THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Board Action

- **Board of Directors**
  Legal and Claims Committee

1/14/2025 Board Meeting

7-5

Subject

Report on Nevada Environmental Response Trust Site (former Tronox Site) in Henderson, Nevada and authorize an increase of $150,000 to an amount not to exceed $450,000 for an existing contract with GeoPentech Inc. for consulting services; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

With GeoPentech Inc.'s (GeoPentech) assistance over the past 20 years, Metropolitan has been monitoring and providing input on the investigation and remediation of the Nevada Environmental Response Trust (NERT or the Trust) Site, the nearby Endeavour Site, and the associated perchlorate groundwater plumes in Henderson, Nevada. The NERT Site (formerly owned by Tronox Inc.) and the Endeavour Site (formerly owned by American Pacific Corporation (AMPAC)) are two major sources of perchlorate in the Colorado River. This letter requests an increase in the maximum amount payable under contract with GeoPentech for consulting services by $150,000 to a maximum amount of $450,000. Since October 2009, Metropolitan has paid GeoPentech approximately $267,008 for its consulting services. Staff is requesting an additional $150,000 to continue this ongoing work.

Proposed Action(s)/Recommendation(s) and Options

Staff Recommendation: Option #1

Option #1

Authorize an increase of $150,000 to an amount not to exceed $450,000 for an existing contract with GeoPentech Inc. for consulting services.

Fiscal Impact: $150,000 for the authorized consulting services funded within the FY 2024/2025 budget.
Business Analysis: Approval will provide Metropolitan with specialized consulting services to work with the Trust, the Nevada Division of Environmental Protection (NDEP), and the U.S. Environmental Protection Agency (EPA) to protect the Colorado River from perchlorate contamination from the NERT Site (former Tronox Site) and the Endeavour Site (former AMPAC/PEPCON Site) in Henderson, Nevada.

Option #2

Do not amend the contract for consulting services with GeoPentech Inc.
Fiscal Impact: Unknown.
Business Analysis: Metropolitan would not have access to specialized expertise on key hydrogeologic issues while working with the Trust, NDEP, and EPA to protect the Colorado River from perchlorate contamination originating in Henderson, Nevada.

Applicable Policy

Metropolitan Water District Administrative Code Section 6431: Authority to Obtain Expert Assistance

Related Board Action(s)/Future Action(s)

The last increase in the maximum amount payable in the contract for consulting services with GeoPentech for the *In Re Tronox Incorporated, et al.* matter was approved by the Board more than 7 years ago in August 2017. The maximum amount payable was increased by $100,000 to $300,000 on August 15, 2017.

Summary of Outreach Completed

At the time of Tronox's bankruptcy, due to concern that there would be inadequate funding to clean up the NERT Site after the bankruptcy, Metropolitan contacted the Southern Nevada Water Authority (SNWA) and the Central Arizona Water Conservation District (CAWCD) and formed the "Colorado River Authorities." This enabled the three agencies to participate in the bankruptcy action and help ensure the bankruptcy settlement provided sufficient funds to fully remediate the NERT Site, as well as resulted in their designation as stakeholders in the cleanup of the NERT Site. Also, the CAWCD supports Metropolitan's effort to include California maximum contaminant levels (MCLs) for perchlorate and hexavalent chromium as cleanup requirements at the NERT Site and agrees the MCLs of downstream states should be protected as part of the site cleanup. In addition, Metropolitan staff recently discussed the NERT Site with the Colorado River Board of California, which is interested in getting more involved with monitoring the cleanup of the NERT Site and its potential impact on Colorado River water quality.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is not defined as a project under CEQA because it will not result in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment. (State CEQA Guidelines Section 15378(a).)

