EXIDE TECHNOLOGIES

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December 9, 2016

Ms. Suhasini Patel
Senior Environmental Scientist Supervisor
California Dept. of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826-3200

RE: Gantry System Implementation
Closure of Exide Facility, Vernon, California

Dear Ms. Patel:

Exide Technologies is in receipt of the California Department of Toxic Substances Control's (DTSC's) November 29, 2016 letter regarding the Gantry System Method of Mechanical Kettle Removal. DTSC's letter summarizes additional information that DTSC has suggested be included in the Phase 1 Closure Implementation Plan (Implementation Plan) if DTSC approves mechanical removal as part of the Closure Plan and Exide selects the gantry system method (Gantry System) as the preferred method to implement mechanical removal.

Exide has also received DTSC's approved Closure Plan for the facility, which is dated December 8, 2016 and indicates that mechanical removal will be used to remove the seven kettles containing hardened lead that are too heavy to be removed with the existing Smelter Building cranes. Exide has selected the Gantry System to implement the mechanical removal.

PHASE 1 CLOSURE IMPLEMENTATION PLAN

As required by Closure Plan Section 4.2.2, Exide will submit the Implementation Plan, which will be prepared by Exide's Closure Contractor, American Integrated Services (AIS), within 30 days of DTSC's December 8, 2016 Closure Plan, or January 9, 2017. The Implementation Plan will address all Phase 1 activities. As required by Closure Plan Section 4.2.2, the Implementation Plan will include the following: scope of work; schedule; sequence; supplemental dust mitigation measures; work hours; procedures, sequence and techniques for work tasks; site-specific Health and Safety Plan; and Demolition Engineering Survey. Please note that as the Closure Plan was just approved and issued yesterday by DTSC, Exide has not had the opportunity to review the Closure Plan in detail nor complete preparation of the Implementation Plan.

However, Exide respectfully requests DTSC's written approval of the Gantry System prior to its submission of the Implementation Plan. The enclosed documents relate to the implementation of the Gantry System, and include implementation methods, air emission controls, engineering evaluations, health and safety, schedule and sequencing. Exide requests written approval of the Gantry System on or before December 27, 2016, after which the technical and other information

regarding the Gantry System will be incorporated into the Implementation Plan, but will not be subject to further review or approval.

GANTRY SYSTEM IMPLEMENTATION

The Gantry System applies to seven kettles containing hardened lead which are too heavy to be removed with the existing Smelter Building cranes. The seven kettles will be lifted by the Gantry System and transferred to the Blast Furnace Feed Room. The kettles and hardened lead will then be cut into smaller pieces for transport for recycling. Because of their weight, the seven kettles cannot be kept intact for transport and handling and are not proposed to be sent to an alternate facility for re-use.

The seven kettles are summarized as follows:

- Unit 90 (Receiving Kettle B) (50 tons)
- Unit 91 (Receiving Kettle E) (65 tons)
- Unit 92 (Receiving Kettle F) (100 tons)
- Unit 93 (Receiving Kettle G) (12 tons)
- Unit 96 (Refining Kettle 3) (15 tons)
- Unit 97 (Refining Kettle 4) (30 tons)
- Unit 100 (Refining Kettle 7) (15 tons).

The attached appendices discuss implementation of the Gantry System (some of the documents, such as the description of the HAKI System Design, necessarily relate to the overall Phase 1 closure process, but include information relevant to the process of removing the kettle lead using the Gantry System):

1. Figures
    a. Implementation Plan Figure 2 showing Full Enclosure Unit segments, including Segment 2, which would enclose both the Smelter Building and the Blast Furnace Feed Room
    b. Gantry System plan view
    c. Gantry System cross-section view.
2. Deconstruction Engineering Survey
3. HAKI System Design
4. Air Emission Control calculations
5. Sketch of conflicting building elements
6. American Integrated Services' (AIS) December 5, 2016 Kettle Removal Work Plan
7. Exide's September 29, 2016 letter regarding Closure Plan Alternative 3, Mechanical Kettle Removal – Gantry System Method, including the September 26, 2016 Mechanical Kettle Removal - Gantry System Method report by Advanced GeoServices.

