DEPARTMENT OF WAR

FINDING OF NO SIGNIFICANT IMPACT FOR PROJECT CRUCIBLE, MONTGOMERY COUNTY, TENNESSEE

Pursuant to the National Environmental Policy Act (NEPA) and U.S. Department of War (DoW) NEPA Implementing Procedures, DoW gives notice that an Environmental Assessment (EA) has been prepared and an Environmental Impact Statement (EIS) is not required for construction and operations of Project Crucible near Clarksville, Montgomery County, Tennessee. This action would be implemented as described in the Proposed Action Alternative of the September 2026 Project Crucible EA. The EA was prepared to inform DoW's decision whether to provide financial assistance through the DoW Office of Strategic Capital to Crucible Metals, LLC (hereafter project sponsor) for the Proposed Action and to inform the Tennessee Valley Authority's (TVA) decision-making responsibilities associated with the Connected Actions. The U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), Tennessee State Historic Preservation Officer (SHPO), federally recognized Indian Tribes, TVA, and other participating agencies were involved in review and consultation related to the Proposed Action.

Proposed Action: The Proposed Action consists of the construction and operation of Project Crucible, an integrated non-ferrous smelting and refining facility located adjacent to the existing Crucible Zinc facility near Clarksville, Montgomery County, Tennessee. Project Crucible would process concentrates, recycled materials, industrial residues, and secondary feedstocks to produce zinc, lead, copper, precious metals, critical minerals, and sulfuric acid products. The Proposed Action also includes Connected Actions consisting of TVA transmission system upgrades and power supply improvements, a Greater Dickson Gas Authority (GDGA) natural gas pipeline extension, and sanitary wastewater conveyance infrastructure required to support facility operations.

Purpose and Need: The purpose of the Proposed Action is to increase domestic critical minerals processing capacity. There is a need for the action because the United States (U.S.) currently lacks sufficient refining and processing capacity for a range of critical minerals, including zinc, lead, copper and other strategic metals (precious and rare) used in industrial, defense, and advanced manufacturing applications. As a result, U.S. supply chains for these materials remain heavily reliant on foreign processing and, in some cases, entirely dependent on imports. Because global processing capacity for many of these materials is concentrated outside the U.S., the supply chain is vulnerable to geopolitical tensions, trade disruptions, and other single-point-of-failure risks.

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Development of additional domestic processing capacity requires substantial capital investment in large-scale, complex infrastructure. Due to the scale, cost, and associated risks of such facilities, private sector investment alone is not sufficient to deliver the required capacity within a timeframe consistent with national needs.

The need for expanded domestic critical minerals processing capacity is further reflected in recent federal actions and policy priorities aimed at strengthening domestic supply chains and supporting the national defense industrial base, including Executive Order 14156, which declared a national energy emergency, and Executive Order 14241, which directs federal agencies to facilitate domestic mineral production and processing. These directives recognize the strategic importance of increasing domestic capacity for the processing and refining of critical minerals and reducing reliance on foreign sources, and the Proposed Action is responsive to the executive direction.

DoW has statutory obligations to expand and secure the national defense industrial base, including enabling production of critical materials where commercial markets cannot meet national needs, pursuant to the Defense Production Act (50 U.S.C § 4501 *et seq.*) and the Industrial Base Program (10 U.S.C. § 4811 *et seq.*). The scale, complexity, and significant financial requirements associated with meeting these obligations requires federal support to develop U.S. production capacity within a timeframe that meets national needs.

Alternatives Considered: The EA analyzes the reasonably foreseeable environmental effects of the following alternatives:

1. **No Action Alternative:** Project Crucible and the associated Connected Actions would not be constructed, federal financial assistance would not be provided, and the purpose and need for the Proposed Action would not be met. The existing Crucible Zinc facility would continue operating under existing permits, approvals, and operational requirements.
2. **Proposed Action Alternative:** Construction and operation of Project Crucible, an integrated non-ferrous smelting and refining facility, and associated Connected Actions, including TVA transmission system upgrades and power supply improvements, a GDGA natural gas pipeline extension, and sanitary wastewater conveyance infrastructure. Under the Proposed Action, smelting operations at the existing adjacent Crucible Zinc facility would cease, while selected existing infrastructure would continue to support Project Crucible operations. Additionally, a Material Offloading Facility (MOF) and Heavy Hall Road (HHR) would be constructed to support the transport of materials to/from the project site.

Alternative project locations outside Tennessee, a No MOF Alternative, and an alternative MOF and HHR configuration were also considered. Alternative locations were not carried forward because they did not provide the same access to existing industrial infrastructure, transportation networks, utility services, and feedstock sources available at the proposed Clarksville location. The No MOF Alternative was not carried forward because it would not adequately support transportation and logistical requirements for oversized equipment and materials necessary for construction and operation of the facility. The alternative MOF and HHR configuration was not carried forward because of the potential for adverse effects on identified cultural resources.

