Department of Toxic Substances Control

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MEMORANDUM

TO: Farshad Vakili, P.E.
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FROM: Todd Wallbom, P.G.
Engineering Geologist
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CONCUR: Craig Christmann, P.G.
Senior Engineering Geologist
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DATE: December 11, 2014

SUBJECT: Review of Revised Surface Water Monitoring And Response Plan,
Quemetco, Inc.
720 S. 7TH Avenue
City of Industry, California 91746
(EPA ID No: CAD 066233966)
Prepared by WSP Environment & Energy (WSP)

PCA: 25040 Site Code: 300225 Phase: 33 MPC: 6 Log No: 20009109

As requested, Geological Services Unit (GSU) staff has performed a technical review of the revised *Surface Water Monitoring and Response Plan* (SWMRP) document, dated November 19, 2010, submitted by WSP on behalf of the Quemetco, Inc. (Quemetco) facility (Site). A response-to-comments (RTC) letter, also dated November 19, 2010 and prepared by WSP, was attached to the revised SWMRP.

The facility is required to submit a SWMRP that complies with all the provisions of 22 CCR, Chapter 14, Articles 4 and 6, and conditions listed in Quemetco's *Hazardous Waste Facility Operation and Post-Closure Permit* (Part B Permit). Also, the facility should be designed, constructed,

operated, and maintained to prevent 'washout' of any hazardous waste. 'Washout' refers to the movement of hazardous waste from process areas to no-process areas (including offsite) as a result of flooding.

This is the second version of the SWMRP. The original draft SWMRP was dated November 28, 2006. GSU submitted comments on the original draft in a memorandum dated September 14, 2010. Both Quemetco's RTC letter and revised SWMRP were drafted in response to our memorandum.

The Quemetco facility operates in the City of Industry as an actively operating secondary lead smelter facility. Western Lead Products established the facility in 1959, and then sold the operation to Quemetco in 1970. The facility recovers lead from spent lead-acid automobile and truck batteries to produce lead and various metal alloys.

Overall, GSU finds that the revised SWMRP document to be only slightly improved over the first draft document. Also, Quemetco appears to have taken an overly simplistic approach to this requirement and has failed to provide adequate responses to most of our comments on the first draft document. Therefore, we request that the comments provided below be addressed, the SWMRP comprehensively revised in accordance with our comments, and then resubmitted for further review.

We also have some concerns with surface water management at the facility. Our recommendations are included in this memorandum

The comment numbers provided below correlate to the same comment number provided in our original comments in our memorandum referenced earlier.

GENERAL COMMENTS:

1. Quemetco has included the Part B Permit and Title 22 references in the revision as requested. However, they refer to the two regulated Units (RUs) under post-closure care: the Closed Surface Impoundment (CSI) and the Former Raw Materials Storage Area (FRMSA) as "closed and no longer exist". GSU wishes to point out that on September 6, 2011, DTSC denied Quemetco's Clean Closure Request (CCR) for both the CSI and FRMSA. As a result, both RUs are considered by DSTC to be closed with waste in place. Quemetco should note these important distinctions in the text, and in all future documents that discuss the closure status of these two RUs.

2. GSU is satisfied with Quemetco's response to this comment and the associated changes in the SWMRP.

3. The figures are still unsatisfactory. The first figure, 'Attachment A', titled 'Facility Plan' has been improved somewhat but is still missing the map features requested in our memorandum. It also appears that Quemetco has inexplicably renamed this figure from 'Storm Water Plot Plan' in the previous draft SWMRP to 'Facility Plan'. There is also no Site Plan in this revised version.

   We recommend that Quemetco review our General Comment No. 3 in our memorandum dated September 14, 2010, and revise this figure accordingly. Also, they should include an up-to-date site plan that clearly shows all of the operational and non-operational areas of the facility.

   For 'Attachment B', titled '1' Interval Topographical Survey', GSU concurs with Quemetco's proposal to use a 1-foot contour interval, rather than a 5-foot interval, for 'Attachment B', Topographical Survey, map (listed under Table of Contents as 'Attachment B'). However, the adverse effect is that the map is more crowded ('busy') due to the minute topographic elevations and the dense clustering of fuzzy elevation values in several areas; making it difficult to review at this small a scale (1"=50'). We ask that the map be revised to clearly show all of the elevation data using a one-foot contour interval. Blow-ups (larger-scale maps), of individual areas; such as the CSI, the FRMSA, the Battery Storage Area (BSA), the parking lot, the other areas of the facility that were mentioned above, any other areas of the facility with variable topography, and also along the perimeter adjacent to San Jose Creek, are recommended.