In addition, select topics related to overall implementation of Phase 1 closure from the forthcoming Implementation Plan are summarized below.

DECONSTRUCTION SEQUENCE AND AIR EMISSION CONTROLS

Deconstruction of the North Yard buildings will occur within Full Enclosure Units installed in segments. Segment 1 includes the western buildings (RMPS, Desulfurization and Reverb Furnace Feed Room). Segment 2 includes the eastern buildings (Smelter Building and Blast Furnace Feed Room), where the removal of the kettle lead would occur using the Gantry System. Segment 3 includes the center buildings (Baghouse Building and Corridor). The segments are shown on the Implementation Plan Figure 2 provided in Appendix 1. The Gantry System will be implemented within the Segment 2 Full Enclosure Unit as discussed in Advanced GeoServices' September 26, 2016 report. Please note that the segment layout in Appendix 1 was prepared based on the November 30, 2015 version of the Closure Plan, and Exide has not yet had a meaningful opportunity to review DTSC's approved Closure Plan or make associated modifications to the segment layout, if necessary. The final version of the segment layout will be submitted in the Implementation Plan.

The proposed sequence of building deconstruction is provided in the Deconstruction Engineering Survey prepared by a licensed professional engineer provided in Appendix 2. The Gantry System would be employed to remove the kettle lead at the point in time when the Full Enclosure Unit for Segment 2 is present, and the Smelter Building and Blast Furnace Feed Room have been deconstructed. Please note that the Deconstruction Engineering Survey in Appendix 2 was prepared based on the November 30, 2015 version of the Closure Plan, and Exide has not yet had a meaningful opportunity to review the approved Closure Plan or make associated modifications to the Deconstruction Engineering Survey, if necessary. The final version of the Deconstruction Engineering Survey will be submitted in the Implementation Plan.

The Full Enclosure Unit will be a combination of conventional scaffolding for the walls and a HAKI Truss System for the roof within each segment. The Full Enclosure Unit will enclose the segment of buildings proposed for deconstruction at that point in the Phase 1 closure. The HAKI system is a truss system capable of spanning the entire width of the structure and will provide enclosure by utilizing a track system within the trusses to place poly sheeting. The HAKI system will be used during the Phase 1 closure regardless of the selected kettle removal method. Information from the HAKI system manufacturer is provided in Appendix 3. Design drawings for the HAKI system prepared by a licensed professional engineer are also provided in Appendix 3. Please note that the HAKI system design drawings were prepared based on the November 30, 2015 version of the Closure Plan, and Exide has not yet had a meaningful opportunity to review the approved Closure Plan or make associated modifications to the HAKI system, if necessary. The final version of the HAKI system design drawings will be submitted in the Implementation Plan.

The Full Enclosure Unit will be installed and operating at each segment to provide negative air pressure prior to building deconstruction. The air within each Full Enclosure Unit will be managed by existing air emission control devices (i.e., baghouses), which are approved by the

South Coast Air Quality Management District (SCAQMD) and operated per the facility's Title V permit. Negative air machines and/or additional ducting from the existing baghouses will be added as necessary to maintain negative air pressure to prevent fugitive dust. Calculations prepared by a licensed professional engineer demonstrating that the air emission control equipment is appropriate for maintaining negative pressure in accordance with SCAQMD Rule 1420.1 are provided in Appendix 4. Please note that the calculations were prepared based on the November 30, 2015 version of the Closure Plan, and Exide has not yet had a meaningful opportunity to review the approved Closure Plan or make associated modifications to the calculations, if necessary. The final version of the calculations will be submitted in the Implementation Plan.

As discussed in Closure Plan Appendix G, Section 3.3.1, negative air pressure will be monitored per SCAQMD requirements using existing and temporary monitoring devices. In-draft velocity will also be measured. If the required negative air pressure is not met, SCAQMD Rule 1420.1 requires that work stop and the condition be corrected to restore the required negative air pressure. Work activities would stop and overhead doors would remain closed. Work would not resume until the required negative air pressure is restored.

