



Department of Toxic Substances Control

Matthew Rodriguez
Secretary for
Environmental Protection

Barbara A. Lee, Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Edmund G. Brown Jr.
Governor

June 20, 2018

Mr. Stefano Pellegrini
Plant Manager
Central Wire Inc.
2500 "A" Street
Perris, California 92570

Certified Mail# 7017 3040 0000 4253 1089
Return Receipt Requested

SECOND NOTICE OF DEFICIENCY FOR PERMIT RENEWAL APPLICATION FOR THE CENTRAL WIRE INC. HAZARDOUS WASTE FACILITY, 2500 A STREET, PERRIS, CALIFORNIA, EPA ID NO. CAD059277137

Dear Mr. Pellegrini:

The Department of Toxic Substances Control (DTSC) has completed its technical review of the revised Hazardous Waste Post-Closure Facility permit application dated March 2018 for the Central Wire Incorporated (CWI) facility located at 2500 "A" Street, Perris, California, 92570, hereinafter referred to as the "Application." The Application has been reviewed for compliance with the applicable requirements of California Code of Regulations, title 22, division 4.5 and the Health and Safety Code, division 20. DTSC has determined that the Application is deficient. The enclosed comments comprise the second Notice of Deficiency (NOD) issued for the Application. DTSC would like to schedule a meeting to discuss the deficiencies. I will contact you shortly to schedule this meeting.

The following must be submitted by August 3, 2018:

- 1) Two hardcopies and one electronic PDF copy (CD or flash drive) of the complete, clean version of the revised permit application. The revised permit application must be a complete application with all sections, figures, tables, appendices, calculations, attachments and all information required by California Code of Regulations, title 22, division 4.5 and the Health and Safety Code, division 20. In other words, the revised permit application must be a stand-alone document with all deficiencies corrected.
- 2) One hardcopy redlined/strikeout version of the Application showing the changes that have been made as requested in the NOD.
- 3) One hardcopy of the written response to each of the deficiencies identified in the NOD. In responding to each of the deficiencies, restate the deficiency and identify the page number(s) in the revised permit application where each deficiency has been addressed.

Mr. Stefano Pellegrini

June 20, 2018

Page 2 of 4

Please note that pursuant to Health and Safety Code section 25200.8 and California Code of Regulations, title 22, section 66271.2(e), DTSC may deny permit applications based on a failure of the applicant to respond to a NOD or when the applicant responds with substantially incomplete or substantially unsatisfactory information.

If you have any questions, please contact me at raminder.bola@dtsc.ca.gov or 916-223-2652.

Sincerely,



Raminder Bola, P.E.
Hazardous Substances Engineer
Permitting Division
Department of Toxic Substances Control

Enclosures (3):

1. Review of Central Wire, Inc.-Perris, Calif-Post-Closure Permit -Renewal, Memorandum dated June 7, 2018, by Karen DiBiasio, Ph.D. Staff Toxicologist, with DTSC Human & Ecological Risk Office, Sacramento.
2. Review of Document titled "Post Closure Permit Renewal", Central Wire, Inc, Memorandum dated June 8, 2018, by Christine Brown, P.E., Hazardous Substances Engineer, Engineering and Special Projects Office-Cypress, and Peter Gathungu, P.E., G.E., Senior Hazardous Substances Engineer, Engineering and Special Projects office, Sacramento.
3. Financial Assurance Cost Estimate Notice of Deficiency Memorandum-dated June 14, 2018, Subject: Review of Post Closure Care Cost Estimate for the Permit Application, Central Wire Inc, Perris, California.

cc: Mr. Jeff Bannon, P.G.
Clark Seif Clark, Inc.
21732 Devonshire Street, Suite B
Chatsworth, California 913111

Ms. Joanne Lee, P.E.
Water Resources Control Engineer
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, California 92501-3339

Mr. Stefano Pellegrini

June 20, 2018

Page 3 of 4

cc: Ms. Muzhda Ferouz
Unit Chief
Permitting Division
Department of Toxic Substances Control
8800 Cal Center Drive, 2nd Floor
Sacramento, California 95826-3200
muzhda.ferouz@dtsc.ca.gov

