for cleaning heat exchanger bundles. The cleaning process generates a K050 hazardous waste. The facility also uses the pad as a 90-day hazardous waste storage area. The pad is constructed of concrete with walls that are approximately three feet tall on three sides. Photos 2 and 3 provide an overview of the area. Heat exchanger bundles are cleaned on the south end of the pad (Photo 4). This is also the area where the sludge from the API separator is dewatered. At the time of the inspection, there was a heat exchanger bundle that was placed there for cleaning on top of a pile of material. Steve Morris did not know what the pile of material was. Sludge had fallen off the bundle on top of the pile of material. Mr. Lutz told the facility that placing the heat exchanger bundle on top of the pile of material had mixed the listed waste from the bundle (K050) with the unknown material. Also, by managing the unknown material in a pile on the cleaning pad, the facility had created a waste pile, subject to the RCRA regulations. The act of dewatering API sludge, a K051 listed hazardous waste, was treatment to make the material more amenable for disposal and also creates a waste pile. Both activities require a RCRA permit. A copy of a hazardous waste manifest for the API sludge is included as Attachment 12 documenting that the API sludge is disposed of as a hazardous waste after it is stored and treated on the Bundle Cleaning Pad.

On the north end of the Bundle Cleaning Pad, the inspector observed an open drum of oily material. Steve Morris stated that this material was from the inlet weir box to the API separator that had just been removed that day. The trench that is used to collect heat exchanger bundle sludge is on the west end of the pad (Photo 6).

Super sacks of charcoal filter material from the thiosulfate unit were located on the north end of the pad. Steve Morris stated that the facility had not taken samples of the material yet, but did not believe it to be hazardous. Mr. Morris did not know how long the material had been stored on the pad. Giant planned to have Rinchem come out and evaluate the material. The inspector informed them that the hazardous waste determination is required when the material is generated. Allowing the material to sit on the Bundle Cleaning Pad could result in the evaporation of hazardous constituents and is considered treatment if the solid waste is hazardous as generated.

Also located on the Bundle Cleaning Pad was packing material from the Benzene Strippers (Photo 8). The material becomes fouled with use. The facility removed the packing from the strippers and will wash it on the Bundle Cleaning Pad to reuse in the Benzene Strippers.

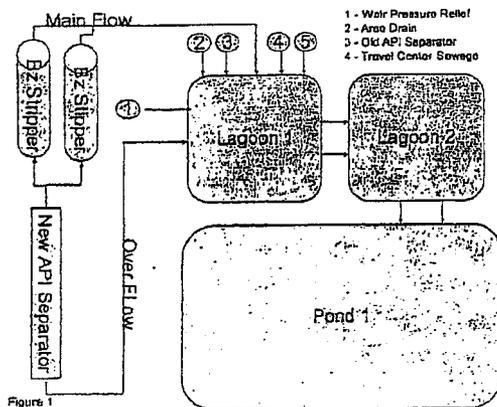
Next, the inspectors went to the sump box used by vacuum trucks to discharge material into the wastewater system. The sump box is located adjacent to the west side of the Bundle Cleaning Pad (Photo 9). The sump is constructed of concrete and located below grade. The soil around the sump is stained from material flowing off the concrete portion of the sump (Photos 9 and 10). There was a vacuum truck parked at the sump. Material was leaking out of the truck onto the ground. The facility owns some vacuum trucks and also utilized contractors. The

leaking truck belonged to Giant. Ed Riege promised to look into what was in the truck. Steve Morris talked to an employee who remembered removing some oily water from the old API separator. On the back of the truck, the rear valve was also leaking (Photo 12). The bucket that had been placed under the leak was full. Bryon Holbrook placed the cap on the back valve. Leaks onto soil are acts of disposal and, if the material in the truck were a hazardous waste, this would be disposal of hazardous waste in an unpermitted unit.

