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18

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DEQ refutes claims in FEMA report concerning Gentilly Landfill

Recently, a Feb. 8 assessment concerning the Gentilly Landfill was released prematurely to the media. The report was commissioned by FEMA and completed by Bob Healy and Phillip Cavendor of Nationwide Infrastructure Support Technical Assistance Consultants, known as NISTAC. Because of the leak, there is now a larger interest in the report and the Department of Environmental Quality is taking this opportunity to address a number of the inaccuracies. For a more complete picture of an assessment of Gentilly Landfill there are two completed reports on the website, www.deq.louisiana.gov, under the heading "DEQ Issues Administrative Order to Clarify Use of Emergency Authority Regarding Gentilly Landfill."

The FEMA –commissioned report was completed by a firm that is not registered in Louisiana and the authors are not registered engineers in the state. However, of the two completed assessments on the Web site one was completed by the U.S. Environmental Protection Agency and the other by EE&G, a licensed engineering firm in Louisiana. The EE&G report is often cited throughout FEMA's report.

Some inaccuracies with the FEMA report are:

- On pages 1-1 and 7-14, the report says that the groundwater samples exceeded the RECAP standard as outlined in the EE&G report. However, the EE&G report compared the groundwater concentrations to the RECAP screening standard. The RECAP screening standard is not the applicable standard because a screening standard identifies there is something there that needs further consideration. A RECAP screening standard is based on a groundwater I drinking water aquifer. A groundwater I screening standard is applicable to a public drinking water supply aquifer. There is an inefficient supply of water in the aquifer to be considered for a groundwater I standard. The correct standard is known as the groundwater III, nondrinking water standard and the groundwater concentrations at Gentilly Landfill are well below that standard. The groundwater at this site is groundwater III, which means that it is of insufficient quality and amount for drinking and bathing.
- The NISTAC report often lists the incorrect DEQ regulations pertaining to this type of landfill. Gentilly is a Type III landfill, or a construction and demolition debris landfill. The incorrect report refers to rules and regulations for Type I and II facilities. These regulations do not apply to this landfill. The regulations that do apply to Type III landfills were not listed in the document review.
- Leachate migrating from both landfills (the one that closed in 1986 and the current one) is also mentioned. However, the new landfill is a Type III landfill and is not conducive to leachate production. Leachate is generally produced by putrescible wastes found in municipal garbage. During the technical study for the new landfill's permit, which was granted in 2004, the municipal garbage found to be decomposed. With both the new landfill and the one that was previously on the site, there has been no groundwater contamination because of leachate migration observed at this location.
- On page 9-1, it states that landfill gas was detected at the facility and that this is reason to install gas collection/venting systems to ensure worker safety. The gas was detected in boreholes drilled through the cap and into the underlying waste. This investigation was done as part of a site assessment for possible FEMA waste incineration activities. The cap is enough to control any leaking of landfill gas. In fact, workers nearby had "gas sniffers" as they worked near the landfill, near the top of the cap. The results showed there was no

worker-safety concern based on the levels of gas their equipment picked up. Also, gas collection / venting systems are not required by regulations for either landfill.

- One reason the report is still a draft is because there is incorrect information. An example occurs on page 8-6, when the report states that "no evaluation was conducted to assess the possible unstable conditions on the soft clays by placing the permitted C&D wastes on the old landfill at up to 10 times the disposal rate as originally allowed in the new landfill permit." However, if the authors would have contacted DEQ, they would have learned that a stability analysis is included in the "new landfill permit" that assumes a waste loading rate of more than 2,000 times the disposal rate originally allowed. As part of the permitting requirement from before Hurricane Katrina, the landfill operators had to show how the landfill would react in the worst-case scenario. This analysis shows that the factor of safety is above and beyond the required level.
- There is another incorrect statement on page 8-5. The report says there should be a new stability analysis using "possible" or assumed soil properties. The stability analysis included as part of the permit was conducted using actual soil properties determined by a geotechnical engineer and laboratory analysis. The report's "possible worst case" soil conditions have not been shown by any investigation to exist anywhere at the facility nor is a similar condition depicted in any cross-section developed by NISTAC for this report.
- The report also calls into question the ability of the clay liner to withstand the strain created by the new landfill's 25 feet of settlement as calculated in the settlement analysis. Generally, the maximum landfill height is determined by slope stability analysis and the effects of stresses on the liner system and other landfill components. Based on our experience the stresses on the liner system become a concern when the total settlement exceeds 35 feet. In this case, however, analysis indicates that the maximum strain on the clay liner beneath the landfill will be approximately 0.13%. The laboratory tests performed on the soil sample indicate that the strain at failure was approximately 4 to 6 percent. Therefore, the settlement-induced strain will have no detrimental effect on the performance of the compacted clay cover.
- On page 8-2, the report states the "Phase III caps were designed…without regard to the type of clay soils used." The closure certification includes soil identification, Atterberg Limit analysis and percentage passing 200 sieve of the cover material to ensure the soil type is incompliance with the closure plan. In other words, the necessary modeling was done to ensure the closure plan was adequate.
- Also on page 8-2, the report said "on 143 acres…clay (cap) was placed directly on loosely compacted waste. This information is incorrect. Although some areas of the old landfill did not have cover, a substantial portion already had the cover that was installed during the Phase I closure.
- The report's evaluation of the closure cap claims on page 8-5 that additional engineering steps should have been taken to "add strength to the cap system". As part of the permitting process, the facility engineers provided numerous engineering analyses to ensure that the facility was adequately designed. This information is available in the permit application which is available from DEQ's public records department.
- The report references a concern on page 10-1 that the new landfill may negatively affect the stability of the adjacent levees. Again, the soil parameters used in the stability analyses were based on two conditions, total and effective stress. In the total stress (undrained) analysis, it is assumed that the load is applied rapidly and does not allow time for the drainage of the soil to occur. The drained method assumes that over the length of time to fill and close the landfill, the strength properties of soil have adjusted to steady state conditions, and pore pressure have had adequate time to dissipate. The stability analyses performed under these conditions showed that the lowest factor of safety against failure was 1.9. A factor of safety of greater than one is indicative of a stable slope.

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