   In addition, GSU noted, during field oversight of quarterly groundwater sampling activities on November 1, 2011, that Quemetco had recently repaved the concrete surface in and around the Crane Yard (or 'Tank Area' as shown on the topographic map), or between groundwater monitoring wells MW-1, MW-7, and MW-10. Based on our observations, the top of this new concrete surface appears to be higher than the old surface, and also seems higher in places than the adjacent berm that extends along the perimeter of the facility. The overall change in grade may also have affected surface flow direction.

   Quemetco stated in their RTC that they intend to update the Topographic Survey map and the Site Plan map to include the Battery

Wrecker Enclosure. While it is not clear why Quemetco did not submit the updated topographic map with the revised SWMRP, we concur with their plan. In addition to this, however, we recommend that Quemetco re-evaluate the surface in the Crane Yard area and perform a topographic re-survey to see if this changes the direction of surface water flow, or if surface water could cross the perimeter. The two figures should then be modified and recontoured to also include the new survey data. If the evaluation shows that the perimeter may be compromised due to the elevated surface, DTSC should be informed without delay, and corrections to the dike or berm in the compromised area so that it would properly contain any surface water flow should be prioritized. This applies in general principle to any modified surface at the facility that occurred after the 2007 topographic survey was completed.

4. Quemetco's RTC to our comment is confusing and somewhat evasive. There also appears to be a rift between Quemetco's RTCs and the Surface Water Flow map provided in the revised SWMRP. In our comment, we stated that there are two areas of the Site where surface water could feasibly cross the perimeter.

Quemetco states that surface water leaves the facility via 'Outfall 2' and that "Outfall 1 is no longer active and will be removed from all maps". This is acceptable but Quemetco should have also explained why Outfall 1 was removed and named the storm drain(s) that currently conveys surface water once handled by this outfall.

Besides Outfall 2, Quemetco also refers to other "areas" in their RTC, which suggests that there is more than one active outfall. While there is no discussion in the Report as to the specific location of 'Outfall 2, Attachment A, 'Facility Plan', shows 'Storm Outlet 2', located in the northern corner of the facility. Storm Outlet 2 appears to be the same area identified in our comment in our September 14, 2010 memorandum as 'adjacent to 'Outfall 001' (General Comment No. 4, page 2). 'Outfall 2' was not identified as such in our memorandum, except that we requested Quemetco investigate the possible offsite discharge of surface runoff in the 'northeast corner, or between the wastewater-treatment ASTs and the property fence.

Part of the confusion likely stems from Quemetco using inconsistent terminology. We cannot tell, based on Quemetco's response, if 'outfall' or 'outlet' refers to the same feature, or are separate features. If 'Outfall 2' lies in the same area identified by GSU as a possible

location for water to escape, then Quemetco should either frame their response in keeping with our comment, or inform DTSC as to the correct identification/name of the feature. If 'Outfall 2' is an area not discussed by GSU, or is actually 'Storm Outlet 2', then this too should be identified in a manner that is consistent between our comments, the RTCs, the SWMRP, and all supporting figures and tables.

As noted above, Quemetco hints at more than one stormwater outlet but their RTC specifically mentions only one: 'Outfall 2'. The Surface Water flow map suggests that surface water leaves the facility at two, possibly three, locations. The map clearly shows two locations: 'Storm Outlet 2', located in the northeast corner of the facility, and 'Storm Outlet 3', located north of the offices and the refinery, but the third is less distinctive. To avoid confusion, we will refer to Storm Outlet 2 and Storm Outlet 3 from this point onward for the purposes of this memorandum. This possible third location, identified as 'Storm Sewer', may drain storm water from the main parking lot and connect to the main storm sewer located beneath 7TH Avenue, or the drain may connect to one of the two identified storm drains located on the property. What seems clear is that there are at least two separate storm drains located on the facility that drain contaminated surface water from the facility into the main drain located off-site.