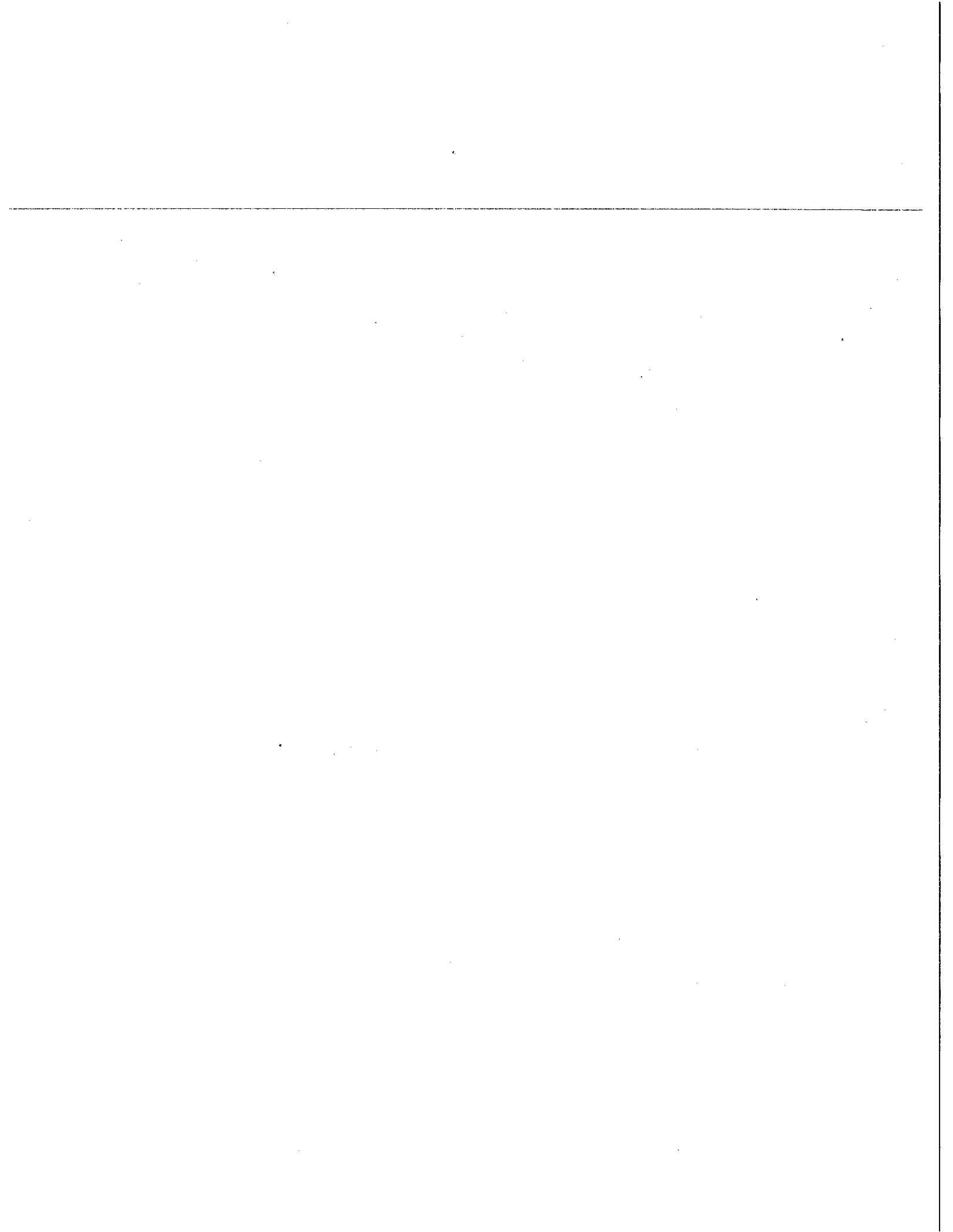
Mr. Greg Neal, P.G.
Engineering Geologist
Geologic Services Unit
Department of Toxic Substances Control
8800 Cal Center Drive, 2nd Floor
Sacramento, California 95826-3200
greg.neal@dtsc.ca.gov

Mr. J. Robinson
Environmental Scientist
Enforcement and Emergency Response Division
Department of Toxic Substances Control
8810 Cal Center Drive, 1st Floor
Sacramento, California 95826-3200
j.robinson@dtsc.ca.gov

Ms. Karen DiBiasio, Ph.D.
Staff Toxicologist-Specialist
Human and Ecological Risk Office
Department of Toxic Substances Control
8810 Cal Center Drive, 2nd Floor
Sacramento, California 95826-3200
karen.dibiasio@dtsc.ca.gov

Ms. Christine Brown, P.E.
Hazardous Substances Engineer
Engineering and Special Projects Office
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630-4732
christine.brown@dtsc.ca.gov

Mr. Bill Veile, P.E.
Senior Hazardous Substances Engineer
Permitting Division
Department of Toxic Substances Control
8800 Cal Center Drive, 2nd Floor
Sacramento, California 95826-3200
bill.veile@dtsc.ca.gov





Department of Toxic Substances Control

Matthew Rodriguez
Secretary for
Environmental Protection

Barbara A. Lee, Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Edmund G. Brown Jr.
Governor

MEMORANDUM

TO: Raminder Bola, P.E.
Permitting Division
Hazardous Waste Management Program
8800 Cal Center Drive, 2nd Floor
Sacramento, CA 95826-3200

FROM: Karen W. DiBiasio, Ph.D. *Karen W. DiBiasio*
Staff Toxicologist
Human and Ecological Risk Office
Brownfields and Environmental Restoration Program

DATE: June 7, 2018

SUBJECT: Central Wire, Inc. - Perris, CA
Post-Closure Permit Renewal

Activity Code: 24043

Project Code: 400254-78

MPC: 731

DOCUMENTS REVIEWED

Per your March 23, 2018 request, the Human and Ecological Risk Office (HERO) reviewed the March 2018 "Post-Closure Permit Plan, Central Wire Facility, Perris, California" (2018 Part B Application) and the "Response to DTSC Comments on Post Closure Permit Plan dated June 2017, Central Wire Inc., 2500 A Street, Perris, CA, DTSC Comments dated December 15, 2017" (RTC). Both were prepared by Clark Seif Clark, Inc. in Chatsworth, California.

