ENVIRONMENTAL ASSESSMENT

FOR THE

KANSAS CITY NATIONAL SECURITY CAMPUS SITEWIDE ASSESSMENT OF BOTTS AND BUILDING 23 OPERATIONS DOE/EA-2167

U.S. Department of Energy
National Nuclear Security Administration

May 11, 2021

ACRONYMS AND ABBREVIATIONS

APCP	Air Pollution Control Program
Botts Campus	KCNSC facility at 14520 Botts Road, Kansas City, Missouri
Building 23	KCNSC facility 14901 Andrews Road, Kansas City, Missouri
CAA	Clean Air Act
ccf	hundreds of cubic feet
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1976
CFR	Code of Federal Regulations
CO	Carbon monoxide
CUP	Central Utility Plant
CWA	Clean Water Act
DOE	United States Department of Energy
DOE/EA-1947	U.S. Department of Energy's 2013 Environmental Assessment for the *Transfer of the Kansas City Plant, Kansas City, Missouri*
DOE/EA-1592	U.S. Department of Energy's 2008 Environmental Assessment for the *Modernization of Facilities and Infrastructure for the Non-Nuclear Production Activities Conducted at the Kansas City Plant*
DOE/EA-1592-S1	U.S. Department of Energy's 2019 Supplemental Environmental Analysis for the *Relocation and Performance of KCNSC Operations in Building 23*
EA	Environmental Assessment
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ESTART	Environmental Site Tracking and Research Tool (MDNR)
FEMA	Federal Emergency Management Administration
FONSI	Finding of No Significant Impact
HAP	Hazardous air pollutant
Honeywell	Honeywell Federal Manufacturing and Technologies
HUC	Hydrologic Unit Code
HS&E	health, safety, and environment
IWPF	Industrial Wastewater Pretreatment Facility
KCMO	Kansas City, Missouri
KCNSC	Kansas City National Security Campus
KCNSC facilities	Botts Campus and Building 23
KCS	Kansas City Southern Railroad
kV	kilovolt
LQG	large quantity generator
MDNR	Missouri Department of Natural Resources
MWh	Megawatt-hours
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act, as amended
NFIP	National Flood Insurance Program
NNSA	National Nuclear Security Administration
NPDES	National Pollutant Discharge Elimination System
NO_x	Nitrogen dioxide

NWI	National Wetland Inventory
O_3	Ozone
OSHA	Occupational Health and Safety Administration
Pb	Lead
PCBs	polychlorinated biphenyls
PHA	Preliminary Hazard Assessment
PM	Particulate matter
RCRA	Resource Conservation and Recovery Act of 1976
SDS	Safety Data Sheet
SF	square feet
SIP	State Implementation Plan
SO_2	Sulfur dioxide
SPCC	Spill Prevention Control and Countermeasures
SQG	small quantity generator
SSMP	Stockpile Stewardship Management Plan
SWPPP	Stormwater Pollution Prevent Plan
TOPM	Toxic Organic Pollutant Management
TPQ	Threshold planning quantity
TSDF	Treatment, Storage, and Disposal Facility
U.S.	United States
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USC	United States Code
UST	Underground storage tank
VOC	Volatile organic compounds
VSQG	very small quantity generator

TABLE OF CONTENTS

Page No.

LIST OF TABLES

Page No.

LIST OF FIGURES

Page No.

1.0 INTRODUCTION, BACKGROUND, AND PURPOSE AND NEED FOR ACTION

The U.S. Department of Energy (DOE), National Nuclear Security Administration (NNSA) as lead agency has prepared this Environmental Assessment (EA) to evaluate the proposed expansion of operations at the Kansas City National Security Campus (KCNSC). The NNSA, a semi-autonomous agency within the DOE, conducts operations at the KCNSC Botts Campus and a portion of the recently added KCNSC Building 23 facility to support the development and manufacture of non-nuclear components of nuclear weapons.

In order to support continued growth and operational capacity, the NNSA has prepared this EA to assess the effects on the human and natural environment of its operations at the KCNSC Botts Campus and to provide the flexibility to expand, reconfigure and/or move all or select operations within the KCNSC, to include the KCNSC main campus, Building 23, and an additional facility with approximately 200,000 square feet (SF) of production space within a two-mile radius of the KCNSC Botts Campus. The DOE's *National Environmental Policy Act Implementing Procedures* (10 Code of Federal Regulations [CFR] Part 1021) require preparation of a Site-Wide or Programmatic EA, a broad-scope document, to support programmatic decisions or to assess the impacts of all or selected functions at sites such as the KCNSC (10 CFR 1021.330c).