Quemetco states in their RTC that they are allowed to discharge to the main storm line under an approved NPDES General Permit. Quemetco submitted a Notice of Intent (NOI) to the California Regional Water Quality Control Board (CRWQCB), dated August 14, 2000, for certain portions of the facility not associated with process areas to operate under a General Storm Water discharge permit.

Quemetco's rationale is unsatisfactory since it failed to point out that the area drained by the storm drains is located within the boundaries of the facility, and is therefore directly adjacent to operational areas. Therefore, we cannot rule out contamination from washout from these areas or fugitive dust fallout from the stacks.

DTSC reviewed Quemetco's '2010-2011 Annual Report for Storm Water Discharges Associated with Industrial Activities', signed by Scott Bevans, Quemetco Vice President, California Operations. The reporting period was from July 1, 2010 through June 30, 2011. Also included in the package was Quemetco's 'Annual BMP's and Annual Inspection' report signed by John Macek, the facility EHS Compliance Manager. Both documents are dated June 30, 2011. Quemetco's stormwater report presents metals analytical data collected over

several sampling events (October, 2010 to March, 2011) from three storm drains: 'Storm #2', 'Storm #3A', and 'Storm #3B'. 'Storm#3A' and 'Storm#3B' may be duplicates of each other, based on some similarity between the two data sets.

Based on our review, Quemetco appears to have been consistently discharging elevated levels of lead (up to 2 mg/L: 'Storm#3B'; February 25, 2011) antimony (up to 0.015 mg/L: 'Storm#3B': October 6, 2010), and zinc (up to 1.7 mg/L, 'Storm#3A'/'Storm#3B', October 6, 2010) using the above-mentioned storm drains. These storm drains are tied in to the main storm drain line underlying 7th Avenue. The main storm drain then empties in to San Jose Creek; a 303-d listed water body.

According to the CRWQCB, the benchmarks for lead and zinc are 0.0816 mg/L and 0.117 mg/L, respectively. The MCL for antimony is 0.006 mg/L. Based on the above data, it is clear that Quemetco has been exceeding their benchmarks for lead and zinc and the antimony MCL. The data suggests that either contaminated surface water is flowing from process to non-process areas, or that fallout from the stacks into non-process areas is being flushed out of the drains, or a combination of both.

DTSC also obtained a letter from the CRWQCB to Quemetco, dated April 19, 2010. The letter notified Quemetco that sample data from 2008-2009 showed the facility had also exceeded their benchmarks for lead and zinc. In their letter, the CRWQCB had required Quemetco to submit a Storm Water Pollution Prevention Plan (SWPPP) with upgraded best management practices (BMPs) to eliminate or reduce storm water pollution from the facility. Quemetco responded, in a letter signed by Kim Schaeffer and dated May 18, 2010, to the CRWQCB, that they had improved their BMPs which should "yield significant improvement in the reduction of fugitive lead particulates which impact our storm water results". As noted in the 2010-2011 data, the lead and zinc concentrations have instead increased, not decreased, since Quemetco's letter, which would seem to contradict their assurances to the CRWQCB.

What seems clear is that, more often than not, Quemetco is not in compliance with the provisions listed in their General Permit. It would also seem that Quemetco's current BMPs are ineffective. Furthermore, there seem to be no realistic instruments to force Quemetco to meet their benchmarks (i.e., enforceable effluent limits). As a result, the GSU has made a recommendation to the DTSC Project Manager, Mr. Sam Coe, that DTSC issue a letter to the CRWQCB

requesting that they revoke Quemetco's current Storm Water Permit, and then issue an Individual Industrial NPDES permit for the facility

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We also request that DTSC be copied on all submittals to the CRWQCB related to their General Permit.

5. Quemetco's response to this comment is unsatisfactory and, similar to their RTC and text changes in the SWMRP to GSU General Comment No. 4, mostly confusing. Quemetco states that 'Section 4 of the previously submitted SWMRP does discuss potential surface water monitoring points'. However, for no justifiable reason, Quemetco states that they have removed these sampling locations from this revised draft of the SWMRP. Quemetco states in their RTC that they 'cannot anticipate the location'. They should be made aware that this violates one of the conditions in their Part B Permit. Please see Attachment A, Part IV.D.5(b)(6) of the Part B Permit, which states:

   Based on this topographic map, and any other appropriate information, the Permittee shall include in the SWQMRP appropriate monitoring points for surface water that accurately represent any flow of surface water across the perimeter of the Facility [Title 22, CCR, §66270..32 (b)(2)].