BACKGROUND

The HERO was requested to provide toxicology and risk assessment support for the Central Wire Inc. (CWI), facility in Perris, California. The documents reviewed herein, the 2018 Part B Application and the RTCs were submitted in response to the DTSC's December 15, 2017 First Notice of Deficiency for the Permit Renewal Application that contained HERO's November 6, 2017 memorandum. The Post-Closure Permit for corrective action is based on groundwater impacted by metals. The original Post-Closure Plan was approved in 1988 by the California Department of Health Services (DHS),

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at www.dtsc.ca.gov.

predecessor to the Department of Toxic Substances Control (DTSC). In May 1996 DTSC approved the Post Closure Plan and closure of the three surface impoundment ponds. The Post-Closure Permit was last renewed in January 2008. The regulated units covered under this Part B Application are the three former surface impoundments.

The Central Wire Inc., facility was formerly known as Techalloy Company, Inc. until the August 2011 corporate name change. The facility was constructed in 1965. CWI is the owner and operator of a specialty stainless steel and nickel wire products manufacturing facility supplying aerospace and other related industries. The operating facility covers approximately 7 acres of the 20 acres site. CWI is located at the outskirts of town with the nearest residential developments 0.4 miles to the north and 0.4 miles to the south. Current structures consist of three buildings. The westernmost building is the Wire Cleaning building that is used for metals finishing operations. The current wastewater treatment system is located adjacent to the Wire Cleaning building. Prior to 1985 three waste water collection ponds were located west of the Wire Cleaning building for evaporation of the wastewater containing spent acids, sludge, and rinse water from the wire finishing operations. Pond 1 contained a synthetic liner over a concrete base and continued to receive wastewater until 1985. Ponds 2 and 3 contained synthetic liners over dirt and were in service until 1979. Corrective action was initiated in 1984 after the integrity of Pond 3 liners were found to be compromised. All three ponds were closed and capped in 1989. Pond 1 sludge (approximately 30,000 ft³) was neutralized on site and remains capped on top of the concrete base. Ponds 2 and 3 sludges were neutralized on site and removed for off-site disposal, as was visibly impacted soil beneath the liner. The ponds were backfilled with clean soil and covered with an engineered cap. The cap consists of low permeability clay, a layer of high density polyethylene (HDPE) sheeting, then a geomembrane layer before covering with soil. The cap covers about 2.5 acres and is surrounded by a 4-inch concrete v-ditch to control surface drainage and a 4-inch sub-drain system. The closure cap is surrounded by a 6 ft high chain link fence topped with barbed wire. The fence has warning placards and gates are locked after hours. A groundwater extraction system operated from June 1998 to January 2002. The current corrective measure is groundwater monitoring with a Land Use Covenant to prevent disturbance of the final cover, liners, and other components of the monitoring system, as well as prohibiting installation or operation of groundwater supply wells on the property.

The wastewater received by the ponds consisted of low-pH waste streams containing elevated concentrations of dissolved metals, nitrates, sulfates and other general minerals. Appendix C, Emergency Preparedness, of the Part B Application identifies cyanide sludges from copper cyanide and sodium cyanide in addition to the acid wastes with metals and 'general minerals'. The 3 closed ponds have been identified as the source for two groundwater plumes, one plume of metals (such as cadmium, chromium, copper and nickel, in addition to general minerals) and low pH and the other larger plume of general minerals including sulfates, chlorides, nitrates, and total dissolved solids (TDS). The larger plume extends off-site towards the San Jacinto River located 1800 ft south-southeast of CWI. Groundwater is reported as unconfined and occurring at approximately 20 ft below

ground surface (bgs). The depth to groundwater within a well is reported to vary by as much as 8-10 ft between the dry and rainy seasons. Groundwater flows consistently from northwest to southeast. Groundwater designated beneficial uses are municipal and agricultural.

Constituents of potential concern (COPCs) that have been identified consist of many metals (including hexavalent chromium), ammonia, chloride, cyanide, fluoride, nitrate, phosphate, sulfate and TDS.

SCOPE OF REVIEW

The 2018 Part B Application for Post-Closure Permit renewal proposes to continue the corrective action of groundwater monitoring until Water Quality Protection Standards (WQPSs) Concentration Limits (CLs) are met. Appendix D contains a March 2018 Water Quality Monitoring and Response Program and Appendix D3 of Appendix D contains the Sampling and Analysis Plan.

HERO's review was limited to aspects related to human health risk assessment (HHRA) and protection of human health.

COMMENTS

1. The RTCs and 2018 Part B Application are insufficient. Some of HERO's previous comments from our November 6, 2017 memorandum were adequately addressed; these include General Comments 1 and 5 and Specific Comments 1 and 4. HERO's November 6, 2017 comments that were inadequately addressed are identified below with HERO's recommendations for resolution of each of HERO's remaining comments on the 2018 Part B Application.
2. Arsenic - HERO November 6, 2017 General Comment 2: HERO continues to recommend not reducing groundwater monitoring for arsenic to every 5 years because arsenic is present in downgradient wells above its Maximum Contaminant Level (MCL). The upgradient wells MW21A and MW21B predominantly contain concentrations of arsenic in groundwater below the MCL of 10 µg/l. In contrast, downgradient well MW6/6R typically has concentrations of arsenic above the MCL. Furthermore, arsenic is identified as a Constituent of Concern (COC) in the Water Quality Monitoring and Response Program (WQMRP) in Appendix D of the 2018 Part B Application.
3. Concentration Limits – HERO November 6, 2017 General Comment 4 A and B: The Concentration Limits (CLs) are now unambiguously identified in Table 3 of the WQMRP in Appendix D of the 2018 Part B Application. The CL for each COC is the higher of the MCL or the 95% UCL of the background concentrations since 1996 from one upgradient location at two depths, MW21A (shallow) and MW21B (deep).