1.1 Background

KCNSC Botts Campus - In 2013, the NNSA relocated its non-nuclear production and procurement activities from the Kansas City Plant (KCP) located at the Bannister Federal Complex (BFC) to the new KCNSC Botts Campus at 14520 Botts Road in Kansas City, Missouri (see Figure 1-1). This action was reviewed in accordance with the *National Environmental Policy Act* (42 United States Code [USC] §§ 4321 *et seq*.; NEPA) through completion of (1) an Environmental Assessment (EA) for the *Modernization of Facilities and Infrastructure for the Non-Nuclear Production Activities Conducted at the Kansas City Plant* (U.S. Department of Energy [DOE]/EA-1592) and supported by a Finding of No Significant Impact (FONSI), issued April 29, 2008; and (2) a EA for the *Transfer of the Kansas City Plant* (DOE/EA-1947), and supported by a FONSI issued May 1, 2013.

The KCNSC Botts Campus, approximately 192 acres in size, provides approximately 1.4 million SF of development and production space. It was planned, designed, and constructed to accommodate a workload based on the 2006 Stockpile Stewardship Management Plan (SSMP), which consisted of one program in production and one program in development. The 2018 SSMP includes a number of additional weapons programs, resulting in a significant increase in the facility's volume of work. The KCNSC Botts Campus houses NNSA office space, warehouse space, and a number of manufacturing facilities operated by Honeywell Federal Manufacturing and Technologies (Honeywell). It includes access drives, loading docks, surface parking for approximately 3,000 employee vehicles, and a Central Utility Plant (CUP) to support campus operations. The CUP houses HVAC units, hot water production units, chillers, boilers, air compressors, diesel fuel storage; emergency power production operated by the building landlord, CenterPoint Zimmer; and an on-site Industrial Wastewater Pretreatment Facility (IWPF) and a reverse osmosis water production system operated by an environmental services contractor.

KCNSC Building 23 – Located approximately one mile east of the KCNSC Botts Campus, Building 23 at 14901 Andrews Road in Kansas City, Missouri, provides an additional 275,000 SF of leased production space (see Figure 1-1). The transfer of a limited number of operational activities from the KCNSC Botts Campus to Building 23 was reviewed in accordance with NEPA through completion of a Supplemental EA for the *Relocation and Performance of KCNSC Operations in Building 23* (DOE/EA-1592-S1) and supported by a FONSI, issued August 28, 2019. In early 2020, the NNSA decided to make provisions to upgrade current operations at the KCNSC Botts Campus and expand the number and types of operations to occur at Building 23 to address forecasted workloads. The 2019 Supplemental EA for Building 23

assessed the effects of a limited list of activities to be conducted at Building 23. Because of changes in the current and forecasted workloads to support the NNSA's mission, some of the activity descriptions in the Supplemental EA are no longer valid.

Together, the KCNSC Botts Campus and KCNSC Building 23 support more than 5,000 employees working in several research and development and technical manufacturing disciplines (KCNSC, 2019). The NNSA anticipates a continued increase in workload and production needs requiring additional personnel, as well as research and manufacturing space within the Kansas City area beyond 2026.

The NNSA currently leases the KCNSC Botts Campus property and 275,000 SF within Building 23. To continue to meet their nuclear security mission and maintain manufacturing and process requirements to support national security, the NNSA requires an additional facility with approximately 200,000 SF of production space within a two-mile radius of the KCNSC Botts Campus. At this time, a specific additional facility has not been identified.

1.2 Purpose and Need for Agency Action

The purpose of the proposed action is to support continued growth, operational capacity, and address current and anticipated DOE workloads across NNSA facilities in the Kansas City metropolitan area over the next 5 to 10 years.