Reasonably Foreseeable Environmental Effects: No significant environmental effects would occur from implementing the Proposed Action. Certain environmental resources, including land use, recreation, geology, in-water noise, aquatic species, visual resources, and public health and safety were not analyzed in detail in the EA because implementation of the Proposed Action would not result in reasonably foreseeable environmental effects on these resources or effects would be negligible. Reasonably foreseeable environmental effects analyzed in the EA are summarized below.

Air Quality and Greenhouse Gases: Construction and operation of Project Crucible would result in emissions of criteria pollutants, hazardous air pollutants, and greenhouse gases associated with site preparation, construction activities, industrial processing, and supporting infrastructure. Air quality impacts would be minimized through implementation of applicable emission controls, permitting requirements, and best management practices (BMPs), and Project Crucible would be required to demonstrate compliance with applicable air quality standards prior to operation. Construction and operation of the Connected Actions would generate limited emissions and would not materially affect the conclusions of the air quality assessment.

Water Resources: Construction and operation of Project Crucible would result in water withdrawals, wastewater discharge, stormwater management activities, limited impacts on wetlands and jurisdictional waters, and activities within portions of the Cumberland River floodplain. BMPs, erosion and sediment controls, permit requirements, stormwater management measures, and facility design features would avoid or minimize impacts to water resources. The Connected Actions would result in localized and temporary construction-related disturbances and limited impacts on wetlands and waters where crossings or infrastructure installations are required.

Acoustic Environment: Construction of Project Crucible would result in temporary increases in noise associated with site preparation, facility construction, blasting, material

handling, and construction traffic. Operational noise would be generated primarily by industrial processing activities and associated equipment. Noise modeling predicts compliance with applicable City of Clarksville noise criteria at all evaluated receptors. Noise associated with Connected Actions would be temporary and primarily limited to construction and routine maintenance activities.

Biological Resources: Construction of Project Crucible would result in habitat loss, habitat modification, and wildlife disturbance associated with vegetation clearing and ground disturbance. Operational impacts would be limited primarily to permanent habitat conversion established during construction. The USFWS concurred with DoW's determination that the Proposed Action may affect but is not likely to adversely affect the gray bat, Indiana bat, northern long-eared bat, Rabbitsfoot mussel, Price's potato-bean, and Short's bladderpod. USFWS also acknowledged DoW's "no jeopardy" conference determinations for tricolored bat and monarch butterfly. Effects on state-listed species would be limited and would not result in substantial effects on local or regional populations.

Potential impacts would be reduced through the following avoidance and minimization measures, and the implementation of BMPs:

- Construction personnel would be informed of ESA-listed species protections through environmental awareness training.
- Nighttime lighting would be minimized to the extent practicable to reduce disturbance to nocturnal species.
- Clearing limits would be clearly marked prior to construction, and all work would remain within the approved limits of disturbance to minimize unnecessary impacts to adjacent habitat.
- Existing forested buffers and vegetation outside the approved disturbance limits would be preserved to the maximum extent practicable.
- Equipment would be maintained in good working order to minimize fuel, oil, and hydraulic fluid leaks. Spill prevention and response procedures would be implemented to prevent contamination of nearby aquatic resources and habitats.
- Construction activities would be suspended in the immediate vicinity if an ESA-listed species is observed, and the USFWS would be contacted to determine appropriate protective measures before work resumes.
- Temporary disturbance areas would be stabilized and revegetated with native species as soon as practicable following construction.
- Erosion and sediment control BMPs would be installed and maintained throughout construction to prevent sedimentation of adjacent habitats.

- Tree removal would be limited to the minimum amount necessary to complete the proposed project.

No tree clearing would occur for the TVA transmission system upgrades, GDGA, and sanitary wastewater actions, and all work would be conducted within existing cleared utility rights-of-way and access roads. Minor vegetation clearing (e.g. limb removal) may need to occur alongside TVA's access roads to accommodate vehicles and equipment used to perform the upgrades. No trees or limbs over 3 inches in diameter at breast height would be removed. Less than three acres of vegetation management is anticipated in total by TVA. Any needed limb removal would be scattered along the edges of existing access roads to accommodate access road improvements.

Cultural Resources: Construction of the Proposed Action has the potential to affect cultural resources, including archaeological sites, historic structures, traditional cultural places, and tribal resources through ground disturbance and modification of existing infrastructure as well as visual intrusions. Operation of the Proposed Action is not expected to impact archaeological resources. Potential operational effects are primarily associated with the CZ Facility, which may be modified, mothballed, or decommissioned to accommodate operations of the proposed facility. These impacts have been considered as part of the Section 106 review process.

In consultation with federally recognized Tribes, Tennessee SHPO, and the Advisory Council on Historic Preservation (ACHP), DoW found that construction activities associated with the project would adversely affect three archaeological resources. The Tennessee SHPO concurred with this finding, the proposed conditions on the undertaking to avoid and minimize effects, and the proposed mitigation measures to resolve adverse effects. Impacts from the Proposed Action would be reduced through the implementation of the following measures:

- Impacts to sites 40MT1420 and 40MT1424 would be mitigated with a combined Phase II/III Data Recovery methodology. The research design includes hand excavation, feature recording, site profile mapping, geoarchaeological sampling, and specialist analyses.
- Impacts to site 40MT1427 would be mitigated through implementation of research and Phase III fieldwork that includes archival research, cartographic analysis, systematic shovel testing, hand excavation, and mechanical stripping to expose intact subsurface features.

