

1.0 PURPOSE AND NEED

1.1 INTRODUCTION

The US Army Corps of Engineers (USACE), Alaska District (District), Regulatory Division is examining the potential environmental impacts associated with Pebble Limited Partnership's (PLP) submittal of a Department of the Army (DA) Permit application (POA-2017-271). In its application, PLP has asked for authorization to discharge fill material into waters of the US (WOUS) and for work in and the placement of structures in navigable waters of the US (NWUS) for the purpose of developing a copper-gold-molybdenum porphyry deposit (Pebble deposit). PLP's proposed discharges and activities are located in the Lake and Peninsula Borough (LPB) and Kenai Peninsula Borough of Alaska.

1.2 APPLICATION DESCRIPTION

PLP has applied for authorization to discharge dredged and fill material into WOUS as part of its proposed development of the Pebble deposit. DA authorization for the discharge of dredged and fill material into WOUS is required by Section 404 of the Clean Water Act (CWA) (33 US Code [USC] 1344). PLP has also applied for authorization to work in and place structures in NWUS. DA authorization for work and placement of structures in NWUS is required by Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403).

PLP proposes discharges into WOUS and work in and placement of structures in NWUS in order to develop and operate an open-pit mine and associated ore processing facilities for the purpose of producing copper, gold, and molybdenum, and other commodities for sale. Additional elements necessary for this purpose, identified in the application include: the construction of a 29-mile road from the mine site to Iliamna Lake; a 37-mile road from Iliamna Lake to the Cook Inlet at Amakdedori Creek; spur roads to the villages of Iliamna, Newhalen, and Kokhanok; ferry terminals to support an 18-mile ice-breaking ferry crossing; a port facility and lightering locations in Cook Inlet; an 187-mile gas pipeline originating on the Kenai Peninsula and extending across the Cook Inlet to Amakdedori port, terminating at the mine site; and power generation facilities located at the mine and the port site. PLP states that the operating life of the resultant surface mine would be an approximate 20-year period, and that mine closure and monitoring activities would extend for many years thereafter. A more detailed summary of PLP's proposed project is provided in Chapter 2, and the complete project description submitted, including updates to applicant's proposed alternative, is provided in Appendix N.

1.3 FEDERAL DECISIONS TO BE MADE

DA authorization is required for the proposed permanent discharges of dredged or fill material into 3,560 acres and temporary discharge of fill into 510 acres of WOUS associated with the construction of the mine and associated roads, port, and natural gas pipeline in wetlands and other WOUS under Section 404 of the CWA. DA authorization is also required for the work and structures associated with construction of the port facilities, ferry terminals, lightering locations and the natural gas pipeline in NWUS. The USACE has set forth implementing regulations in 33 Code of Federal Regulations (CFR) Parts 320-332.

Through review of the application, the USACE identified two additional federal decision-makers which would use the Environmental Impact Statement (EIS) to inform their decisions; the US Coast Guard (USCG), and the Department of the Interior's Bureau of Safety and Environmental

Enforcement (BSEE). USCG has authority over locations and clearances of bridges and causeways in or over NWUS. USCG authorization is required for a proposed bridge over the Newhalen River. The USCG has set forth implementing regulations in 33 CFR Parts 114-118. The BSEE oversees safety, environmental protection, and conservation of resources related to the exploration for and development of offshore resources on the Outer Continental Shelf. BSEE authorization is required for the right-of-way (ROW) encompassing the natural gas pipeline between the Kenai Peninsula and the proposed port facility, but only that portion of the ROW that would lie on the Outer Continental Shelf of Cook Inlet. This authority derives from the Outer Continental Shelf Lands Act, as implemented by BSEE regulations at 30 CFR Part 250, Subpart J.

The decisions to be made by the three federal agencies, if those decisions are to grant applicable permits, would not fully authorize mining of the Pebble deposit. The State of Alaska would need to approve many mining activities to include: approval to construct the dams required for the tailings storage facilities and other impoundments, air and water discharges, Plan of Operations, Reclamation and Closure Plan, and the Waste Management Plan. The State of Alaska would also need to issue ROW leases for the proposed roads and natural gas pipeline. PLP must apply for and receive a number of additional federal, state, and local permits and approvals. A list of permits, approvals, and consultations required for development and operation of the proposed project are provided in Appendix E.

1.4 ENVIRONMENTAL ANALYSIS

The USACE has determined that the proposed discharge of fill material into WOUS and/or work in and placement of structures in NWUS associated with PLP's application is a major federal action that could significantly affect the quality of the human and natural environment. Based on this determination, this EIS has been prepared under Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 (42 USC 4321 et seq.) and its implementing regulations promulgated by the Council on Environmental Quality (CEQ) (40 CFR Part 1500–1508), and USACE regulations found at 33 CFR 325 Appendix B, NEPA Implementation Procedures for the Regulatory Program. NEPA procedures are designed to ensure that federal agencies identify and assess the reasonable alternatives to proposed actions, along with the environmental consequences of a proposed action and reasonable range of alternatives, in order to avoid or minimize the adverse effects of those actions upon the quality of the human environment.

Information gathered as part of the NEPA process will be used to inform USACE's public interest review determination, required by 33 CFR Part 320.4. Information will also be used by the USACE to make a determination of the least environmentally damaging practicable alternative under the CWA's Section 404(b)(1) Guidelines (see Appendix F) and any appropriate required compensatory mitigation for unavoidable impacts to WOUS. No discharges of dredged or fill materials are permitted to be authorized by the USACE under the CWA if there is a practicable alternative that would have less adverse impact on the aquatic ecosystem, as long as the alternative does not have other significant adverse environmental consequences.