The proposed action would satisfy the following needs:

Current and forecasted increases in production - Since completing the move to the KCNSC Botts Campus location, the NNSA and their onsite manufacturing partner Honeywell have experienced an increase in production needs to fulfill its nuclear security missions. Since 2013, the KCNSC workforce has increased from approximately 2,600 to over 5,000 employees to support the missions. The NNSA has redistributed staff and operations within the KCNSC Botts Campus, leased additional administrative office space across the Kansas City area; and leased approximately 275,000 SF of space in a warehouse located at 14901 Andrews Road in Kansas City, Missouri (referred to as "Building 23") to provide additional production space. Based on current and forecasted workload projections, the NNSA anticipates needing an additional 200,000 SF (approximately) of production space in the vicinity of the existing Kansas City area facilities to support workloads through the next 5 to 10 years.

Expansion of activities to support the NNSA's national security mission – Flexibility to update, share, and relocate manufacturing, warehouse, and administrative operations is needed to address client demands and staffing needs while relieving existing space pressures at the KCNSC Botts Campus to support current and anticipated workloads. New or additional operations and processes, construction of new standalone facilities, or expansion of either the KCNSC Botts Campus or Building 23 not described in this EA, would require an independent review and approval under NEPA and applicable Federal and State regulations. Similarly, the acquisition of a new facility within the two-mile radius study area would require DOE approval under a site-specific NEPA document to determine the effects of the use of that facility on the localized human and natural environment. All permits supporting the expansion of KCNSC operations to that future site would be obtained at that time.

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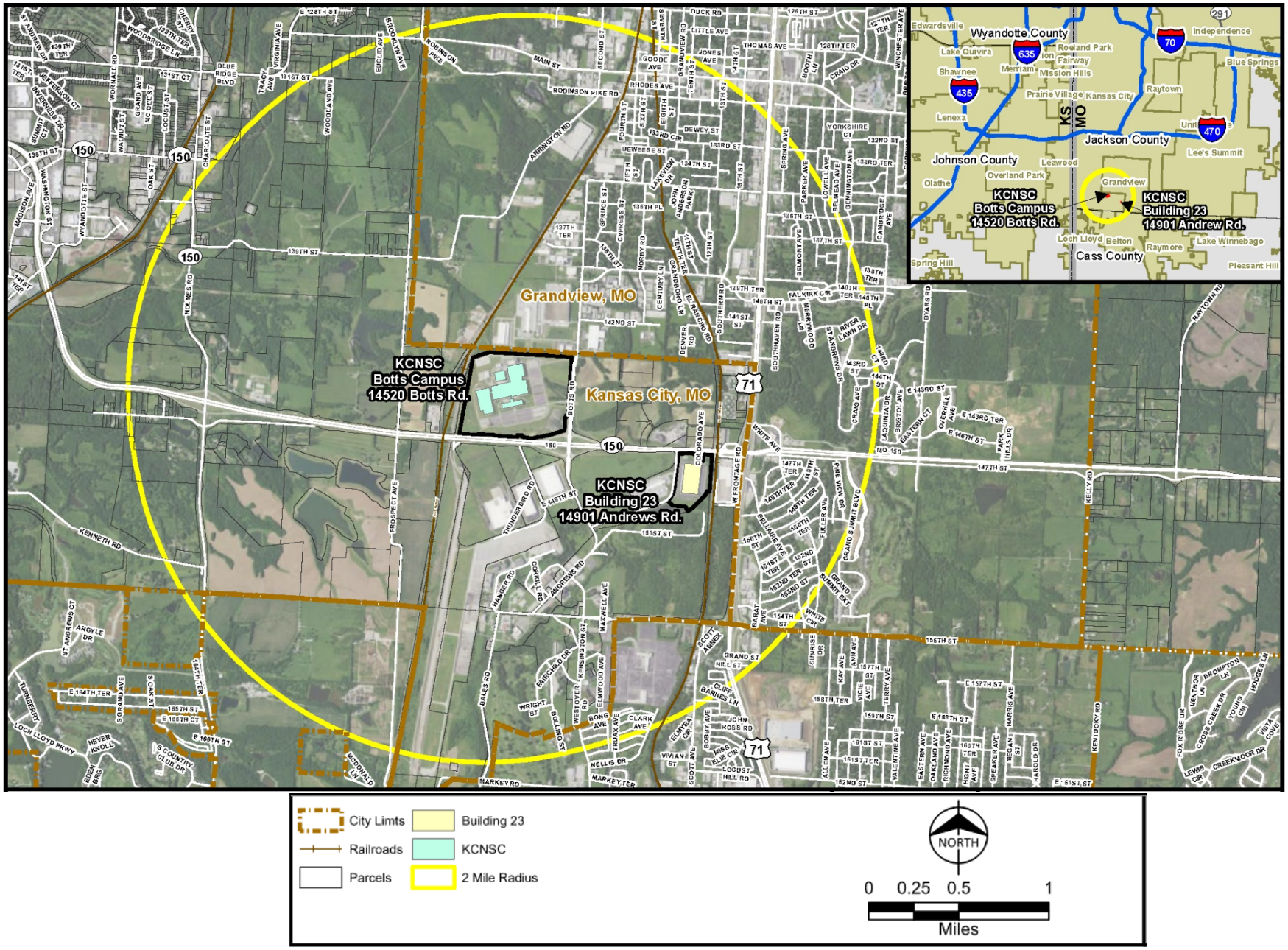
Figure 1-1: Location of the KCNSC Botts Campus and Building 23



