

**FINDING OF NO SIGNIFICANT IMPACT FOR THE  
ENVIRONMENTAL ASSESSMENT FOR THE  
OFFSITE HOUSING OF THE Y-12 DEVELOPMENT  
ORGANIZATION AT 103 PALLADIUM WAY,  
HORIZON CENTER INDUSTRIAL PARK,  
OAK RIDGE, TENNESSEE**



July 2021

U.S. DEPARTMENT OF ENERGY  
NATIONAL NUCLEAR SECURITY ADMINISTRATION  
FINDING OF NO SIGNIFICANT IMPACT FOR THE  
ENVIRONMENTAL ASSESSMENT FOR THE  
OFFSITE HOUSING OF THE Y-12 DEVELOPMENT ORGANIZATION AT  
103 PALLADIUM WAY, HORIZON CENTER INDUSTRIAL PARK,  
OAK RIDGE, TENNESSEE

AGENCY: Department of Energy, National Nuclear Security Administration

ACTION: Finding of No Significant Impact

SUMMARY: The National Nuclear Security Administration (NNSA), a semi-autonomous agency within the United States (U.S.) Department of Energy (DOE), has the primary responsibility to maintain and enhance the safety, security, and effectiveness of the U.S. nuclear weapons stockpile. One of NNSA's critical production sites is the Y-12 National Security Complex (Y-12), which is located on the Oak Ridge Reservation (ORR) in Oak Ridge, Tennessee. Y-12 is the only source of secondaries, cases, lithium components, and other nuclear weapons components for the NNSA nuclear security mission. The Y-12 Development Organization ("Y-12 Development" or "Development") is essential to the production mission at Y-12 as it provides a ready pool of subject matter experts to tackle production problems, develops new technology to meet future production requirements, and performs work for other entities as necessary to support the global security mission. To execute their mission, Y-12 Development requires facilities that safely and efficiently house the necessary research equipment and instrumentation, provide modern laboratory facilities to attract and retain top scientists and engineers, and are adaptable to a changing mission. In accordance with the Council on Environmental Quality (CEQ) regulations at 40 Code of Federal Regulations (CFR) Parts 1500–1508 and the DOE National Environmental Policy Act (NEPA) implementing procedures at 10 CFR Part 1021, NNSA has prepared an environmental assessment (EA) (DOE/EA-2159) to analyze the potential environmental impacts associated with relocating most of the Y-12 Development operations to a modern offsite facility located at 103 Palladium Way, Oak Ridge, Tennessee, approximately 9.5 miles west of Y-12.

NNSA's Proposed Action is to acquire a 21-acre site at 103 Palladium Way, modify the existing facility, construct a secure material storage building and locate a maintenance trailer alongside the facility, relocate equipment and materials, and house the Y-12 Development operations in the modified facility for the next 15 or more years. Acquisition of the offsite facility and land would occur in the 2021–2022 timeframe. Relocation/transition of the majority of Y-12 Development operations would occur in the 2022–2025 timeframe. Operations are expected to begin after construction is completed in 2025.

On April 1, 2021, NNSA published the Draft EA on the NNSA NEPA web page (<https://www.energy.gov/nnsa/nnsa-nepa-reading-room>) and the DOE NEPA web page (<https://www.energy.gov/nepa/doe-environmental-assessments>) for public review and comment. NNSA also provided the Tennessee Department of Environment and Conservation (TDEC) with

a copy of the Draft EA. NNSA announced the availability of the Draft EA in local newspapers and provided an email address and postal address where comments could be submitted. NNSA provided a 37-day comment period, which ended on May 7, 2021. The Final EA, published in July 2021, considers all comments received on the Draft EA.

Based on the analysis in the Final EA, the NNSA Production Office Manager has determined that relocating most of the Y-12 Development operations to a modern offsite facility located at 103 Palladium Way, Oak Ridge, Tennessee is not a major federal action that significantly affects the quality of the human environment within the meaning of NEPA. Therefore, preparation of an environmental impact statement (EIS) is not required.

**ADDRESS:** The Y-12 Development Final EA and this Finding of No Significant Impact (FONSI) are available to the general public on the NNSA NEPA web page (<https://www.energy.gov/nnsa/nnsa-nepa-reading-room>) and/or the DOE NEPA web page (<https://www.energy.gov/nepa/doe-environmental-assessments>).

**SUPPLEMENTARY INFORMATION:** As described in Section 1.2 of the Final EA, Y-12 Development operations are currently housed at Y-12 in two 70+ year-old buildings and one 50+ year-old building that have structural, plumbing, electrical, laboratory exhaust, contamination, and heating, ventilation, and air conditioning (HVAC) issues. The buildings have deteriorated in such a manner that they currently pose a significant risk to the successful execution of the Y-12 Development missions. Consequently, NNSA prepared an EA to analyze the potential environmental impacts associated with relocating most of the Y-12 Development operations to a modern offsite facility located at 103 Palladium Way in Oak Ridge, Tennessee.

