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# State of Louisiana

## DEPARTMENT OF ENVIRONMENTAL QUALITY
## OFFICE OF ENVIRONMENTAL COMPLIANCE

July 12, 2011

Mr. Edward Hardy II
Environmental Manager
Exide Technologies
P.O. Box 74040
Baton Rouge, LA 70874

RE: RECAP MO-3 Workplan, Baton Rouge Bayou Additional Sediment Investigation
Exide Technologies LAD008184137
2400 Brooklawn Dr.
Baton Rouge, LA 70807
(East Baton Rouge Parish)
**AI Number 1396**

Dear Mr. Hardy:

We have received the above-referenced document dated May 27, 2011. Based on a technical review, we have the following comments specifically addressing the human health and ecological risk assessments:

- It is our understanding that Baton Rouge Bayou is not subjected to dredging. Indicate whether or not this is correct. Additionally, please address whether or not it is a navigable waterway and therefore subject to sediment mixing.
- Direct contact exposure to sediment (e.g. recreational, maintenance work, etc) would most likely be limited to the top 6 to 12 inches depending upon the characteristics of bayou sediments. As such, COC concentrations based on composites samples obtained from the 0-3 ft interval are likely not representative of exposure concentrations. Likewise, ecological assessment generally focuses on the top to 6 inches of sediment particularly for the bioaccumulation pathway. However, COC concentrations at depth are necessary for vertical delineation and remedial planning purposes (if required). From Page 7.
- It should be noted that the sediment data for the bayou are presented on weight wet basis and sediment quality criteria are generally (SQC) based on dry weight. Therefore, the sediment data must be converted to dry weight prior to screening against the SQC. From Page 7.
- Based on the data summarized in Figure 2, the consensus based TEC is exceeded for one or more COC at SD 11, SD13, and SD 15 at Outfall 003 and SD2, SD3, SD4, SD6, SD 7, and SD 8 at Outfall 001. The collection of discrete samples of sediment representative of

smaller sediment intervals in conjunction with data reported on a dry weight basis may result in the identification of additional sampling locations with COC concentrations above the TEC. From Page 8.

- The sediment interval selected to characterized exposure for a wading scenario should be based on the site-specific characteristics of the bayou ( how soft is the sediment surface?). From Page 9.
- Clarify what the future use of the land/bayou will be following the post closure care period and how that may influence exposure to bayou sediments in the future. Clarify how the access restrictions will be enforced after the post closure care period to prevent trespasser exposure to the bayou sediments. From Page 10.
- Maintenance of the bayou shoreline by workers presents the most likely exposure scenario for sediment. If during periods of high water levels or during storm events, the bayou floods adjacent areas, sediment may be potentially deposited in those areas. Please address. From Page 10.
- Additional horizontal delineation is needed down gradient of Outfall 001; SQC are exceeded for one or more COC at SD6, SD7, and SD8. From Figure 2 and Page 14.
- The default and site-specific parameters selected for the calculation of sediment standards are subject to Department approval. Exposure time is not used in the estimation of exposure via the oral and dermal routes (RECAP Section 6.3). Therefore the exposure frequency as proposed would be 12 days/year. Clarify if this exposure frequency is based on documented site-specific worker information or is a default value. Monitoring reports indicate that water samples are collected as often as 4 times per month for some analytes. From Page 20.
- The EPA sediment quality guideline for antimony is 2 mg/kg (EPA 2006). It should be noted that the TEC and PEC are toxicity based guidelines, they do not address bioaccumulation. From Page 22.
- It is stated that the sediment standards will be calculated using the Soili equations In Appendix H of RECAP. This is acceptable for arsenic and antimony; however it should be noted that standards for lead are developed using a biokinetic model and are based on an achieving acceptable blood lead levels in exposed receptors. From Page 20.
- The EPA (2006) surface water guideline for aquatic life for antimony is 30 ug/l. From Page 23.
- Clarify how other potential prey species such as crabs and crawfish are being addressed. These species tend to bioaccumulate COC to a greater extent than fish species. From Page 23.
- The results of toxicity tests on effluent are not likely to be applicable to the evaluation of ecological risks associated with the accumulation of metals in sediment. From Page 23.
- In general, the proposed approach is acceptable. However, it should be noted that BAF are highly dependent on site-specific conditions (characteristics of the sediment, surface water); and they are highly species specific. The BAF, fish tissue toxicity thresholds reference values, and other factors that may be considered in the assessment of risk to

aquatic organisms or the consumption of aquatic organisms are subject to Department approval. From Page 23.

- In general, the proposed approach is acceptable. BAF, toxicity reference values, AUFs, exposure inputs, and other methods and assumptions used in the assessment of risks to aquatic-feeding wildlife are subject to Department approval. The TRV selected should be specific to mammalian and avian piscivorous species and where data are available, specific to the chemical form the metal is expected to be present in sediment at the site.
- From Page 23.
- Based on relevance and the availability of toxicity reference values for piscivores, it is recommended that the avian indicator be the blue heron and the mammalian indicator be the mink or river otter. The raccoon is predominantly an omnivore and not the most appropriate indicator for piscivore exposure. From Page 23.
- It is stated that the prey concentrations will be adjusted to represent wet weight concentrations from the dry weight sediment data assuming a moisture content of 80 percent in biota tissue. Typically BAF and BSAF values represent the ratio of COC concentrations in tissue on a wet-weight basis to COC concentrations in sediment on a dry-weight basis. Clarify the proposed approach. From Page 24.
- Section 3.2 addresses plants but no specific approach for the assessment of plants is included in Section 5.3.2.

Please contact me at 225-219-3764 or by e-mail at laura.lebouef@la.gov with any questions. All correspondence must include the AI number and be submitted in triplicate to:

Thomas F. Harris, Administrator
Underground Storage Tanks and Remediation Division
P.O. Box 4312
Baton Rouge, LA 70821-4312.

Thank you for your cooperation.

Sincerely,

Laura LeBouef, Geologist
Underground Storage Tanks and Remediation Division

c: Imaging Operations – SW, GW

June Sutherlin - USTRD
Johnny Hebert – Environ International, 8235 YMCA Plaza Dr., Baton Rouge, LA 70810