Wastewater flows downstream from the vacuum truck sump to the weir box and the new API separator. Photo 13 shows the weir box in front of the new API separator. The weir box generates the sludge that is dewatered on the Bundle Cleaning Pad. The facility has classified the sludge as F038 because it is generated upstream from the API separator and, therefore, does not meeting the definition of a K051 hazardous waste. The water from the weir flows into the new API separator.

The new API separator was undergoing a liner retrofitting at the time of the inspection. Photo 14 shows the west side of the unit with the new stainless steel liner installed. In 2005, the screens on the pumps that removed the oily phase from the separator plugged causing oil back up under the wall in the unit. The oily waste flowed out of the unit with the wastewater stream, though the Benzene Strippers and out into Lagoon 1, Lagoon 2 and Pond 1. Lagoons 1 and 2 are aeration basins of earthen construction and meet the definition of a RCRA surface impoundment. Pond 1 is also a surface impoundment and is used to evaporate water. Lagoon 1, Lagoon 2 and Pond 1 are shown in Photo 16 as viewed from the top of the API separator. After this incident, the slop oil pumps were changed to submersible pumps that are capable of grinding solids (Photo 15). The slop oil that is recovered in the new API separator is pumped to Tank 105 and then sent to the Motiva Refinery in Norco, Louisiana. The facility manages the slop oil under the solid waste exemption for oil bearing materials that are reinserted into the refinery process.

According to the facility, the API separator has been leaking almost since it was installed in 2004. This is the reason for the retrofit with stainless steel liners. The separator was built with a liner surrounding it for secondary containment. Leak monitoring is performed through a PVC tube located between the unit and the liner (Photo 18). There were stains on the outside of the separator that are indicative of leaks (Photo 17).



From the new API separator, the wastewater is pumped to the top of the Benzene Strippers. The water flows down through the strippers while air is blown upward to remove benzene. The wastewater flows into Lagoon 1 from the bottom of the strippers. The new API separator also has an overflow line that bypasses the Benzene Strippers and is discharged directly to Lagoon 1. At the time of the inspection, the overflow line was actively discharging to Lagoon 1 (Photo 21). Figure 1 below shows all the flows from the API separator through Pond 1 including all

of the wastewater streams that discharge into Lagoon 1.

Steve Morris stated that samples are collected at the inlet to Lagoon 1 and the outlet to Lagoon 2 for biological oxygen demand (BOD), chemical oxygen demand (COD) and phenols. Benzene results are not included with the phenols. The facility provided some benzene sample results at the benzene stripper inlet and the benzene stripper outlet (Attachment 9). The one sample collected on April 5, 2007 at the benzene stripper outlet was 4.4 ppm benzene. There were four samples collected at the benzene stripper inlet between June 12, 2007 and July 10, 2007 that ranged from 11.0 to 16.0 ppm benzene. Because these are water samples, the results from this testing are equivalent to the TCLP results in mg/l that would be used for hazardous waste determinations. The benzene concentration for the stripper outlet is the same stream that is discharged into surface impoundment Lagoon 1. The measured benzene level of 4.4 mg/l exceeds the characteristic waste limit for benzene of 0.5 mg/l. Based on the flow diagram in Figure 1, the water discharged in the new API separator overflow is from the same water phase as the wastewater stream that feeds the Benzene Strippers and should have the same characteristics as the water at the Benzene Strippers inlet. The benzene levels at the stripper inlet ranges from 11.0 to 16.0 mg/l. These results exceed the 0.5 mg/l characteristic waste limit for benzene. Based on the sample results, it appear that the discharges from the Benzene Strippers and the new API separator overflow are both hazardous wastes that are disposed of without a RCRA permit in Lagoon 1. At the time of the inspection, the facility was already planning to replace Lagoon 1 with a tank.

The old API separator manages storm water. Water is pumped from the old API Separator to Lagoon 1. Photo No. 22 shows the air driven pump that is used to pump the water to Lagoon 1. No samples are collected for this waste stream before it is disposed of in the surface impoundment. The facility has failed to perform a hazardous waste determination for this waste stream.