   Therefore, the SWMRP should be revised accordingly to include surface water monitoring points on the facility. See also General Comment No. 6, below, for a discussion on surface water sampling in San Jose Creek.

   The revised SWMRP also does not appear to be consistent with Article 4 ('Contingency Plan and Emergency Procedures'). For instance, in Section 7 of the SWMRP, 'Response and Reporting', there is only an abridged discussion on what action will be taken by the facility in the event of a release, which seems minimal at best. Quemetco references their SWPPP/BMP which may describe in detail their contingency plan for a release, but these documents were not reviewed by GSU as part of the SWMRP. As noted earlier, Quemetco's SWPPP/BMPs likely need to be revised due to their apparent ineffectiveness at reducing the levels of metals detected in their storm drains. In any case, we recommend including a more descriptive contingency plan, and adhering to the provisions listed in Article 4, for releases in the revised SWMRP.

6. Similar to the above comment, Quemetco's response to our General Comment No. 6 is incomplete. The SWMRP needs to comply with Article 6 surface water monitoring requirements. The SWMRP should include a sufficient number of background monitoring points at approximate locations and depths at San Jose Creek (the nearest water body) to represent the water quality of the creek. The SWMRP also needs to include a sufficient number of monitoring points established at approximate locations and depths at San Jose Creek.to provide the best assurance of the earliest possible detection of a release from the facility. The SWMRP also needs to include a sufficient number of monitoring points established at approximate locations and depths at San Jose Creek.to evaluate changes in water quality due to a release from the facility.

   In addition, Quemetco will need to include a procedure, along with a justification, for determining, and updating, background values for all COCs. The number, and types of tests used in the study, should be appropriate for the statistical method used for the study, and should follow generally accepted statistical principles. Also, the sample size should be of sufficient number to ensure with reasonable confidence that a release will be detected and to evaluate changes in water quality due to any releases from the regulated unit.

SPECIFIC COMMENTS:

1. Quemetco's response to this comment is unsatisfactory and mostly incorrect. GSU is unsure what Quemetco means, in responding to our comment, when they refer to the design of the San Jose Creek basin as having 'incorporated groundwater recharge capabilities at expansion joints throughout the entire drainage system'. Their RTC seems to suggest that water flowing along the lined portion of San Jose Creek recharges groundwater, which is incorrect.

   According to Mr. Andrew Ross, P.E., an engineer with the Los Angeles County Department of Public Works (LACDPW), San Jose Creek does have 'flat gates' staged along the creek bottom that stay closed when there is water in the creek but can open to allow rising groundwater to enter the creek (via perforated piping that run beneath the bottom in the underdrain) without destroying the concrete channel bottom. The only place where recharge would occur is further downstream just before the creek joins the San Gabriel River (or at the lower portion of Reach 1) or where it discharges to the soft-bottomed portion of the reach.

If what Quemetco states were true, there would be no water flowing in the creek as it would simply disappear in to the underlying aquifer when groundwater levels were lower than the concrete floor/underdrain; as has been typically the case over the last several years in the shallow WBZ. Revise the document in accordance with our original comment.

Under revised Section 4, Facility Layout, Part C, Outline of All Impervious Areas of the Facility (page 4), Quemetco states that "all impervious areas of the facility are detailed" without stating where this information is located. They also state that the only 'non-impervious' area consists of "a small area of bare ground, located near the Battery Storage Area (BSA). This area needs to be identified on a figure. Also, since this bare area may be subject to infiltration of contaminants via surface water runoff (or direct spills), we would like to review the results of any surface and subsurface sampling that should have already been performed by Quemetco for this area. Furthermore, Quemetco should inform DTSC on their rationale; particularly since this bare spot lies close to a hazardous waste storage area (BSA), on why this area has been left unpaved.