Perimeter and real-time air monitoring will be conducted as indicated in Closure Plan Appendix G, Section 3.6. Procedures to stop work if an exceedance of perimeter ambient air concentrations occurs are provided in Closure Plan Appendix G, Section 3.6.1. Procedures to stop work if real-time air monitoring observes an increase in concentration of 50 $\mu g/m^3$ of PM10 occurs are provided in Closure Plan Appendix G, Section 3.6.2.

The Gantry System will be implemented using the aforementioned procedures in the Closure Plan, the materials attached to this letter and the Implementation Plan. These procedures, including air monitoring, dust control, and maintaining negative pressure and air emission controls, are adequate and consistent with the analysis presented in the Draft EIR, and meet SCAQMD requirements. As discussed in the September 26, 2016 Advanced GeoServices report, Section 3.2, "*The Gantry System Method reduces the air emission impacts of Alternative 3 [Mechanical Removal] presented in the Draft Environmental Impact Report.*"

ENGINEERING EVALUATION – EXISTING SLAB AND FOUNDATION

As Exide previously noted in its March 25, 2016 letter to DTSC regarding the Closure Plan, the Smelter Building concrete floor slab above the kettle gallery basement would not support the combined weight of a heavy-lift crane and a lead-filled kettle. For that reason, the modular rails that will support the Gantry System will not be placed on the unsupported Smelter Building floor slab. Instead, as shown on the cross-section sketch in Appendix 1, the modular rails will be laid down on both sides of the kettles, directly over load-bearing retaining walls at the edges of the Smelter Building basement. The header beams of the Gantry System will span the basement and will not rest on the floor. The bearing pressure of the gantry system will be placed on the

structural retaining walls that create the basement below. These walls are bearing directly on the building foundation below and will support the gantry system.

The existing floor of the Blast Furnace Feed Room will support the gantry system, the kettle, its lead contents, the cribbing, and the excavator and other construction equipment as the existing floor is supported by soil as discussed in Appendix 6. The Blast Furnace Feed Room does not have a basement.

Supporting structural calculations for the aforementioned load bearing capacity of the walls and floors were prepared by a licensed engineer and are included in the AIS Kettle Removal Work Plan provided in Appendix 6.

ENGINEERING EVALUATION – RINGS

Exide previously noted in its August 1, 2016 letter to DTSC that a specially designed lifting sling would be required to lift the lead-filled kettles when implementing a crane removal method due to the risk that the lifting rings on the kettles might not have sufficient lifting capacity. These statements were based on a preliminary evaluation, and not an analysis by a structural engineer. Since that time, a structural engineer has evaluated the kettle design, including steel type, size and construction, and determined that the existing lifting rings will support the lead-filled kettles with an adequate factor of safety. The evaluation is provided in the AIS Kettle Removal Work Plan in Appendix 6. While not anticipated to be necessary, if the existing lifting rings are not adequate, a contingency method would implemented as discussed in Appendix 6. The contingency method would include creating additional lifting points by drilling through the kettle gussetts. Adding lifting points would increase the safety factor so that the kettles can be lifted safely.

CRIBBING

Cribbing will be used to secure the kettle once it has been placed on the existing concrete in the Blast Furnace Feed Room to secure it during cutting and lead removal activities. Cribbing information is provided in the AIS Kettle Removal Work Plan in Appendix 6.

EQUIPMENT EVALUATION – CUTTING OF KETTLE AND LEAD

The proposed kettle cutting and lead slicing equipment is adequate to perform the work. An evaluation of the equipment is provided in Appendix 6.

DUST SUPPRESSION METHODS

Dust suppression during the use of the Gantry System will be conducted in accordance with the methods in Closure Plan Appendix G, Section 3.4.1.