CEQA determination for Option #2:

None required

Details and Background

Background

Since 2004, GeoPentech has provided Metropolitan with specialized geologic and hydrogeologic expertise regarding perchlorate issues affecting the Colorado River. Perchlorate was first discovered in the Colorado River in 1997 at Metropolitan's Colorado River Aqueduct (CRA) intake at Lake Havasu and traced back to the Las Vegas Wash and the NERT and Endeavour Sites in Henderson, Nevada. The NERT Site was constructed by the U.S. Department of Defense during World War II and used for the production of military supplies and various other products over many years, resulting in significant contamination of the site and the underlying groundwater with perchlorate and hexavalent chromium, among other contaminants. Kerr-McGee Chemical Company (Kerr-McGee) owned and operated the NERT Site for several years. From 2000 through March 2006, Kerr-McGee engaged in a process of corporate reorganization that resulted in the creation of Tronox as a spin-off successor corporate entity.

In January 2009, Tronox filed for bankruptcy in the Southern District of New York. As part of the bankruptcy proceedings, there was litigation between Kerr-McGee and Tronox (the Adversary Action). In 2014, the Adversary Action settled. As part of the settlement, the Trust received $1.1 billion to clean up the NERT Site and the contamination emanating from the site. Metropolitan (with the assistance of GeoPentech) and the other Colorado River stakeholders (CAWCD and SNWA) continue to monitor: (1) the Trust's use of the settlement money, and (2) the investigation and remediation of the perchlorate contamination originating at the NERT Site and at the nearby Endeavour Site.

The Endeavour Site (formerly the AMPAC site) was built in 1958 and specialized in the production of ammonium perchlorate, a chemical primarily used for rockets and missiles. Perchlorate and other contaminants are in the groundwater under the Endeavour Site and are migrating towards the Las Vegas Wash. Endeavour, LLC (Endeavour) was formed in 2015 and took over from AMPAC the ongoing remediation of the groundwater.

Perchlorate concentrations in the Las Vegas Wash have decreased by more than 90 percent since remediation activities began at the NERT and Endeavour Sites. Also, perchlorate levels at the CRA intake at Lake Havasu have similarly declined from 9 micrograms per liter (µg/L) in 1998 to typically less than 2 µg/L since 2006. This is below California's current MCL for perchlorate of 6 µg/L, which was established in October 2007. In February 2015, California lowered the public health goal (PHG) for perchlorate from 6 µg/L to 1 µg/L. California's detection limit for purposes of reporting (DLR) for perchlorate was lowered from 4 µg/L to 2 µg/L on July 1, 2021, and to 1 µg/L on January 1, 2024. This could possibly result in California's MCL for perchlorate being set at a lower number in the near future since the MCL must be set as close to the PHG as is technologically and economically feasible. In addition, EPA must propose an MCL for perchlorate by November 2025 and finalize the MCL by May 2027. Metropolitan is closely monitoring these federal and California regulatory developments for perchlorate, and GeoPentech is assisting by evaluating the feasibility of the Trust's ongoing and planned remedial activities to achieve California's existing and potential future regulatory levels for perchlorate.

GeoPentech's Technical Expertise

GeoPentech is helping Metropolitan by analyzing various significant technical issues to determine the most efficient and cost-effective methods to investigate and remediate the NERT Site, as well as assessing the possible commingling of the perchlorate plumes from the NERT and Endeavour Sites. Metropolitan requires the professional services of GeoPentech to provide geologic and hydrogeologic technical services, including their knowledge base of the site conditions developed over the past 20 years, to evaluate the investigation process and remedial options for both the NERT Site and the Endeavour Site because Metropolitan does not have this level of specialized in-house expertise.

Remediation of the NERT Site

After perchlorate in the Colorado River was traced to the NERT Site, Kerr-McGee began operating a temporary treatment system to clean up the perchlorate-impacted groundwater. In 2002, the treatment system was replaced with a groundwater extraction and treatment system that still operates at the site. In compliance with the Comprehensive Environmental Response, Compensation, and Liability Act (also commonly known as CERCLA or Superfund), the Trust started a remedial investigation at the NERT Site in 2014. The objectives of the remedial investigation are to characterize the conditions of the site, including the nature and extent of contamination. The NERT remedial investigation study area extends north from the NERT Site towards the Las Vegas Wash and has been divided into three Operable Units (OUs). (See **Attachment 1**.) NERT will use the information from the remedial investigations, the risk assessments, the groundwater flow and transport model, and the pilot and treatability studies to conduct the feasibility studies for all three OUs, which will provide the basis for selecting the final remedy for the entire NERT remedial investigation study area. The final remedy is subject to review and approval by NDEP, which is the lead agency for the NERT Site, with input from both EPA, the support agency for the NERT Site, and project stakeholders, including Metropolitan.