In addition, stating that all "paved areas, buildings, and covered storage areas" are "impervious" assumes that there are no cracks, fractures, leaking drains/connections, or other conduits anywhere on the facility through these features to the soil below. We advise that Quemetco note this in their revised document, include a statement regarding the frequency of hardscape inspections for cracks or other evidence that suggest that an 'impervious' area may be compromised, and the subsequent activities that will be immediately undertaken to mitigate any deficiencies, and/or if corrective action is necessary.

2. 1st Bullet: See our response to General Comments Nos. 5 and 6, above. Monitoring should be conducted across the entire facility and in San Jose Creek. We also do not concur with Quemetco's approach of separating the facility in to industrial from non-industrial. Otherwise, the remainder of Quemetco's RTC and modified text are satisfactory.

2nd Bullet: Quemetco's RTC and changes to the text are satisfactory.

3rd Bullet: The applicable section has been somewhat revised but is still overly simplified. Furthermore, we do not recommend acidifying all of the samples; particularly for pH, oil and grease, or TOC analyses. We also recommend that Quemetco refer to the Part B Permit for a list

of the facility COCs and analytical methods. See also our next comment for additional discussion on what action should be taken in the event of a release. Also, it is unclear if Quemetco plans to analyze the sample for total, or dissolved metals, or both.

Dissolved metals will need to be filtered (either in the field or at the analytical laboratory) prior to sample analysis. This also needs to be discussed in the plan. VOCs could be omitted from the monitoring, provided that no VOC releases occur or no oily sheens are observed in surface water. However, this would be on a case-by-case basis only. Provisions for collecting VOCs from surface water should be included in the SWMRP. A decision tree should be completed to guide this process.

4th Bullet: Despite their RTC, Quemetco did not include the concentration limits for each COC in the SWMRP as per our request. Therefore, this comment is also outstanding.

3. Quemetco is proposing that, in order for a release to be reportable, there must be either 10 pounds of lead or 10 pounds of water containing hazardous levels of lead (over 5 mg/L) crossing the perimeter. There are three fundamental issues with this proposal, which are as follows:

    1. First, lead is not the only constituent of concern (COC). Surface water should be analyzed for all the COCs, which include all the waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste treated or stored on the facility. Monitoring constituents of concern should include at a minimum: lead, cadmium, antimony, copper, mercury, nickel, selenium, and pH. For each COC specified, the facility shall propose a background limit and concentration limit for surface water monitored pursuant to the SWMRP. The concentration limit should not to exceed the background value of that constituent as approved by DTSC.

    2. There is no indication how Quemetco will be able to quantify this within a reasonable time period before determining if a release is reportable. What will likely happen is that releases will go unreported for weeks (or not reported at all) because the release either failed to meet Quemetco's proposed criteria or Quemetco was unable to determine the nature and extent.

3. In our previous memorandum, GSU had requested that Quemetco specify what they meant by 'a reportable release'. We also asked them to include a statement that any releases of hazardous waste are to be reported to the appropriate agencies. Quemetco has apparently taken this to mean that only releases of hazardous waste are considered reportable, which is clearly unacceptable.

We recommend that Quemetco implement appropriate BMPs, and modify their SWPPP to reduce or prevent contaminants from entering the storm drains. We recommend that Quemetco review the following documents when revising the SWMRP and modifying their BMPs/SWPPP:

- 40 CFR Part 131, Subpart D, Section 131.38, Water Quality Standards, Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California (CTR); Rule, dated May 18, 2000.

- Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP), Resolution No. 2005-0019, State Water Resources Control Board, California Environmental Protection Agency, 2005.

- Total Maximum Daily Loads for Metals and Selenium, San Gabriel River and Impaired Tributaries (San Gabriel TMDL), U.S. Environmental Protection Agency, Region IX, March 26, 2007.

Information from these and other associated regulations and guidelines should be incorporated in to the revised SWMRP. We recommend that Quemetco review and follow the CTR and the SIP since they provide instructions on how to calculate the effluent concentrations that can be discharged to a receiving water body. These limits are water quality-based effluent limitations or WQBELs, which are based on specifics such as dissolved metals criteria, pH, hardness of the receiving water body, TMDLs for the San Gabriel River watershed, water-effect-ratio (WER), chronic averaging period, etc.

Questions regarding the memorandum should be directed to Todd Wallbom at (818) 717-6622.