In August 2005, oil overflowed out of the new API separator into Lagoon 1 and Lagoon 2. The spill was caused by clogging of the screens on the pumps that remove the oil phase from the API separator. The oily water was removed from the lagoons and stored in tanks Z-84-T1 and Z-84-T2 (Photo No. 24). The facility is managing this material as an oily secondary material from the refining process under the solid waste exemption at 40 CFR Section 261.4(a)(12)(ii). The material is subject to the speculative accumulation requirements in order to maintain the solid waste exemption. Because the spill occurred in 2005, Giant Refinery was required to recycle 75% of the material by January 1, 2007 to prevent the material from becoming a solid waste. The facility did not have documentation to demonstrate that 75% of the material had been recycled by that date. Therefore, the material stored in tanks Z-84-T1 and Z-84-T2 is a solid waste. The facility had not made a hazardous waste determination at the time of the inspections. Based on the nature of the material (slop oil from the new API separator), the facility was informed at the time of the inspection that the inspector believed it was likely that the material was a benzene characteristic waste. The facility provided analytical data for the material on October 24, 2007 (Attachment 18 - Sample results are located in Attachment 1 of this document) and the analytical results for benzene was 21 mg/l (the TCPL limit for benzene is 0.5 mg/l). The

results support the conclusion that the material became a hazardous waste on January 1, 2007. At the time of the inspection on September 11, 2007, the facility had been storing hazardous waste for 254 days. LQG are allowed to store hazardous waste for 90 days without a permit. The facility stored hazardous waste in the tanks for greater than 90 days so the facility was storing hazardous waste without a RCRA permit. Attachment 16 documents the time frame of the spill and has analytical data related to the spill at the outlet of Lagoon 2 into Evaporation Pond 1.

The inspector spent the rest of the site visit looking at units in the process that discharge wastewater. The first location was the caustic wash drain in the ARN (acid reflux neutralization) shown in Photo No. 25. The drain goes directly into the process sewer. The facility did not know what the pH was. The other discharges investigated include the secondary neutralization drum (Photo No. 26), the water drain to the main overhead receiver (Photo No. 27), the drain to the high pressure receiver (Photo No. 28), the water drain to the first stage desalter (Photo No. 29), the straight run wash water (Photo No. 31), the stripper overhead receiver (Photo no. 32) and the hydrocarbon blowdown drum (Photo No. 33). All drained directly into the process wastewater system.

The facility also showed the inspectors the benzene stripper that was just installed to treat the benzene wastewater stream from the desalter unit (Photo No. 30). At the time of the inspection, the stripper had not been placed in service. The wastewater stream from the desalter is high in benzene. Sampling done for the benzene NESHAP show this wastewater stream had 45 ppm benzene. The purpose of the stripper is to remove benzene from this wastewater stream. The water is pumped to the top of the stripper and flow downward through packing to the bottom. Air is blown from the bottom and out the top to remove benzene as it contacts the water. The unit is designed to discharge the benzene and air directly to the atmosphere. This unit, when placed into operation, would appear to be a hazardous waste treatment unit because the facility does not have a CWA discharge permit that would allow the unit to receive a RCRA wastewater treatment unit exemption.

### **Records Review**

Reviewed the contingency plan and training records. No concerns were noted. The weekly inspection logs were reviewed.

The facility maintains a notebook of solid waste streams along with the rationale for making hazardous waste determinations. Copies of the hazardous waste determinations for soils on the ASO pit and ER sand are included as Attachment 17 as examples. It was noted that sometime the facility uses the total analytical result divided by 20 to estimate the TCLP results. Mr. Lutz explained to the facility that, though this is usually a conservative estimate, it is not always accurate. This rule also does not hold true for liquids where the total and TCLP results may be the same.

The facility provided records on the testing of the process wastewater sewer for integrity (Attachment 10). Based on the results provided in the reports, no significant leaks in the wastewater system were noted.