- Impacts to the Crucible Zinc (formerly Nyrstar) facility would be mitigated through the development of a cultural context study and photographic documentation of the facility.
- To prevent impacts to site 40MT40, if ground disturbance is required within 50 feet of the site boundary, temporary protective fencing would be installed, and professional archaeological monitors must be present during all ground-disturbing activities.
- To prevent impacts to site 40MT37, the project sponsor would erect temporary protective fencing around all portions of the site boundary not under the gravel pile. No construction staging, equipment parking, or ground disturbance is permitted within the fenced boundary.
- To prevent impacts to site 40MT1258, the project sponsor would erect temporary protective fencing around all portions of the site boundary. No construction staging, equipment parking, or ground disturbance is permitted within the fenced boundary.

DoW and the project sponsor proposed phased identification and assessment of impacts to cultural resources within the TVA, GDGA, and sanitary wastewater rights-of-way. The Tennessee SHPO concurred with this phased approach, which includes the following prescribed avoidance, minimization, and mitigation measures:

- Avoidance: The project sponsor would avoid cultural resources to the maximum extent practicable through redesign or relocation of project infrastructure or use of Horizontal Directional Drilling or jack-and-bore to tunnel beneath archaeological deposits, as appropriate.
- Minimization: To ensure nearby cultural resources are not affected by construction activities, the project sponsor would erect temporary protective fencing, restrict heavy equipment and/or require the use of low-ground-pressure tracked equipment, place heavy-duty environmental wetland matting, or install vegetative screening to minimize impacts, as appropriate.
- Mitigation: The project sponsor would resolve adverse effects to archaeological properties through archival research, cartographic analysis, and Phase II surveys and Phase III data recovery excavations in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation, as applicable. Adverse effects to historic structures would be mitigated through the preparation of documentation, including photographic documentation, comprehensive cultural context studies, or National Register nomination forms, as appropriate.

In the event of a post-review discovery after construction has commenced on any component of the Proposed Action, including the discovery of additional cultural resources

or unanticipated effects, construction activities would be suspended in the immediate vicinity. The DoW would be contacted within 24 hours to determine appropriate response actions before work resumes. If the post-review discovery includes ancestral burials, the Burial Treatment Plan would apply.

Utilities: Construction of the Proposed Action would require temporary utility demands and installation of permanent utility infrastructure. Operation of Project Crucible would increase demand for electricity, natural gas, potable water, wastewater management, and stormwater infrastructure. Operation of the Connected Actions would support delivery of utility services required for Project Crucible and include routine operation and maintenance of the associated infrastructure. Utility upgrades and Connected Actions would be developed specifically to accommodate Project demand, and services would be managed in accordance with applicable permits and operational requirements.

Solid and Hazardous Waste, and Hazardous Materials: Construction and operation of the Proposed Action would involve the use, storage, transportation, and management of hazardous materials and the generation of hazardous and non-hazardous waste streams. Project Crucible has been designed to maximize recovery, recycling, and beneficial reuse of process residues, with a substantial portion of process residues expected to be reused, recycled, reclaimed, or utilized as industrial feedstock. Waste management procedures, engineering controls, regulatory compliance, and BMPs would minimize health and safety risks.

Transportation: Construction and operation of Project Crucible would increase transportation activity in the area, particularly during construction. These impacts would be mitigated by using a multimodal transportation network consisting of road, rail, and water transportation during both construction and operations, reducing reliance on any single transportation mode and minimizing demands on the local roadway network. To the extent that additional mitigation measures are required, Crucible Metals would develop such measures in coordination with the local authorities and implementation of those measures would be a condition of the Clarksville-Montgomery County Regional Planning Commission site plan approval process.

Socioeconomics: Construction of Project Crucible would result in temporary beneficial impacts through employment, worker spending, and increased demand for local goods and services, while creating temporary demand for housing and community services. Operation of Project Crucible would result in long-term beneficial socioeconomic effects through permanent employment, workforce development, local and regional spending, supply chain investment, and support for domestic critical minerals processing. The

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Connected Actions would support operation of Project Crucible and would not alter the socioeconomic conclusions of the analysis.

Finding: Based on the analysis presented in the EA, which was prepared in accordance with the requirements of NEPA and DoW NEPA Implementing Procedures, and in coordination with the USACE, Tennessee SHPO, federally recognized Indian Tribes, USFWS, and TVA, DoW finds that implementation of the Proposed Action would not significantly affect the quality of the human environment. Therefore, an EIS will not be prepared.

Electronic copies of this EA and Finding of No Significant Impact are available to view and download at https://www.denix.osd.mil/ProjectCrucible, or by written request to: Department of War, Attention Rose Johnson, Office of the Deputy Assistant Secretary of War (Environmental Management and Restoration), 3000 Defense Pentagon, Washington, DC 20301-3000.

September 9, 2026

Date

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Dale R. Marks
Assistant Secretary of War
(Energy, Installations and Environment)