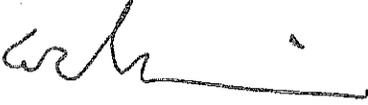
- A. Documentation needed for statistical analysis of background. The statistical software used, the input data and the output sheets are needed for both the outlier analysis and calculation of the background metric to support a scientifically defensible background concentration determination. HERO recommends revising the WQMRP in Appendix D of the 2018 Part B Application by adding an appendix containing the necessary supporting statistical evaluation of the background data set.
- B. CLs above MCLs and/or risk-based concentrations. Some of the CLs in Table 3 of Appendix D are higher than MCLs and/or risk-based screening levels for tap water use (for example antimony, arsenic, beryllium, cobalt, copper, cyanide, fluoride, manganese, mercury, thallium and nitrate). The California Code of Regulations (CCR) Title 22, Section 66264.94 specifies that for a corrective action program CLs higher than background concentrations need to demonstrate to the DTSC that (1) it is technologically or economically infeasible to achieve background concentrations, (2) the aggregate exposures at CLs do not pose substantial cumulative human health risks and/or hazards, and (3) the CL is the lowest concentration that is technologically and economically achievable. The groundwater monitoring data in the 2018 Part B Application demonstrate that for some COCs (lead, silver and thallium) the on-site concentrations are less than MCLs and at or near background concentrations. The feasibility of achieving background concentrations is evident by the monitoring data for lead, silver and thallium. For a few chemicals, notably cyanide and zinc, the on-site concentrations in groundwater are less than MCLs but above background, demonstrating that concentrations below MCLs are achievable. HERO recommends revising the WQMRP in Appendix D of the 2018 Part B Application to (1) demonstrate that each proposed CL that is above background is the lowest concentration that is technologically and economically achievable, and (2) evaluate cumulative potential human health risks associated with each CL that is above background.
4. Cobalt - HERO November 6, 2017 Specific Comment 2: Appendix D (formerly Appendix E), Section 4.1 – Historical Groundwater Monitoring Results, p. 10: While the 2018 Part B Application WQMRP was revised to remove the statement regarding low concentrations of cobalt, the magnitude of the cobalt concentrations in on-site downgradient groundwater was not addressed. Cobalt concentrations in the groundwater plume are two orders of magnitude above the upgradient background concentration and nearly two orders of magnitude above the USEPA Regional Screening Level (RSL) for tap water. HERO continues to recommend revising the text to quantify the concentrations of cobalt and accurately report the magnitude of the elevated concentrations of cobalt in the groundwater plume.
5. Hexavalent Chromium - HERO November 6, 2017 Specific Comment 3: Appendix D (formerly Appendix E), Section 4.1 – Historical Groundwater Monitoring Results, p. 11: While the 2018 Part B Application WQMRP was revised to remove the statement

regarding sporadic detections of hexavalent chromium, the magnitude of the hexavalent chromium concentrations in on-site downgradient groundwater was not addressed. The concentrations of hexavalent chromium in immediate downgradient wells are more than an order of magnitude above its MCL. HERO continues to recommend revising the text to quantify the concentrations of hexavalent chromium and accurately report the magnitude of the elevated concentrations of hexavalent chromium in the groundwater plume.

CONCLUSIONS

HERO reviewed the March 2018 Part B Application and the RTCs that were submitted in response to the DTSC's December 15, 2017 First Notice of Deficiency for the Permit Renewal Application which contained HERO's November 6, 2017 memorandum. Some of HERO's comments were adequately addressed. HERO continues to recommend a few revisions to the Part B Application as noted in the above comments. In addition to some content changes recommended by HERO for cobalt and hexavalent chromium in the groundwater plume, HERO does not concur with the recommendation to reduce groundwater monitoring to every 5 years for arsenic. Also, documentation on the statistical process is needed to support establishment of scientifically defensible background concentrations. Furthermore, consistent with the Regulations on CLs above background concentrations, HERO recommends revisions to (1) demonstrate that each proposed CL that is above background is the lowest concentration that is technologically and economically achievable, and (2) include evaluation of the cumulative potential human health risks associated with each CL that is above background. HERO suggests the use of red-line/strike out or similar means of readily identifying changes in the Revised Part B Application accompanied by responses to comments that identify the locations and changes made in the Application.

Please contact me at (916) 255-6633 or Karen.DiBiasio@dtsc.ca.gov with any questions.

Reviewed by: Farah Esfandiari, Ph.D. 
Staff Toxicologist
Human and Ecological Risk Office
Brownfields and Environmental Restoration Program

Concur: Brian P. Endlich, Ph.D. 
Senior Toxicologist
Chief, Central California Unit
Human and Ecological Risk Office
Brownfields and Environmental Restoration Program

Raminder Bola
June 7, 2018
Page 6 of 6

cc: Greg Neal, P.G.

