COMMENTS ON PROPOSED PLACEMENT OF ALCOA FACILITY
ON THE USEPA NATIONAL PRIORITY LIST (SUPERFUND)

Texas Natural Resource Trustees

August 20, 1993

The Texas Parks and Wildlife Department (TPWD), the Texas Water Commission (TWC) and the Texas General Land Office (GLO) are the designated natural resource trustees for the State of Texas under federal laws. The state natural resource trustees support the designation of the Alcoa facility, associated spoil island and affected areas of Lavaca Bay as a superfund site on the National Priorities List.

Contaminants have been released from the Alcoa facility and spoil island into the waters of Lavaca Bay. These contaminants (particularly mercury) have become incorporated into the sediments of the bay and become accumulated in the biological resources of the area. A large area of Lavaca Bay has been closed to the taking of finfish and crabs as a result of this contamination. This action has resulted in adverse impacts on the recreational and commercial fisheries industries of the area. Additional costs have also been incurred by the state to monitor and enforce the closure.

Indeed, this site would seem to warrant a higher ranking than indicated in the proposed list. There are serious threats to the natural resources of the area and the ecological health of the bay. The well documented threats to human health, the lost use of the area and the extended time the contaminant has and will be a threat make this site of particular concern and deserving of a higher ranking.

Elevated mercury levels have been found in extensive areas of the bay sediments and biota. If the contamination problems are not addressed there will be continued injury and risk to biological resources on a very long term scale. These problems need to be addressed in a comprehensive, coordinated manner with all natural resource trustees and regulatory agencies participating. The superfund process offers a framework for the problems to be addressed in this manner.

Natural resource trustees are obligated to attempt to restore state and federal natural resources injured from the release of oil and/or hazardous substances. It is the goal of the trustees to determine the injury to the natural resources from discharges into Lavaca Bay and whether these injuries can be restored. If restoration is possible, the trustees will seek to have a restoration plan implemented and/or paid for by the responsible party(s).

Specific problems and contaminant issues dealing with mercury will

be discussed in the remainder of this document. The information discussed has been covered in meetings with USEPA Region 6 staff and are available from the natural resource trustees for the review of USEPA staff. Other contaminant problems may exist, or become evident, and need to be addressed in the future for the full remediation and restoration of this site.

Sources of Contamination

In the past, Alcoa operated a chlor-alkali facility as part of their operations at this site. Mercury was used as a part of this process. The mercury was discharged from the facility through several different media and eventually was introduced into Lavaca Bay. Alcoa discontinued and dismantled the chlor-alkali facility and no longer operates this process.

However, mercury from the past discharges and contaminated areas continues to be present in Lavaca Bay sediments and is accumulated by the biological resources of the bay. Recent information gathered by the natural resource trustees indicates that continued releases of mercury are occurring from the Alcoa facility and spoil island adding contaminant loads to the bay. how? by stormwater runoff?

The Texas Water Commission (TWC) has groundwater data and has reviewed Alcoa groundwater data that indicate mercury contaminated groundwater is entering the bay adjacent to the facility site. The TWC, TPWD and federal Mine Safety and Health Administration (MSHA) have data showing elevated levels of mercury contaminating the soils of the facility. These soils are subject to wind transport and storm runoff and are contributing to the mercury loading of the bay. The TWC has data showing that mercury associated with stormwater runoff is entering the bay. STORMWATER

Additional data from the ore handling area of the facility (MSHA and TPWD) indicate that mercury exists in the ore and dust from this facility. Ore is entering the waters of the bay from the ore unloading and handling operation. The ore dust is subject to wind transport and storm runoff into the adjacent bay. Indeed, red ore dust is highly visible as a wind transported plume around the facility. Although the mercury levels in the ore are not extremely high this is another continuing source of mercury to the bay. ORE

A screening study of the spoil island area conducted by Texas A & M University (TAMU) has shown elevated mercury levels associated with the soils and sediments around the island. Samples of aquatic biota also show elevated mercury concentrations. There are historically documented releases and indications of recent discharges or runoff events from the contaminated areas on the island into the bay.