Use of California's MCLs as Cleanup Standards

NERT submitted its initial Remedial Investigation Report for OU-1 and OU-2 to NDEP and EPA in July 2021. GeoPentech helped Metropolitan to review and prepare comments on NERT's report. NDEP agreed with several of Metropolitan's comments, including that NERT should use California's PHG of 1 µg/L for perchlorate and MCL for total chromium of 50 µg/L in drinking water as to-be-considered (TBC)[1] criteria for remedial action objectives (RAOs) given that those objectives "focus on achieving the Trust's overarching objective of protecting

[1] "The 'to be considered' (TBC) category consists of advisories, criteria, or guidance that were developed by EPA, other federal agencies, or states that may be useful in developing CERCLA remedies." 40 C.F.R. § 300.400(g)(3).

the Las Vegas Wash and downstream interests over a long-time frame (i.e., greater than five years)" and "help achieve out-of-state MCLs at downstream state boundaries." (See **Attachment 2**.) However, NERT refused to use these California standards in connection with its cleanup objectives.

With GeoPentech's assistance, Metropolitan then explained to NDEP and EPA that California's PHG of 1 µg/L for perchlorate and proposed MCL of 10 µg/L for hexavalent chromium should be used as TBC criteria in order to protect human health and the environment downstream in California. In addition, Metropolitan could face significant potential liability as a result of the perchlorate from the NERT Site getting into Metropolitan's water supply. For example, in 2008, defendants in the Orange County Water District's (OCWD's) groundwater contamination lawsuit filed cross-claims against Metropolitan based on Metropolitan's sale of water containing perchlorate to OCWD for replenishment purposes. As explained above, the source of the perchlorate in Metropolitan's Colorado River water was the NERT and Endeavour Sites.

Consequently, NDEP and EPA directed NERT to use California's MCLs of 6 µg/L for perchlorate and 50 µg/L for total chromium as environmental standards that NERT's cleanup actions must achieve (also called Applicable or Relevant and Appropriate Requirements or ARARs) and California's PHG for perchlorate of 1 µg/L and California's proposed MCL of 10 µg/L for hexavalent chromium as TBCs for cleanup objectives at the California state line. Despite this clear direction, NERT did not include any reference to out-of-state MCLs in its August 15, 2023, revised Remedial Investigation Report for OU-1 and OU-2. In response, on November 16, 2023, Metropolitan submitted comments (which CAWCD joined) on NERT's revised Remedial Investigation Report for OU-1 and OU-2 expressing Metropolitan's significant concern that NERT had improperly removed from the revised report all references to achieving out-of-state MCLs at downstream state boundaries, including compliance with California's MCLs for perchlorate and total chromium.

NDEP agreed with Metropolitan that NERT's August 15, 2023, revised Remedial Investigation Report for OU-1 and OU-2 did not acceptably address the agencies' comments. However, NDEP directed NERT to use California's MCL of 6 µg/L for perchlorate and California's MCL of 50 µg/L for total chromium as TBCs (not as ARARs, which are more stringent cleanup standards), with NDEP acknowledging that this "is a modification from the previous directive." Nevertheless, Metropolitan's position remains that it is extremely important that NDEP and EPA require NERT to clean up the NERT Site so that California's MCLs of 6 µg/L for perchlorate and 10 µg/L for hexavalent chromium be met at California's state line, and perchlorate and hexavalent chromium do not continue to migrate into California.