Engineering Geologist
Geological Services Unit, Office of Geology
Brownfields and Environmental Restoration Program
5796 Corporate Avenue
Cypress, CA 90630



Matthew Rodriguez
Secretary for
Environmental Protection



Department of Toxic Substances Control



Edmund G. Brown Jr.
Governor

Barbara A. Lee, Director
8800 Cal Center Drive
Sacramento, California 95826-3200

MEMORANDUM

TO: Raminder Bola, P.E.
Project Manager
Permitting Division, Sacramento Office

FROM: Christine P. Brown, P.E. *CPB*
Hazardous Substances Engineer
Engineering and Special Projects Office, Cypress

Peter Gathungu, P.E., G.E. *[Signature]* 6/8/18
Senior Hazardous Substances Engineer
Engineering and Special Projects Office, Sacramento

SUBJECT: REVIEW OF DOCUMENT TITLED "POST CLOSURE PERMIT
RENEWAL", CENTRAL WIRE, INC., 2500 "A" STREET, PERRIS,
RIVERSIDE COUNTY, CALIFORNIA (Site code 400254)

DATE: June 8, 2018



DOCUMENT REVIEWED

Post Closure Permit Renewal (Report) dated April 26, 2018, prepared by The Vertex Companies, Inc., 16150 Scientific Way, Irvine, CA 92626 for Central Wire, 2500 A Street, Perris, CA 92570.

INTRODUCTION

The Engineering and Special Projects Office (ESPO) of the Department of Toxic Substances Control (DTSC) has reviewed the above-mentioned document. This Report was prepared in response to a comment in ESPO's October 10, 2017 memorandum from Christine Brown, DTSC Engineer to Raminder Bola, DTSC project manager regarding the ability of the cap to withstand the Maximum Credible Earthquake (MCE) without significant damage. If you have any questions, please contact Christine.Brown@dtsc.ca.gov or at 714-484-5382, or Peter.Gathungu@dtsc.ca.gov or (916) 255-6662.

PROJECT BACKGROUND

Central Wire, Inc. (formerly Techalloy) owns and operates a specialty stainless steel and nickel wire products manufacturing facility located at 2500 South A Street in Perris, Riverside County, California. The stainless steel and nickel alloy wire produced is used by the aerospace and other industries. Three closed evaporation ponds (surface impoundments) are located behind (west) of the wire cleaning building. These surface impoundments were designed and constructed during the mid- 1960s and were designed to receive spent acids, sludge, and rinse water from the metal finishing operations at the plant. Wastewater containing elevated concentrations of chromium, nickel, fluoride, copper, nitrates, sulfates, and total dissolved solids (TDS) were discharged to the impoundments for evaporation at a maximum discharge rate of 1,500 gallons per day. These ponds are considered the source of impact to groundwater of metals and other general minerals.

According to the Closure and Post Closure Plan dated December 1986, (prepared by K.E. Dunbar & Associates), during 1979, the facility ceased the discharge of waste to impoundments #2 and #3 and diverted all wastewater flow to impoundment #1. In December 1985, the facility ceased the discharge to impoundment #1. In 1984, when waste was being removed from impoundment #3, it was discovered that the liner had been punctured and that the underlying soil had been contaminated by the waste. The Santa Ana Regional Water Quality Control Board issued a Cleanup and Abatement Order to the facility, and earthen material under impoundment #3 was excavated and hauled to a hazardous waste landfill during the period from October 1984 through May 1985. In November 1985, soil borings were drilled at all three surface impoundments. Sampling results from these soil borings indicated that the weathered bedrock under impoundments #1 and #2 contained hazardous concentrations of metals; however, the soil and bedrock under impoundment #3 did not contain hazardous concentrations of metals. Based on the borings, it is estimated that about 8,200 cubic yards of bedrock and soil which contains hazardous levels of metals remain in place after closure.

Additionally, the 1986 Closure and Post Closure Plan stated that during the period January 1986 through June 1986, the free liquids remaining in impoundment #1 were allowed to evaporate. It was estimated that the depth of sludge remaining in impoundment #1 average about two feet. Based on this estimate, the maximum amount of sludge remaining on site is about 30,000 cubic feet. The waste in impoundment #1 was treated by neutralization/precipitation in 1986.

According to the Post Closure Permit Plan dated March 2018 (PCP Plan), a Closure Plan was approved by DTSC's predecessor, the Department of Health Services (DHS) in 1988, and the Closure Certification Report was submitted to DHS in 1989. Since the

ponds were regulated units, and waste was left in place, a Post Closure Permit was required.

Corrective Action activities began in 1990 and were overseen by the United States Environmental Protection Agency. The Remedy for groundwater was pump-and-treat. Corrective Measures were implemented from 1998 through 2002. Groundwater extraction was discontinued in November 2002. Groundwater monitoring to evaluate remaining impacts to groundwater is ongoing.

All three ponds were backfilled with clean soil to required grade level, and covered with an engineered cap. The capped area comprises approximately 2.5 acres. Based on information provided in the 1989 Report of Closure Installation, the cap construction from bottom to top includes a minimum two-foot thick low-permeability clay layer, a layer of 60-mil high density polyethylene (HDPE) geomembrane, a synthetic drainage net, an 8-ounce per square yard geotextile filter fabric, a perimeter subdrain pipe consisting of a 4-inch diameter heavy duty corrugated perforated pipe, and a soil vegetative layer averaging 2.5 feet thick. The entire area is surrounded by a v-ditch to control surface drainage.