HEALTH AND SAFETY PLAN

The Implementation Plan will include a site-specific Phase 1 Closure Health and Safety Plan which applies to all Phase 1 closure activities. The portions of the Phase 1 Closure Health and Safety Plan related specifically to the Gantry System are provided in Appendix 6. The AIS Kettle Removal Work Plan in Appendix 6 includes Job Safety Hazard Analyses (JHA) specific to the tasks associated with the use of the Gantry System. The JHAs were prepared by AIS and the Gantry System subcontractor, Bigge Crane. Topics include specialized rigging, decontamination, deconstruction, scaffold/enclosure construction, and use of construction saws. JHAs will be reviewed in the field at the time of work and may be modified. The JHAs related to the Gantry System will also be included in the Phase 1 Closure Health and Safety Plan submitted with the Implementation Plan.

SCHEDULE AND SEQUENCE

The Implementation Plan will include a schedule for all Phase 1 Closure activities. The AIS Kettle Removal Work Plan in Appendix 6 includes a schedule specific to the Gantry System tasks. The schedule includes the sequence of work.

BUILDING AND KETTLE REMOVAL SEQUENCE

DTSC's November 29, 2016 letter states that DTSC would prefer that the kettles be removed before the Smelter Building or Blast Furnace Feed Room are deconstructed to maintain redundant air emissions, and requests logistical and/or technical reasoning why deconstruction of the building before removal of the kettles is necessary, and how the public, workers and/or the environment will be protected.

The Gantry System cannot be installed or employed until the Smelter Building and Blast Furnace Feed Room have been fully deconstructed, due to the presence of structural components of the buildings and the units and equipment located within the buildings. As indicated in the September 26, 2016 Gantry System Method report, Section 2.1, '*...Advanced GeoServices and Exide evaluated an alternative sequencing that placed the installation of the gantry system before decontamination and deconstruction of ... the Smelter Building itself. However, the presence of structural building elements ... would constrain operational space and prevent the use of a gantry system and thus the alternative sequencing was infeasible.*' Exide conducted a field evaluation of the structural building elements in the area of the seven kettles and proposed Gantry System. Even if the units and equipment within the Smelter Building and Blast Furnace Feed Room had been decontaminated and deconstructed and the buildings were empty, several structural elements associated with the Smelter Building and Blast Furnace Feed Room would prevent installation of the Gantry System, as shown in Appendix 5. These elements include the building columns along Lines B and C, the concrete wall between the Smelter Building and Blast Furnace Feed Room and the concrete walls which separate storage areas in the Blast Furnace Feed Room.

Therefore, partial deconstruction of the Smelter Building and Blast Furnace Feed Room (i.e., deconstruct only those portions conflicting with the gantry system) is not feasible as it would not satisfy the requirements of the Deconstruction Engineering Survey to achieve a safe deconstruction, as well as creating an unstable building and unsafe work conditions.

In addition, the southern wall of the Smelter Building would have to be removed to allow the kettles to be transported on the modular rails from the Smelter Building to the Blast Furnace Feed Room. However, once that wall was removed, the building would no longer act as an enclosure, and the redundant air emission controls suggested by DTSC would no longer be present, so that the Segment 2 Full Enclosure Unit would provide control of fugitive emissions.

Deconstruction of the Smelter Building and Blast Furnace Feed Room before removal of the kettles is logically and technically necessary for implementation of the Gantry System. Protection of the public, workers and the environment will be provided by the Segment 2 Full Enclosure Unit operated under negative air pressure as described above and as provided in Appendices 3 and 4.

OFFSITE RE-USE OF KETTLES

DTSC's November 29, 2016 letter asks if the Gantry System would allow for kettles with more than 12 tons of lead to be re-used offsite at an alternate facility. However, Exide does not propose to keep the seven kettles containing more than 12 tons of lead intact, nor would the seven kettles be transported to an alternate facility for re-use. Instead, the methodology proposed by Exide includes cutting the kettle to remove it from the lead, after which the kettle could not be re-used.

We appreciate DTSC's review of the enclosed information, and look forward to its formal approval of the Gantry System by December 27, 2016. Please contact me at (323) 262 1101 x275 with any questions.

Sincerely,

John Hogarth
Exide Vernon
Plant Manager

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