An EIS is used to inform the public and agency decision-makers, but it is not a decision document. A joint Record of Decision (ROD) by the USACE, BSEE, and USCG, issued at the conclusion of the NEPA process, will record each appropriate federal agency's decision(s), identify the alternatives considered in reaching those decision(s), and identify practicable means to avoid or minimize environmental harm (if required).

As the lead federal agency under NEPA, USACE issued a Notice of Intent (NOI) to prepare an EIS and a Notice of Scoping for the Pebble Project was published in the Federal Register (FR)

on March 29, 2018 (83 FR 13483; pages 13,483-13,484). The scoping comment period was extended by 60 days to continue through June 29, 2018. Nine public meetings were held during the scoping period. A total of 174,889 submissions were received through June 29, 2018. Further details on the scoping process are found in the Scoping Report (Appendix A).

The USACE invited USCG, BSEE, and other federal and state agencies, local governments, and federally recognized tribes to become cooperating agencies based on their special expertise and/or jurisdiction by law. The Advisory Council on Historic Preservation, the US Fish and Wildlife Service (USFWS), the US Environmental Protection Agency (EPA), the US Department of Interior (USDOI) National Park Service (NPS), the Pipeline and Hazardous Materials Safety Administration, the State of Alaska, the LPB, the Curyung Tribal Council, and the Nondalton Tribal Council accepted invitations to become cooperating agencies. The USACE is coordinating this EIS with multiple cooperating agencies, which are defined as those agencies with jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project or its reasonable alternatives. Cooperating agencies may include state or local agencies and Tribal governments. A summary of consultation and coordination with agencies can be found in Chapter 6, Consultation and Coordination.

1.5 PURPOSE AND NEED

A permit applicant's stated purpose and need is used as part of the NEPA process to inform the reasonable alternatives to a proposed action, and the stated need is used by the USACE to determine the overall purpose (and thus, practicable alternatives for the CWA 404(b)(1) evaluation) and to evaluate a proposed project from the public's perspective (under the public interest review criteria). PLP's (the applicant) stated need for the proposed project is, "to meet the increasing global demand for commodities such as copper, gold, and molybdenum."

From the broad, macroeconomic scale, the project need is reflected in the worldwide demand for copper. In 2018, the International Copper Study Group projected a small surplus of projected available copper; however, worldwide demand for copper is projected to exceed the available supply in 2019 (ICSG 2018).

Gold is used for the production of jewelry, electronics, and electrical components, official coins, and other uses. In the first 9 months of 2017, domestic consumption of gold used in the production of coins and bars decreased by more than 50 percent; however, gold consumption for jewelry increased slightly, and demand for gold coins and bars increased by 13 percent in comparison to the first 9 months of 2016 (USGS 2018d).

Molybdenum is used for the production of ferromolybdenum, metal powder, and various chemical products. Metallurgical application accounted for 87 percent of the total molybdenum consumed. In 2017, US imports for consumption of molybdenum increased by 68 percent from 2016; US exports increased by 37 percent from 2016, mainly owing to an increase in export of molybdenum ores and concentrates and molybdates. Apparent consumption increased by 26 percent in comparison to 2016 (USGS 2018d).

The applicant has stated that the proposed project's purpose is to produce commodities, including copper, gold, and molybdenum, from the Pebble deposit in a manner that is commercially viable, using proven technologies that are suitable for the project's remote location. According to the applicant, because the area the applicant has leased for mineral development is not served by existing infrastructure, achieving the project purpose requires the construction of facilities for the mining and processing of mineral-bearing rock, as well as construction of support and access infrastructure. The purpose of the natural gas pipeline from the Kenai Peninsula is to provide a long-term stable supply of natural gas to meet the energy needs of the project by connecting to the existing regional gas supply network.

Although the USACE generally focuses on an applicant's stated purpose and need for a proposed project, in all cases the USACE exercises independent judgment in defining the purpose and need from both the applicant's and the public's perspective. The USACE has determined that the applicant's stated purpose is made too narrow by limiting the proposed development to the Pebble deposit. The public's interest in commodities such as copper, gold, and molybdenum does not dictate a particular source of these commodities. However, the public also has an interest in improving the economy of the state, in the creation of jobs in the state, and in the extraction of natural resources for the benefit of the state. This is demonstrated by scoping comments which indicated a desire to bring economic opportunity and jobs to the region, as well as by policy language in the Alaska State Constitution and Alaska Statutes encouraging development of the state's mineral resources consistent with the public interest.

In addition, USACE has determined that the construction of facilities and other infrastructure to support the proposed project is more appropriately evaluated as part of the alternatives, and therefore requires no inclusion in the overall purpose. No specific piece of the proposed infrastructure is required to meet the stated need. An overall project purpose is determined solely by the USACE, while considering the applicant's and the public's perspective, and is used to help identify practicable alternatives (i.e., those that are available and capable of being done after taking into consideration cost, existing technology, and logistics) to be evaluated under CWA 404(b)(1) guidelines. Any overall purpose must seem feasible as well as take into account the need for the type of proposed development.

The USACE has determined that the overall project purpose is to develop and operate a copper, gold, and molybdenum mine in Alaska in order to meet current and future demand.