Ongoing Operation and Maintenance activities described in the PCP Plan include cap maintenance, maintenance of run-off and run-on control systems, and groundwater monitoring. Cap maintenance activities include maintenance of the vegetative cover, replacement of soil that may be lost due to erosion, control of burrowing animals, and clearing debris from the surface drainage "V" ditch run-off control system. Repairs may include repair of the perimeter 4-inch sub-drain system and repair of damage to the cap resulting from settling or subsidence. The PCP Plan also includes provisions for resurveying the cap every 10 years to evaluate subsidence and settling. The last survey was conducted in February 2017.

COMMENTS AND RECOMMENDATIONS

ESPO has the following comments and recommendations:

1. Cover Page. The Report title should be revised/expanded to reflect the fact that it is a seismic hazard evaluation for the former surface impoundments.
2. Cover Page. The Report should be stamped by a professional engineer licensed in the State of California in accordance with the requirements of the California Business and Professions Code Section 6735.
3. Section 1.0, Summary. The first sentence states that VERTEX visited the site to observe the ponds in their present state. It may be more helpful for clarity and

completeness to refer to the ponds as "closed ponds" or "former ponds" to reflect their current condition.

4. Section 1.0, Summary. The first sentence in the second paragraph states "The concern being investigated is the risk of the membrane in the cap over the ponds being ruptured in an earthquake. This concern was raised in a letter dated October 16, 2017 from Christine Brown of the Department of Toxic Substance Control (DTSC) to Central Wire. ... The concern is that if the membrane over the ponds ruptures, rainwater might get into the contaminated soil and bedrock below, and leach contaminants into the surrounding soil". However, DTSC's comment was in a memo addressed to Raminder Bola, the DTSC project manager for the site, and was made pursuant to 22 CCR Section 66264.228(m) as referenced in Section 66264.310(a)(7), requiring evaluation of the ability of all constructed features remaining after closure and containing hazardous waste to withstand the maximum credible earthquake (MCE) without significant damage.
5. Section 1.0, Summary. The third sentence in the second paragraph states that only one of the three ponds have a liner. However, it is not clear if the liner was removed during closure, or was left intact in place. The text should be revised/expanded to clearly state if the liner was left in place during closure, and if so, discuss the condition (effectiveness) of the liner.
6. Section 2.0, Property description. The third sentence in the first paragraph states that the thickness of the fill and cap is approximately four feet. A more detailed description of the current state of the former ponds/surface impoundments and cap system should be provided, including cap system components (type, thickness, etc.), acreage and description of any waste left in place.
7. The third paragraph in this section discusses three faults near the site and lists three faults within nine and 26 miles of the site. However, the MCE definition in 22 CCR Section 66260.10 requires consideration of faults within 100 kilometers (km) of the site in determining the MCE. This discussion should be expanded to include a discussion of faults within 100 km of the site. ESPO notes that regional faults within about 21 km are tabulated in section 4.0 Site Geotechnical Data.
8. Section 3.0, Scope of Work. The text appears to cover what was proposed to be done (future tense), but not what was done. In addition, the numbering (4.1, 4.2 ...) does not agree with either the numbering in the title of the section or the numbering in subsequent sections. Item 4.6 states that ground shaking, liquefaction and fault surface rupture would be covered. These items are mentioned in Section 4.0 but are not covered in sufficient detail. Item 4.5 states that a brief review of the structural systems for vertical and lateral seismic loads, and ability to withstand distortion of the soil would be covered. It is not clear if the closed surface