The facility sends oil bearing secondary material to the Motiva Refinery in Norco, Louisiana. Giant was not sure where the material was inserted into the process, but thought that it was inserted into the coking unit. In order to claim this exemption from RCRA, Giant is required to maintain documentation on how this material is reinserted into the refinery process at Motiva. If it is inserted into the coking unit, Giant is required to maintain the TCLP results of the coke does not exhibit a characteristic of a hazardous waste as required by 40 CFR 261.4(a)(12).

The facility provided an analysis of the aeration of Lagoon 1 and Lagoon 2 performed to document that aerators meet the horsepower and retention time requirements under 40 CFR 261.31(b)(2)(i) to demonstrate that the sludge generated by these units is not a F037 listed hazardous waste (Attachment 13). No concerns were noted.

### Areas of Concern

The following areas of concern were discussed with the facility at the closing meeting.

1. Operating A Surface Impoundment Without A Permit as required by 40 CFR 270.1.

Lagoon 1 appears to be an unpermitted RCRA surface impoundment. Wastewater that is characteristic for benzene hazardous waste is disposed of in the surface impoundment from the new API separator overflow and the Benzene Strippers. Lagoon 1 is constructed of a single liner with no leachate collection system.

The new API separator is an inground unit that is leaking. Inground units that are leaking are subject to the same regulator and permitting requirements of a surface impoundment because the hazardous waste disposal is taking place by the act of the unit leaking into the ground.

2. Disposing of hazardous waste in a surface impoundment that does not meet the requirements of 40 CFR 264.221(c) or 40 CFR 265.221(c) as referenced by 40 CFR 268.4(a)(3).

Wastewater in Lagoon 1 is characteristic hazardous waste for benzene hazardous waste. Lagoon 1 is a surface impoundment is constructed of a single liner with no leachate collection system. This does not meet the construction standards for surface impoundments that receive hazardous waste.

The new API separator is an inground unit that is leaking. Inground units that are leaking are subject to the same regulator and permitting requirements of a surface impoundment because the hazardous waste disposal is taking place by the act of the unit leaking into the ground. The API, as a surface impoundment, does not meet the construction standards for surface impoundments that receive hazardous waste.

3. Storing hazardous waste in tanks for more than 90 days without a permit. 40 CFR 270.1 as referenced by 262.34(a).

The facility speculatively accumulated slop oil from a spill from August 2005 until January 1, 2007, when the waste became a hazardous waste. The waste was still on site during the inspection on September 13, 2007. Testing performed by the facility after the inspection confirmed that the material was a benzene characteristic hazardous waste.

4. Treating hazardous waste in a waste pile without a permit as required by 40 CFR 270.1.

The facility dewateres API sludge on the Bundle Cleaning Pad for disposing of the sludge as a hazardous waste. The process of dewatering makes the waste more amenable to disposal and removes hazardous constituents from the sludge. The sludge, when placed on the Bundle Cleaning Pad is a waste pile. Operating a waste pile for treatment and storage of hazardous waste is subject to the requirements of 40 CFR 264 Subpart L requires a RCRA permit under 40 CFR 270.1.

5. Containers that contain hazardous waste must remain closed unless waste is being added or removed from the container. 40 CFR 264.173 as referenced by 40 CFR 262.34(a).

A container of sludge from the wastewater weir located upstream of the new API separator was observed open on the Bundle Cleaning Pad. This sludge is an F037 hazardous waste.