Upcoming Tasks

NERT is currently developing the feasibility study for OU-1 and OU-2. The feasibility study evaluates whether various potential remediation methods can achieve the RAOs, comply with ARARs, and consider TBC criteria. Thus, GeoPentech's expertise and tenure supporting Metropolitan with the NERT Site will be essential in helping Metropolitan to review and provide input on the feasibility study. The major tasks for which GeoPentech is providing important, specialized geologic and hydrogeologic expertise for at least the next couple of years and the estimated time that GeoPentech will spend on each task are set forth in the table below.

TASK	PURPOSE	GEOPENTECH'S ESTIMATED TIME
Feasibility Study Report for OU-1 and OU-2	Evaluates whether various potential remediation methods can achieve the remedial action objectives, comply with ARARs, and consider TBC criteria.	40-60 hours
Remedial Investigation Report for OU-3	Defines the nature and extent of the contamination within OU-3, and potential for contaminants to migrate into the Las Vegas Wash.	40-60 hours

TASK	PURPOSE	GEOPENTECH'S ESTIMATED TIME
Phase 7 Groundwater Model	Will be used to evaluate the effectiveness of various cleanup methods in preventing contamination from reaching the Las Vegas Wash and the downstream Colorado River.	40-60 hours
Annual Meeting and Site Visit	Meet with NERT, NDEP, EPA, and other stakeholders in person to discuss the NERT Site remedial investigation and potential cleanup methods and tour the NERT Site.	20 hours/year
OU-3 Treatability Studies	Studies which are conducted in the lab or the field to assess the effectiveness of different remediation technologies on contaminated soil or groundwater.	24 hours
Proposed Plan for OU-1 and OU-2	Summarizes the proposed remediation alternatives and highlights the key factors that lead to identifying the final remediation methods.	40-60 hours
Other NERT/Endeavour Issues	Periodic reports, meetings, and correspondence regarding various issues relating to the investigation and cleanup at each site.	24 hours/month

GeoPentech's technical review and assistance with these tasks will greatly assist Metropolitan in providing critical input to the Trust, NDEP, and EPA, which will help ensure that the final remediation plan eventually selected for the NERT Site will: (1) fully address contaminants in both the soil and groundwater originating at and emanating from the site; (2) focus on necessary short- and long-term actions that will ensure full protection of the Las Vegas Wash and the downstream Colorado River; and (3) consider California's drinking water standards.

Remediation of the Endeavour Site

From 1997 to 2004, AMPAC installed several groundwater monitoring wells in areas adjacent to and downgradient from the Endeavour Site in order to determine the location of perchlorate in the groundwater. In June 2006, AMPAC began operating a treatment system to clean up perchlorate in the groundwater and prevent migration of perchlorate into the Las Vegas Wash. Subsequently, in 2015, Endeavour took over from AMPAC the operation of the treatment facility and the ongoing perchlorate remediation.

NERT's position is that Endeavour's perchlorate plume commingles with NERT's perchlorate plume in the northern part of OU-2 and in OU-3. (See **Attachment 3**.) However, Endeavour disagrees with NERT's claim that the two perchlorate plumes are commingling and says NERT's position is not supported by the data. In addition, Endeavour asserts that NERT overstates the amount of perchlorate from the Endeavour Site which gets into the Las Vegas Wash. Metropolitan, with GeoPentech's assistance, will continue to review and evaluate NERT's and Endeavour's reports and will work with NDEP and EPA to ensure that both sites take necessary and appropriate actions to prevent perchlorate from entering the Las Vegas Wash and the Colorado River.

Requested Board Action

During the next several years, as the parties and the agencies work together to determine and implement the final remedy for the NERT Site and decide how best to address the Endeavour Site's contribution of perchlorate to the Las Vegas Wash, GeoPentech's geologic and hydrogeologic expertise in evaluating the various cleanup options will be invaluable. In order to fund GeoPentech's continued participation in this critical work, this letter requests

Board authorization to increase the authorized payment pursuant to the contract with GeoPentech by $150,000 to a maximum amount of $450,000.