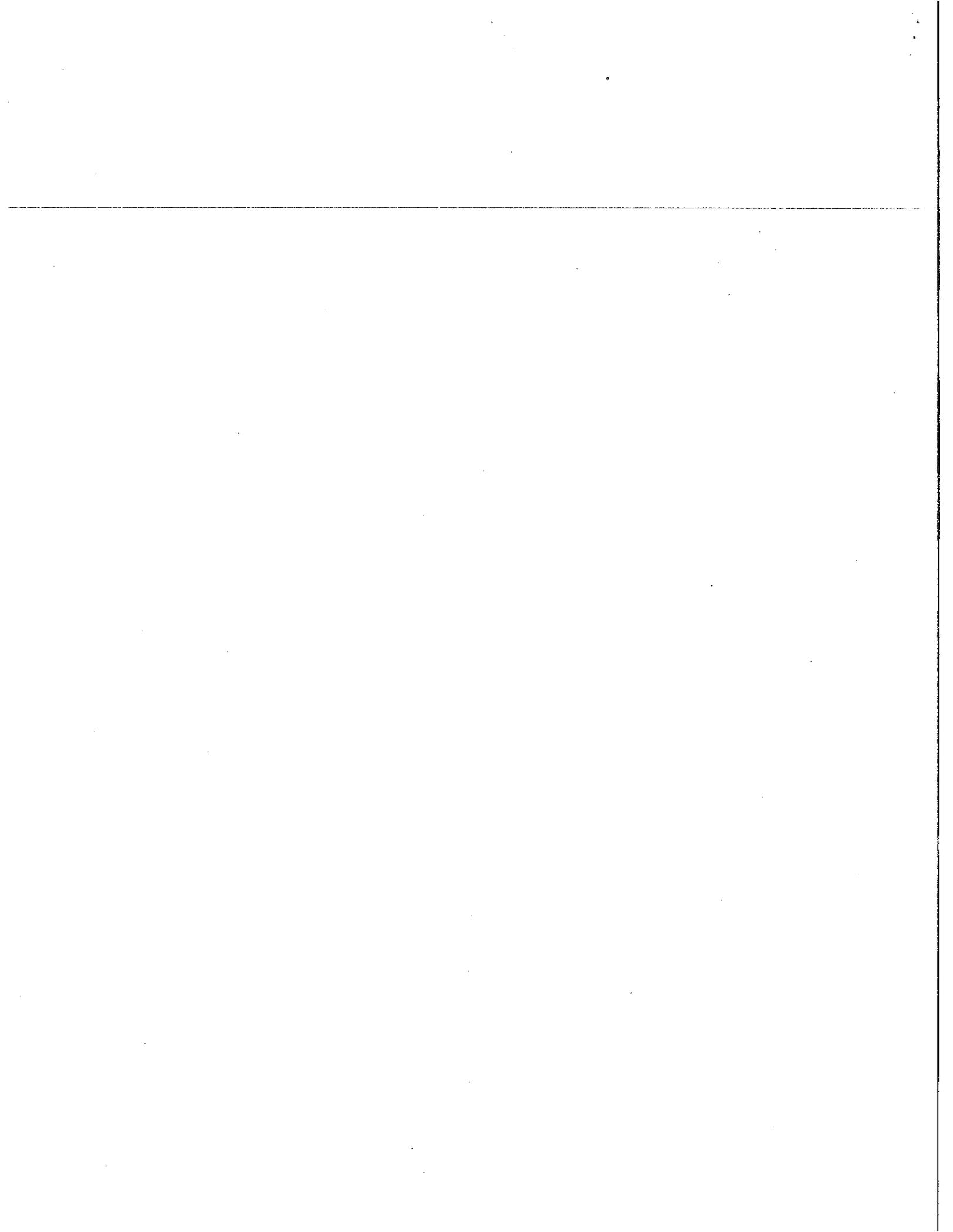
impoundments include any structural systems, but a discussion of these items was not included in the Report.

9. Section 4.0, site Geotechnical Data. The first sentence references a 1965 Foundation Investigation and includes subsurface descriptions from that report. The referenced boring logs including a site map showing their locations should be attached/appended to the Report for clarity and completeness.
10. Section 4.0, Site Geotechnical Data. The first sentence in the second paragraph lists a shear wave velocity, V_{s30} of 376 meters per second (m/s) based on data from the United States Geological Survey (USGS) 30 arc-second maps. The third sentence cites data from California Geological Survey (CGS) Station 13928 located 2.5 miles north of the site and with granitic rock with a shear wave velocity of 518 m/s. The Report should be revised to use site-specific data.
11. Section 4.0, Site Geotechnical Data. The fourth paragraph states that site adjusted maximum credible peak ground acceleration (PGA) was determined based on the 2015 National Earthquake Hazard Reduction Provisions (NEHRP Provisions). ESPO notes that NEHRP provisions are based on probabilistic methods (which consider time (return period)), but 22CCR 66264.228(m) requirement as further defined in 22CCR 66260.10 refers to deterministic methods (which do not consider time), and it is not clear how adjustments, if any, were made. The text should be revised to include supporting information on how adjustments from NEHRP provisions based on probabilistic methods were adjusted to conform to deterministic values.
12. Section 4.0, Site Geotechnical Data. The fifth and eighth paragraphs discuss liquefaction risk and settlement, but do not include sufficient information for the conclusions presented. ESPO notes that insufficient permeability of the soil type is given as the reason for nonoccurrence of liquefaction, but it is not clear what sufficient/insufficient permeability is required for liquefaction. In addition, permeability/fracturing of the underlying soils/rock is not discussed in the Report. The Report also states that measurable settlement is not expected because the soil is a very stiff material over bedrock. However, the first sentence in the first paragraph in this section states that the subsurface soils are composed of silty fine sand of a dense nature. The text should be expanded to provide sufficient supporting information for the type of soils at the site and the conclusions presented.
13. Section 4.0, Site Geotechnical Data. Paragraphs 5 through 8. In addition to liquefaction, surface rupture, landslide, and settlement, the Report should also assess lateral deformation/displacement and dry soil settlement due to shaking. Given the site topography, use of a simplified procedure, such as Bray & Travararou for estimating earthquake displacements may be appropriate.