The existing offsite facility is located on a secure and fenced campus with approximately 73,000 square-feet of high-tech interior space. The facility is approximately 9.5 miles from Building 9202 using the west entrance of Bear Creek Road, and is just off the Oak Ridge Turnpike. The building was originally built as a secure facility by Theragenics to make medical isotopes in 1999, but was never occupied, and the building was put up for sale in 2005. A number of uses for the building were proposed over the next ten years, but the building was unused during this period. LeMond Bicycles, Inc. purchased the building in 2016 for the purpose of constructing carbon composite bicycle frames, but a recent tour of the building showed it to be essentially unoccupied with no evidence of manufacturing.

**ENVIRONMENTAL IMPACTS:** The analysis in Chapter 3 of the EA shows that impacts associated with relocating the Y-12 Development operations to the proposed offsite facility would be minor. With the exception of expanding the existing parking lot by approximately 0.5 acres, constructing a secure material storage building, and locating a maintenance trailer alongside the facility, only internal modifications of the existing facility would be required. No previously undisturbed land would be disturbed. Visually, there would be no notable change to the appearance of the existing facility. Short-term air quality impacts associated with construction would occur, but emissions would be below *de minimis* thresholds. There would be no notable noise sources associated with construction and operation. Water requirements for construction and operation would represent less than one percent of water use in the region. No impacts to groundwater are anticipated from construction activities or normal facility operations. With

appropriate stormwater management, implementation of spill prevention and response plans, and compliance with permit requirements, adverse impacts to surface water bodies would not be expected during construction and operations. The site is outside of the 100-year floodplain; however, a portion of the access driveway near the northern boundary of the site appears to overlap with the 500-year floodplain. Wetlands associated with stream riparian areas are present in the vicinity of the site footprint. However, the nearest wetlands are more than 600 feet from the existing facility and would not be affected by the Proposed Action.

Construction activities would not impact ecological or cultural resources. Because the peak construction workforce (50 persons) would be negligible compared to the projected population in the region of influence (ROI), socioeconomic impacts during construction, although beneficial, are expected to be negligible. The offsite facility is a taxable property for the City of Oak Ridge and Roane County, and each entity receives approximately \$46,000 annually in tax revenue. If NNSA purchases the property, it would be converted to tax-exempt federal property. Although federal property is included in the computation of Payments in Lieu of Taxes to local governments, if NNSA acquires the property, it would be undervalued from a tax revenue perspective. According to the Oak Ridge City Council, this could reduce tax revenues by more than \$46,000 annually. NNSA is committed to support the City of Oak Ridge as it has consistently done in the past, such as in providing applicable and appropriate Payments in Lieu of Taxes, financial assistance in the form of grants and cooperative agreements, and real estate support in connection with its new water plant.

The operational workforce would be comprised of the same workers who currently conduct Y-12 Development operations at Y-12. No disproportionately high and adverse environmental or economic effects on minority or low-income populations are expected.

Workers would be subject to minimal occupational risks. Nuclear materials to be stored and utilized at the proposed offsite facility would include: depleted uranium, low-enriched uranium, small quantities of highly enriched uranium (< 400 grams), lithium, and other special materials in laboratory quantities. With regard to radiological exposures, the average dose to a Y-12 Development worker at the offsite facility would remain at approximately 13.5 millirem per year. A dose of 13.5 millirem per year is approximately two percent of the dose that the average individual in the U.S. population receives from natural and man-made radiation sources. The total worker dose would be approximately 1.35 person-rem per year. Statistically, a dose of 1.35 person-rem would be expected to result in an annual risk of  $8.1 \times 10^{-4}$  latent cancer fatalities to the Y-12 Development workforce, which would not be different than current operational risks. Offsite doses to the public would be less than 0.1 millirem per year, which is well below the requirements established by DOE Order 458.1, which sets annual dose standards from routine DOE/NNSA operations of 100 millirem through all exposure pathways to members of the public.

To minimize the potential hazards associated with earthquakes, the facility would be operated and modified as needed, in accordance with current International Building Code guidelines for facilities in seismic zones, which would minimize life-threatening structural damage during an earthquake. Because the quantities of hazardous materials in the offsite facility would be less than threshold quantities of concern or would not warrant further analysis, postulated accidents from radiological and non-radiological releases would not result in high consequences, meaning no

member of the public or workers would be exposed to hazards that could result in serious health effects.

Y-12 Development operations would generate the same types and quantities of wastes that are currently generated by operations at Y-12. The operations would generate small quantities of low-level radioactive waste (LLW) and mixed-LLW, which would be disposed of at the Nevada National Security Site or an approved offsite commercial vendor. Hazardous and nonhazardous wastes would also be generated, and would be managed by existing Y-12 waste management facilities or commercial vendors. Although the transportation of material and waste between Y-12 and the Palladium Way facility would increase, impacts would be minimal. With regard to utility requirements, the existing infrastructure would be adequate to support the operations.

**DETERMINATION:** Based on the analysis in the EA, I conclude that relocating most of the Y-12 Development operations to a modern offsite facility located at 103 Palladium Way, Oak Ridge, Tennessee does not constitute a major federal action significantly affecting the quality of the human environment within the meaning of NEPA. Therefore, preparation of an EIS is not required.

Issued in Oak Ridge, Tennessee, this \_\_\_\_\_ day of July 2021.

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Teresa Robbins  
Manager, NNSA Production Office