6. Failing to make hazardous waste determinations as required by 40 CFR 262.11. The facility did not have documentation for hazardous waste determinations or failed to make determinations on the following waste streams were hazardous waste.
  - a. Soil stored on the Bundle Cleaning Pad. The facility stored soil on the Bundle Cleaning Pad without sampling the soil to determine if it was a hazardous waste. The facility stored a head exchanger bundle on the pile mixing the soil with K050 waste from the bundle.
  - b. Oil stored in tanks Z-84-T1 and Z-84-T2 from the 2005 spill from the new API separator. The facility failed to determine if the material was a hazardous waste after it became a solid waste on January 1, 2007 by the act of speculative accumulation.
  - c. Treated wastewater stream from the Benzene Strippers into Lagoon 1 exceeds the characteristic limit for benzene.
  - d. The new API overflow stream into Lagoon 1 exceeds the characteristic limit for benzene.
  - e. Water leaking from vacuum truck onto the ground is an act of disposal. The facility is required to determine if this is a hazardous waste.
  - f. Water from the old API separator disposed of in Lagoon 1.

7. Treating hazardous waste in the Benzene Strippers without a RCRA permit as required by 40 CFR 270.1

The facility operated two counter current air strippers to remove benzene from the wastewater before the wastewater is disposed of in surface impoundment Lagoon 1. Treatment of hazardous waste requires a permit unless it is conducted in a tank or container. The Benzene Strippers do not meet the definition of a tank or container because they are not designed to hold an accumulation of waste. The units are not eligible for a wastewater treatment unit exemption because the facility does not have a discharge permit issued under the authority of the CWA. The benzene stripper in the desalter unit would also need a RCRA permit when placed into service.

8. Oil bearing hazardous secondary material inserted into a thermal cracking unit are not solid waste under 40 CFR 261.4(a)(12) when inserted into a thermal cracking unit (i.e. coker) provided the coke product does not exhibit a characteristic of a hazardous waste. Giant sends oil bearing secondary material to the Motiva Refinery in Norco, Louisiana. Giant did not have records documenting where the material is inserted into the refinery. If the material is inserted into the Motiva Refinery coker, Giant must maintain records to demonstrate that the coke product generated does not exhibit characteristics of a hazardous waste.

#### Attachments

1. Photo Log
2. Process Flow Diagrams
3. Wastewater System Diagram
4. Empty Tank Status
5. Records for amount of slop oil recycles – Not Provided at Time of Inspection
6. Sample Results for Slop Oil – Not Provided at Time of Inspection
7. 7/13/95 Letter From NMED Regarding the RCRA Status of API and Benzene Strippers
8. Notification to NMED of API Leak
9. Sample of Benzene Stripper Outlet Streams
10. Wastewater System Integrity Testing Records
11. Benzene NESHAP Annual Report
12. Manifest for API Sludge
13. Calculation for Aeration Rates and Retention Time in Lagoon 1 and Lagoon 2
14. Analytical Data for Solids Generated During the Clean-up of August 2005 API spill
15. Response to Compliance Inspection Report for Stormwater Inspection conducted on January 30, 2006
16. Samples Results for Wastewater Stream From Lagoon 2 into Evaporation Pond 1 Collected During August 2005 API spill
17. Hazardous Waste Determination for Soils on ASO Pit
18. Giant's Regulator Analysis of RCRA Applicability to Surface Impoundments and Benzene Strippers

19. Giant Response to Areas of Concern Discussed During the  
CEL
20. Discharge Permit Issued by the New Mexico Energy,  
Minerals and Natural Resources Department



ROUTE 3 BOX 7  
GALLUP  
NEW MEXICO 87301

PHONE  
505-722-3833  
INTERNET  
WWW.GIANT.COM

October 24, 2007

Certified Mail # 7007 0220 0001 6547 2142

Mr. Craig Lutz (6EN-HS)  
Environmental Engineer  
EPA Region 6  
1445 Ross Ave.  
Suite 1200  
Dallas, TX 75202

**Re: Giant Gallup, New Mexico Refinery/EPA RCRA Inspection  
Initial Giant Response and Follow-up Submission**

Dear Mr. Lutz:

This letter is in response to the RCRA inspection your team performed at Giant's Gallup, New Mexico refinery (the "refinery") on September 11-13, 2007. This response and follow-up is designed to respond to and clarify some of the preliminary observations set forth in the close-out meeting and, where appropriate, to set forth efforts by Giant to correct matters noted during the inspection. In addition, Giant requests the opportunity to meet with EPA in advance of any formal enforcement action to explore avenues of resolving any outstanding issues at the earliest possible point and facilitate the adoption of a framework that will expedite a final settlement.