14. Section 4.0, Site Geotechnical Data. The Table titled "Regional Faults" at the end of this section only covers a maximum distance of 21.4 km. However, 22 CCR Section 66260.10 requires consideration of a 100-km radius from the site. The Table should be revised/expanded to list all faults within 100 km of the site and include the latest fault parameters based on Uniform California Earthquake Rupture Forecast (UCERF) 3. We frequently see fault information generated using software packages such as EZ-FRISK. If such software is used, then latest version of the software should be used, and clearly cited in the Report.
15. Section 5.0, Observations. Subsection titled Document Review. The first sentence in the first paragraph refers to drawings from 1986 but does not specify if these are design drawings or as-builts. The cap description in this section should be revised to conform with what was constructed and/or is documented in the "Report of Closure Installation, Surface Impoundments, Techalloy Company", dated August 11, 1989, prepared by The Mark Group. The closure report indicates that the 12-inch drainage layer was replaced in the final design by a synthetic drainage net, which was covered by a geotextile fabric prior to placement of the vegetative cover.
16. Section 6.0, Conclusions. The second sentence only addresses membrane performance. However, the Report should address the entire cap system and demonstrate that it can withstand a maximum credible earthquake without significant damage.
17. Section 7.0. Closing. The first sentence in the second paragraph states that the Report was prepared for the exclusive use of CENTRAL and is not intended for any other purpose. However, the Report was prepared to meet regulatory requirements. The text should be revised/expanded to state that DTSC and other regulatory agencies may use the Report in fulfilling their regulatory oversight role.
18. Attachment A, Aerial view. The photograph captions do not include dates when the photos were taken. In addition, the text, "Doe Residence" above the Site Aerial photo appears misplaced. The photo captions should be revised/expanded to include dates when the photos were taken and the reference to Doe Residence should be deleted or should include more details.
19. Attachment B, Fault Location Map. The fault map appears to show a limited range especially westerly and southerly of the site. The map should be revised to show a 100-km radius around the facility if it is intended to be used in determination of the MCE and the source of the map should be cited.
20. Attachment D. Photographic Documentation. The photo captions should include dates when they were taken.

Raminder Bola, P.E.
Central Wire, Inc.
Post Closure Permit Renewal
Seismic Study Review
June 8, 2018
Page 7 of 7

Reference: Bray, J.D. and Travasarou, T., (2007), Simplified Procedure for Estimating Earthquake-Induced Deviatoric Slope Displacements, Journal of Geotechnical and Geoenvironmental Engineering, vol. 133(4), p. 381-392.





Matthew Rodriguez
Secretary for
Environmental Protection



Department of Toxic Substances Control

Barbara A. Lee, Director
8800 Cal Center Drive
Sacramento, California 95826-3200



Edmund G. Brown Jr.
Governor

FINANCIAL ASSURANCE COST ESTIMATE NOTICE OF DEFICIENCY MEMORANDUM

TO: Raminder Bola
Hazardous Substances Engineer
Hazardous Waste Management Program
Permitting Division – Cal Center Office

FROM: William P. Veile, P.E. C46306 
Senior Hazardous Substances Engineer
Hazardous Waste Management Program
Permitting Division – Cal Center Office

SUBJECT: REVIEW OF THE POST CLOSURE CARE COST ESTIMATE FOR THE PERMIT APPLICATION, CENTRAL WIRE INCORPORATED LOCATED AT 2500 "A" STREET PERRIS, CALIFORNIA 92570, EPA ID No. CAD059277137

DATE: June 14, 2018

The result of this review is limited to the following documents, or sections thereof:

- POST-CLOSURE PERMIT PLAN, CENTRAL WIRE FACILITY, PERRIS, CALIFORNIA, March 2018, prepared for: CENTRAL WIRE, INC., prepared by: CLARK SEIF CLARK, INC.
- Response to DTSC Comments on Post Closure Permit Plan dated June 2017 Central Wire Inc., 2500 A Street, Perris, CA DTSC Comments dated December 15, 2017
- Tables 2 and 3 Post-Closure Care Cost Estimate Basis Central Wire Facility Perris, California March 2018

COST ESTIMATE REVIEW FINDINGS

The Department of Toxic Substances Control's (DTSC's) conducted a review of the revised Post Closure Care Cost Estimate, Central Wire Incorporated, located at 2500 "A" Street Perris, California 92570, EPA ID NO. CAD059277137, to determine if the estimated dollar amount is sufficient for compliance with the financial assurance cost

estimate requirements established for the site under California Code of Regulations, title 22, section 66264.142. Pursuant to these requirements the owner or operator shall establish and demonstrate to the Department financial assurance for closure in accordance with the approved closure plan for the facility.

The scope of the work for the Post Closure Plan includes:

- monthly and quarterly inspections, or inspections performed after severe storms or other natural events
- The post-closure care area (cap and security) will be inspected on a monthly schedule
- The groundwater monitoring system will be inspected during routine groundwater measurement and sampling events as described in Appendix E
- The cap will be re-surveyed every 10 years to evaluate potential displacement or subsidence
- An Annual Cap Inspection Report documenting monthly inspections and repairs will be submitted concurrent with the LUC compliance certification. These reports will be submitted by January 31 for the preceding year.

This review is being conducted in response to Central Wire, Inc. submittal of a revised post closure cost estimate for a permit renewal.

The total amount for the cost estimate was shown as \$826,935 fully marked-up.

COST ESTIMATE DEFICIENCY

Central Wire Inc. continues to fail to provide any supporting documentation to establish the validity of the cost factors provided in their cost estimate as "Past performance," or "Past contractor costs." DTSC cannot verify that the costs represent true costs expended by Central Wire Inc. Central Wire Inc. must provide documentation of where these amounts were obtained, or provide copies of invoices which show these amounts were paid out for the indicated activity.

Central Wire Inc. should submit the required information in response to the deficiency noted above. The Cost Estimate review is based on the information available at the time the review was performed and does not constitute a guarantee of the accuracy of the assumptions used by the responsible party to develop their financial assurance cost estimate. The review of this financial assurance cost estimate is not intended to be all-inclusive as this review does not include a technical assessment and evaluation of the post closure plan or the accuracy and reliability of data used to support the assumptions (details of the cost estimate).