MScully 12/26/2024

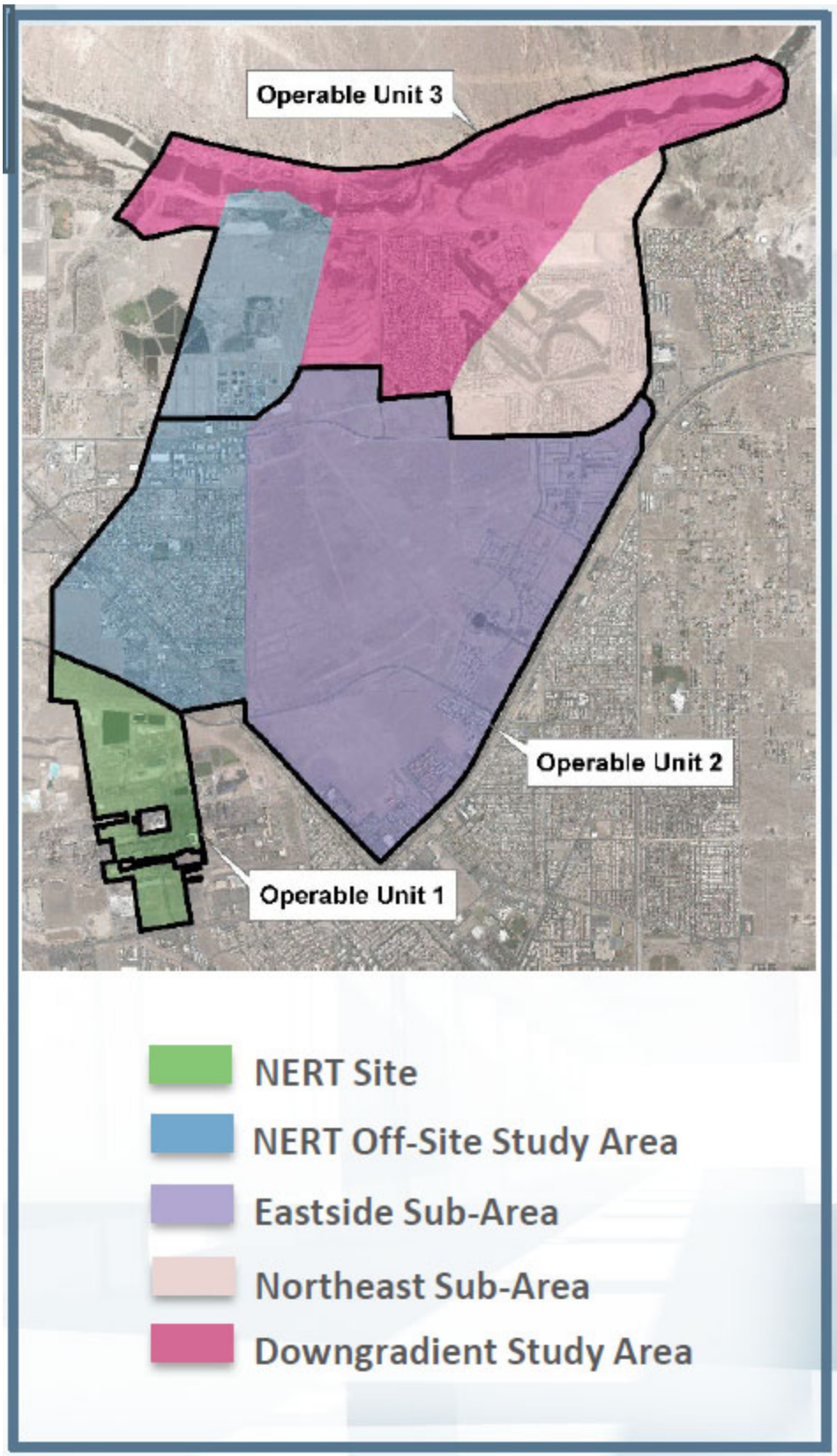
Marcia Scully *Date*
General Counsel

Attachment 1 – Map of NERT Site and OUs

Attachment 2 – Remedial Action Objectives

Attachment 3 – NERT and Endeavour Perchlorate Plumes

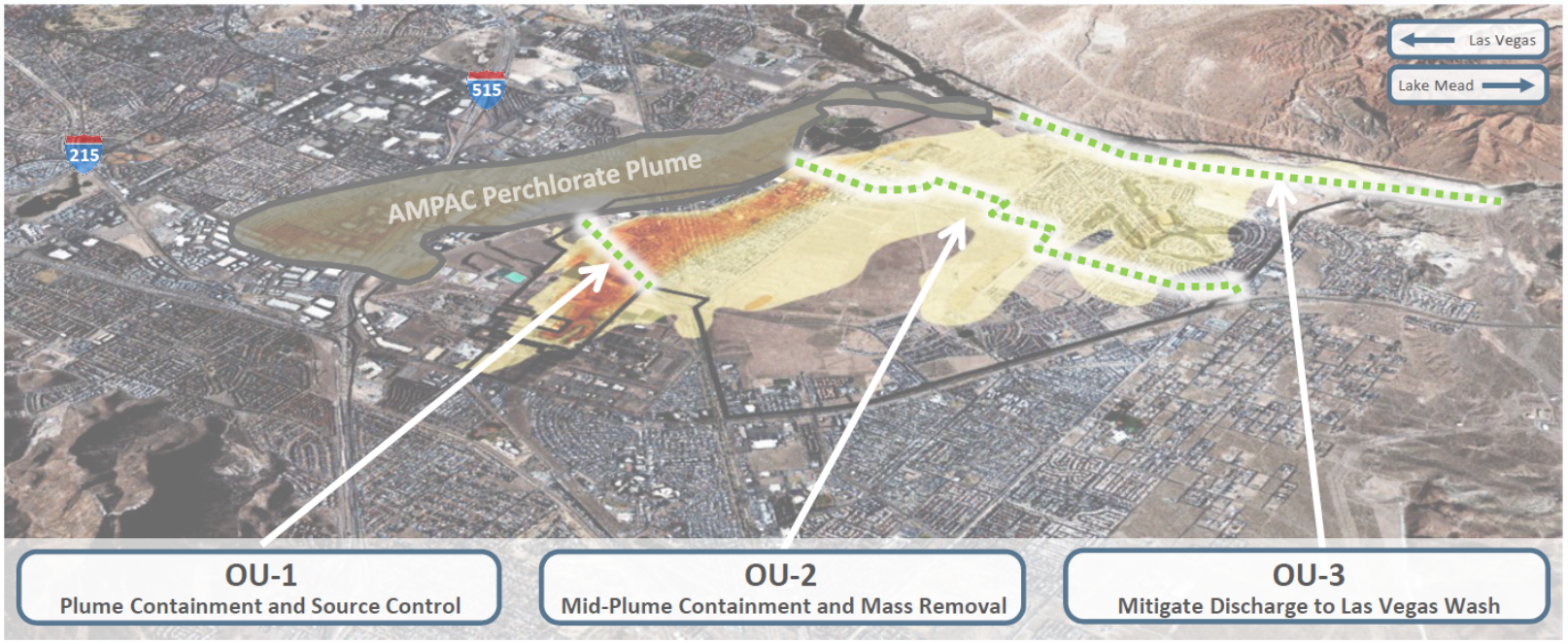
Ref# l12697554



Source: Nevada Environmental Response Trust

NERT REMEDIAL PROGRAM SUMMARY

REMEDIAL ACTION OBJECTIVES (RAOs)



OU-3 REMEDIAL INVESTIGATION: DELINEATION OF NERT PERCHLORATE

SHALLOW PERCHLORATE PLUMES

- AMPAC perchlorate plume commingles with the NERT perchlorate plume in northern OU-2 and in OU-3
- NERT plume was delineated in OU-3 RI using the following lines of evidence:
  - Particle tracking using the approved Phase 6 groundwater model
  - Relative proportion of perchlorate vs chlorate in the plumes
  - Extent of chlorate and chromium plumes