#### **I. Recovered Oil Tanks**

In the close-out meeting, your team and Giant discussed the material in the recovered oil tanks. This material was removed from our lagoons and ponds and is currently being recycled at Norco. As we discussed in the close-out meeting Giant sampled the bottom material from these tanks on September 17, 2007. The results can be found in Attachment 1.<sup>1</sup> In lieu of handling this material as hazardous waste, Giant proposes to undertake the following actions by the end of 2007: Giant will completely remove this material from the recovered oil tanks such that those tanks will qualify as RCRA "empty." Giant will centrifuge the removed materials on-site and will recover the oil from this process. The oil will be reinserted into the refining process on-site or sold to a third-party. The resulting waters will be processed in the on-site wastewater treatment and resulting solids will be sent off-site to Norco for recycling. Giant requests EPA concurrence on this approach.

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<sup>1</sup>EPA Method 8260B/1331 results indicate benzene at 21 ppm.

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## II. Bundle Cleaning Pad

### A. Open Drums of Sludge at Bundle Pad

A few drums were noticed on the bundle cleaning pad without lids and labelling. Two Giant employees were working these drums and had just left the pad to take several drums to the 90-day area. They wanted to clear the area of these drums so they could finish filling, covering, cleaning and labelling the drums in question. The two employees were gone less than 10 minutes and when they returned a refinery environmental engineer asked the employees with their forklift to leave the area so the EPA inspection that day could be completed.

After the inspection group left the area, Giant employees finished filling these drums, placed lids on the open drums, and labelled them with Hazardous Waste labels. All of these drums were then placed on pallets and moved to the 90 day storage area.

To improve upon the current procedures in place, Giant has developed an updated environmental procedure "E-8, Drum Management Procedure" (See Attachment 2) to reflect changes made at the refinery to better ensure environmental compliance. Training has been provided to those individuals responsible for the appropriate management of drums and the sign-in sheet from that training is attached as Attachment 3.

### B. ASO Soil on Pad

ASO contaminated soil had been sampled in the past and was non-hazardous (See Attachment 4); a copy was provided to you during the inspection. Based on this analysis of material generated in the same manner as the material on-site the day of the inspection, Giant considered this material to be non-hazardous. This pile of soil was sampled on September 19, 2007 and analysis (See Attachment 5) confirmed it was also non-hazardous.

### C. Heat Exchanger on Top of ASO Soil

Giant agrees that waste segregation practices at the refinery can be improved. In this case since the heat exchanger was placed on top of the non-hazardous ASO soil pile the whole pile was drummed and sent offsite for hazardous waste disposal. An environmental procedure has been written to specifically address the handling of heat exchangers (See Attachment 6). Employees have been recently trained on applicable procedures and the sign-in sheet from that training is attached as Attachment 3.

#### **D. Charcoal Filter Material**

Torn super-sacks of charcoal filter material were found on bundle cleaning pad. EPA inspectors inquired about (i) the point at which waste determination is conducted on this material and (ii) the method of containerizing this material. Giant will ensure that all future sampling for waste determination is conducted while the waste is being removed from process. Additionally, this material (*See Attachment 7*) was containerized and labelled and is scheduled for shipment offsite for regeneration after receipt of pending waste analyses.

#### **III. Twenty Times Rule**

Sometimes Giant has used total analysis testing in waste determination believing doing so was legitimate process knowledge. Giant accepts your recommendation and is now using TCLP for all waste determinations.<sup>2</sup> Giant plans to recharacterize those wastes still being managed on-site using TCLP and will revise applicable paperwork to reflect the TCLP results. Additionally, Giant will revise its waste analysis plan to reflect that the TCLP will be used in waste determinations.