This information clearly demonstrates that mercury is still being released into the bay from the Alcoa facility and the spoil island.

This will continue to result in adverse impacts on the biological resources of the bay. Remediation actions are needed to end these discharges so the impacted resources can be restored.

Contaminated Sediments of the Bay

There are extensive data on Lavaca Bay showing wide spread mercury contamination in the sediments. Researchers in the past documented this situation. Recent studies (U.S. Geological Service [for the trustees and Alcoa], U.S. Environmental Protection Agency, TAMU and Alcoa) have confirmed the past contamination information and added information on the extent of the contamination. Mercury exists at various depths in the sediments and extends from upper Lavaca Bay into a portion of Matagorda Bay.

Since mercury exists at various depths, the bioavailability of the mercury and remediation/restoration options must be examined closely. The shallow bay sediments are subject to resuspension from storm events, currents and other influences (e.g., dredging). Various habitat types also can collect different amounts of the contamination due to distinct sedimentation rates. The area of contaminated bay sediments should be included in the superfund assessment of remediation activities. If it is not included it will not be possible to fully restore the damaged natural resources of the bay, since damage will continue from the contamination still impacting the resources.

Biological Resources

The biological resources of Lavaca Bay have accumulated mercury to highly elevated levels. Numerous recent scientific studies have shown that mercury in sediments is methylated and becomes available for biological uptake. Unfortunately, this was not widely known when the mercury releases from Alcoa were first discovered.

There are extensive data on finfish and crab resources from various areas of the bay system, but the extent of the bay with biological resources having elevated mercury levels has not yet been adequately determined. Data from the Texas Department of Health (TDH) show mercury concentrations in selected edible seafood (finfish and crabs) for the closed area and some nearby areas. The TDH monitoring results illustrate the continued elevated levels of mercury in finfish and crabs requiring a continuation of the closure for human health concerns.

TPWD data taken from various areas in the Lavaca Bay complex shows elevated mercury levels in finfish in the vicinity of the Alcoa facility and spoil island. TPWD data from other bay systems confirms that the mercury concentrations found in Lavaca Bay fish are elevated well above what would be expected. Additional data from the TAMU screening study near the spoil island, National Oceanic and Atmospheric Administration (NOAA) Status and Trends

samples, U.S. Fish and Wildlife Service data, other TAMU studies and scientific literature show elevated levels of mercury in various biological resources in Lavaca Bay (i.e., benthic invertebrates, oysters, crabs, shrimp, various fish and others). The levels found indicate possible direct toxic impacts and sublethal effects on the biological resources.

Preliminary modeling efforts by NOAA illustrate the bioaccumulation of mercury from the sediments and transport through the food chain of Lavaca Bay. If the contaminated sediments are not addressed in the remediation actions it will not be possible to successfully restore the damaged biological resources of the bay system. This problem should be addressed through the superfund process and a sufficient area of the bay should be included in the site to meet this need.

Comprehensive and Coordinated Effort Necessary

For this complex contamination problem to be addressed and successfully resolved, a comprehensive and coordinated effort by all state and federal natural resource trustees and regulatory agencies is needed. Without such an effort, it will not be possible to rectify the problems in a timely and cost efficient manner. The expense and delay of not using such an effort will not benefit the state, federal government or any potentially responsible party(s).

If the mercury contamination problems can not be addressed, the injuries to the natural resources and risks for humans will continue for a very long time. The mercury will not just go away on its own, as illustrated by the present Lavaca Bay situation. The superfund process offers a method by which a comprehensive and coordinated effort can be undertaken on this problem.

The contamination levels, natural resources at risk, human health concerns and continued releases of mercury into the environment clearly justify this site for the National Priority List. The superfund process should be undertaken for this site for the benefit of all the parties involved and the public.

Availability of Data/Information

As mentioned earlier, the data and information on which this document is based have been discussed with USEPA personnel in the Region 6 office. Additional copies, and/or discussions, of the information will be gladly provided upon request. You can contact any of the trustee representatives listed at the end of the cover letter for information.