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From: Chavez, Carl J, EMNRD
Sent: Thursday, November 16, 2006 2:08 PM
To: eriege@giant.com; erios@giant.com; Jim Lieb; Steve Morris
Cc: Price, Wayne, EMNRD; Powell, Brandon, EMNRD; Monzeglio, Hope, NMENV; Cobrain, Dave, NMENV
Subject: Giant Ciniza Refinery Leaky NAPIS Unit & Secondary Containment Problems
Attachments: Chavez, Carl J, EMNRD.vcf

Mr. Ed Riege:

The NMED- Hazardous Waste Bureau (HWB) and NMEMNRD- Environmental Bureau (EB) (agencies) met on November 2, 2006 to discuss the status of Giant's leaky New API Separator (NAPIS) with secondary containment system (SCS) leakage problems. The agencies reviewed past meeting notes with Giant and drawings of the NAPIS (API Chopper Pump Piping Plan and Elevations) provided by Giant at the request of the agencies.

You may recall that during the agencies facility inspection on September 8, 2005, the agencies became aware of cracks and oil leakage around the NAPIS cement vault. Since then, Giant attempted to repair the cracks with mortar; however, oil leakage has persisted to this day. In addition, Giant after learning more about the NAPIS, through weekly monitoring of head within the SCS surrounding the NAPIS, has suspected that ground water is infiltrating and in direct connection with the SCS. Since ground water has consistently been absent beneath the pond areas at the facility, the agencies are not convinced that the increasing fluid levels recorded by Giant in the SCS are attributable to ground water, since leakage from the NAPIS cement vaults or bays could be fully or partially contributing to the fluid levels within the SCS. It appears that Giant would prefer to continue monitoring head levels in the SCS indefinitely, and when head reaches 7 ft, evacuate fluid back down to 1 ft to resolve the suspected leaky liner problem. Although Giant has taken responsible actions/approaches to resolving the NAPIS problems, it does not fix the problems; consequently, the agencies cannot accept or approve Giant's approach to resolving the NAPIS problems.

According to Giant's October 27, 2006 letter (letter) "Ciniza Plans for Storm Water Retention Tanks and NAPIS," Giant indicates that the maximum capacity of the NAPIS (2 bays at 150 gpm each) is 300 gpm. The NAPIS is currently discharging between about 90 to 120 gpm through one bay with plans to increase the volume of crude oil for refining into the refinery with associated process water in addition to storm water drainage currently routed to the OAPIS into the NAPIS. Storm water drains near process drains in the refinery process area may also be routed to the NAPIS. Old API Separator (OAPIS) storm water will be routed to two tanks for eventual metering back to the NAPIS for treatment. When emergency shut-down of the NAPIS is required, the process water would also be routed to the new tanks temporarily. In the letter, Giant will provide the agencies with a copy of Vector Arizona's engineering design report supporting the above in late 2006 or early 2007. The report will demonstrate that the NAPIS and tanks will be capable of handling the increased treatment load to the NAPIS at the refinery. In consideration of the historical problems that Giant has been experiencing with the NAPIS, and in follow-up to the agencies from the September 8, 2005 inspection, and in consideration of Giant's October 27, 2006 letter, the agencies require the following:

1) A plan to fix the NAPIS vault leakage and secondary liner repair is required by January 1, 2007. The agencies would prefer that Giant consider the cost of installing a new APIS of appropriate capacity for future operations that corrects the discharge of oil that is currently occurring at the NAPIS. However, if Giant wishes to install a protective coating to repair the cracks with a sealant that handles freeze-thaw conditions to see if the problem can be fixed, the agencies may be amenable to the proposal. However, the repair(s) of the NAPIS and SCS may ultimately be much more expensive than installing a brand new API Separator.

2) Giant must demonstrate that there is no downward migration of contamination to groundwater from beneath the New API Separator (NAPIS). If Giant chooses to install a protective coating to repair the cracks with a sealant that handles freeze-thaw conditions in the NAPIS and repair of the SCS, then Giant must install two monitoring wells. One monitoring well should be located next to the NAPIS suspected leak and the second monitoring well should be installed down gradient of the NAPIS. Assuming that subsurface conditions are similar to the conditions at the aeration lagoons, the screened interval in the monitoring well to be located near the NAPIS leak in the SCS must be installed below the SCS, but above any water bearing zone such as the sand layer observed beneath the west side of the aeration lagoons. It may be necessary to install the monitoring well at an angle or drill an angled boring for the collection of soil samples and determine if groundwater is present during drilling. If an angled boring is not drilled, soil samples must be collected during the installation of the monitoring well. The purpose of the boring/monitoring well installation is to help determine the competency of the SCS, whether there has been a release from the NAPIS to soil and groundwater and if groundwater is present that intersects the secondary containment system for the NAPIS. General chemistry and organic sampling of ground water in the monitor wells in comparison to NAPIS process water should help determine whether ground water is indeed present in the vicinity of the NAPIS or whether fluid in the SCS is attributable to direct leakage from the NAPIS.

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Giant must submit a work plan for the installation of the monitoring wells/boring. The work plan must identify the locations of boring and monitoring wells, the depth of the monitoring wells, the depth at which soil and any ground water samples will be collected, including a proposed monitoring well construction diagram, and sampling methods and procedures.

The agencies request that you consider the problems at the NAPIS in Giant's future plans mentioned in Giant's October 27, 2006 letter. Please contact the agencies to arrange a telephone conference call if you have questions or need further clarification of the above. Thank you.

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(Pollution Prevention Guidance is under "Publications")