#### **IV. Vacuum Truck Leakage**

During the inspection a vacuum truck was found leaking water onto the ground surface from the front valve and the rear valve was leaking onto the concrete containment to drain. During the inspection a containment bucket was placed under the front valve and both valves were capped. The rear valve has been replaced. Soil staining was also found around the outside of the drain pad. This soil was sampled and analysis (*See Attachment 8*), indicate it is non-hazardous.

Giant agrees that this area could be improved and has designed a curbed concrete containment pad that will fully contain a vacuum truck with side room to accommodate any drain splash to protect surrounding soils. The anticipated completion date for this work is on or before March 15, 2008.

#### **V. Leakage From New API Separator**

The installation of a stainless steel liner inside one bay of the API separator has recently been installed and is undergoing leak tests. It is anticipated that the repaired bay will go into service within thirty (30) days. At that time the other bay will be taken out of service for the liner installation and there will no longer be any leakage from the separator. (Note that leakage from this unit is explicitly covered in a Site Specific Condition of Discharge Permit GW-032 issued by the Oil Conservation Division ("OCD") on August 23, 2007.)

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<sup>2</sup> *See* undated letter from Michael Shapiro, Principal Deputy Assistant Administrator of U.S. EPA to the Hon. Charlie Norwood, U.S. House of Representatives confirming that the calculational screen (a/k/a the twenty times rule) is one type of generator knowledge that can be used to show that waste is not hazardous for toxicity.

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See also the discussion of RCRA permitting issues relevant to this unit in the Section VIII of this letter entitled "Status of Refinery Wastewater Treatment System Under RCRA."

#### VI. Wastewater Aeration Lagoons

The refinery has just completed the installation of a third benzene stripper and anticipates the start-up of that new stripper by March 15, 2008. This stripper has been installed close to the process units and it is estimated that it will remove up to 60% of the benzene load reporting to the separator/existing strippers. Weekly sampling (before and after existing strippers) is being conducted to determine the actual reduction and will be forwarded to you upon receipt.

During the inspection the EPA noted apparent API separator overflow to aeration lagoon #1. The refinery plans to install pumps with capability to pump the entire API effluent to the benzene strippers with anticipated installation date by November 9, 2007.

See also the discussion of RCRA permitting issues relevant to these units in the section of this letter entitled, "Status of Refinery Wastewater Treatment System Under RCRA."

#### VII. Dewatering at Bundle Pad Area

The refinery will no longer dewater wastes on the bundle cleaning pad. The refinery will be managing all future sludges and slurries in a phase separator roll-off box or similar equipment meeting the definition of a container. This box will then become a 90 day storage unit that can be swapped out at least every 90 days.<sup>3</sup>

#### VIII. Status of Refinery Wastewater Treatment System Under RCRA

During the close-out session a question was raised regarding the RCRA permit status of the refinery's wastewater treatment system. Following is a discussion of the RCRA regulatory program as it has related to a wastewater treatment system like that at the Gallup refinery and an analysis of the status of the Gallup system in the context of that program.

On November 17, 1980, EPA promulgated a rule providing that, if a facility was already treating hazardous wastewaters in tank systems subject to the federal Clean Water Act ("CWA") discharge permit program, that facility's hazardous wastewater treatment would not be subject to the RCRA permit program for treating those wastewaters. (See 45 Fed. Reg. 76074; codified at 40 CFR §§260.10, 264.1(g)(6), and 265.1(c)(10).) Over the years, EPA has continued to confirm that such CWA treatment keeps eligible tank-based wastewater treatment unit ("WWTU") systems outside of RCRA treatment permitting.

<sup>3</sup> We note that EPA, in an August 23, 1985 memorandum from John H. Skinner, Director, observed that proper dewatering is a desirable waste minimization activity.

Although we believe that the Gallup wastewater system had been operating to provide the type of primary and secondary treatment contemplated by the CWA and Part 419, Giant nevertheless included benzene decharacterization as a possible RCRA-regulated treatment activity in its March 6, 1995 RCRA permit application. When operating properly, the benzene stripper tank system was intended to "treat" D018 wastewater by removing the benzene characteristic.

Giant, therefore, initially believed that it required authorization to treat D018 wastewater either with a TSD permit or pursuant to another option recognized in 270.1(c)(2), such as WWTU treatment. In 1995, however, the Hazardous and Radioactive Materials Bureau of NMED, the agency with primacy over the RCRA TSD permit program, expressly determined that the Gallup refinery benzene decharacterization WWTU was not required to submit a RCRA TSD treatment permit application, as the benzene strippers fit within the CWA WWTU program. (See Attachment 9.) In a subsequent letter (the first page of which is attached as Attachment 10<sup>4</sup>) NMED made a determination that the zero discharge tank-based decharacterization WWTU system was outside of RCRA treatment permit jurisdiction. This determination was affirmed again in 2000, when NMED issued the RCRA post-closure permit for the facility.<sup>5</sup>

As noted during the inspection, Giant has been having problems with operation of the WWTU decharacterization system. Repairs to the WWTU tank (oil water separator) are underway at present. In addition, more benzene stripper capacity is needed and will be installed. Giant has been working with NMED staff to effectuate NMED-approved correction of those problems. Aside from bringing the WWTU system to full and proper operation, consistent with the NMED regulations, Giant also will be remediating releases due to leaks in its tank system (being repaired) or problems with its benzene strippers.

WWTU tank-based decharacterization is also the method for LDR compliance at the Gallup refinery, when operating properly. The intent of the 1996 Land Disposal Program Flexibility Act, as reflected in Part 268 regulatory provisions, is to recognize the propriety of centralized wastewater treatment systems that were engaged in CWA-type primary (oil/water separator) and secondary treatment (aggressive biological treatment lagoons). When the LDRs were finalized in the 1990s, 40 C.F.R. 268.1(c) (4) (iii & iv) reflected the determinations in the 1996 Land Disposal Program Flexibility Act that zero discharge facilities that remove the benzene

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<sup>4</sup> Only the first page was available in Giant's files.

<sup>5</sup> Also we note that By August 23, 2007 letter, the EMNRD's OCD approved Discharge Permit GW-032 for the refinery. The Discharge Permit is a CWA NPDES-like permit; it establishes effluent limits and discharges not authorized by the Discharge Permit are explicitly prohibited. The Discharge Permit explicitly covers the aeration lagoons and evaporation ponds associated with the WWTU system, and contains conditions associated with operation of those lagoons and ponds. However, the Discharge Permit does not authorize any refinery process water discharge from those units. Consequently, the Discharge Permit represents a zero discharge permit for the aeration lagoons and evaporation ponds. Giant believes that the Discharge Permit conditions and the authorities under which the Discharge Permit are issue represent the appropriate legal mechanism for regulation of the WWTU system.

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characteristic in a WWTU-tank system should be considered compliant with the LDR program, even if decharacterized wastewater later is placed in an impoundment (for secondary or tertiary treatment). So long as the tank-based WWTU achieves decharacterization prior to further treatment in impoundments, LDR compliance is achieved, allowing the continued use of centralized wastewater treatment impoundments with aggressive biological treatment or tertiary evaporative treatment.

#### IX. Conclusion

The preceding discussion has been provided on knowledge, information, and belief in the interest of cooperating with EPA's review of the relevant issues and to facilitate a resolution of these matters. Nothing herein should be construed as an admission of liability, and Giant reserves all applicable rights and defenses.

Please contact me if you have any questions regarding this report. We look forward to the opportunity to meet with you in the near future and work with you toward a satisfactory conclusion of these matters.

Sincerely,



Ed Riege

Environmental Superintendent