1.3 Scope of this Environmental Analysis

This EA:

- Describes the purpose and need for agency action and provides background information on the KCNSC (Chapter 1);
- Describes the proposed action and the no-action alternatives considered to meet the applicable facility needs (Chapter 2);
- Analyzes the potential direct and indirect effects of the proposed action and no-action alternative on the human and natural environment (Chapter 3);
- Identifies and characterizes cumulative effects that could result from the proposed action in relation to past, present, and other reasonably foreseeable future actions described in this EA (Chapter 4); and
- Discusses applicable regulatory requirements related to the proposed action (Chapter 5).

1.4 Public Involvement

NNSA has notified the City of Kansas City, Missouri, the City of Grandview, Missouri, the Missouri Department of Natural Resources (MDNR), and the United States Environmental Protection Agency (EPA) of the proposed action and solicited input and issues from each regarding the scope of the action and any approvals or permits those entities may require. NNSA will not conduct a public hearing, but the EA will be made available online for public review and comment.

NNSA will continue to coordinate with Federal, State, and local agencies to maintain the required clearances and permits to support ongoing operations. A listing of current State and local environmental permits, certifications, and registrations maintained by NNSA for the KCNSC is provided in Table 3-1 of this EA

2.0 DESCRIPTION OF ALTERNATIVES

This chapter describes the proposed action and no-action alternatives that NNSA analyzed to support operational needs at KCNSC.

2.1 Proposed Action – Update Operations at the KCNSC Botts Campus and Expand Operations to Building 23 and Future Facilities within a Two-Mile Radius

To continue to meet the NNSA's nuclear security mission and maintain manufacturing and process requirements to support national security, the NNSA proposes to update operations at the KCNSC Botts Campus, and to provide flexibility to expand, reconfigure and/or move any or all operations within the KCNSC, to include the KCNSC main campus, Building 23 location, and to an additional facility with approximately 200,000 SF of additional industrial/warehouse space within a two-mile radius of the KCNSC main campus. The location of the additional facility has not been identified at this time.

The updated scope of operations that would be conducted at the KCNSC Botts Campus, Building 23, and the additional facility, may include but would not be limited to:

- Electrical and Mechanical Assembly – silicone, epoxy, and other adhesive bonding; non-foam encapsulation; lamination; and fiber optics
- Fabrication and Manufacturing (chemical, mechanical, material preparation) – autoclave operation, ceramic forming and processing, chemical manufacturing, molding, foam processing, furnace and heat-treating oven bake and curing, sieving powders, stereolithography, and thermal processing
- Surface Preparation (chemical and mechanical) – Alodine chemical film, aqueous strip, blasting, cleaning (aqueous, plasma, solvent, and ultrasonic), deburring, vapor degreasing, depotting, chemical etching, and mold-release applications
- Coating and Plating – application of dry film, aerosol, parylene, liquid, and powder coatings; electronickel, chrome, and gold plating
- Machining – cutting (acetylene, plasma, wet/dry), drilling, grinding, wet and dry milling, roll milling, sheet metal work, laser cutting and marking
- Testing and Analysis – calibration, inspection, leak-detection, x-ray, and testing of electronics, explosives, kinematics, pressure, and thermal
- Welding, Brazing, and Soldering – electric beam, laser, pulse arc, resistance, and manual
- Support and Miscellaneous – facility maintenance, assembly and disassembly, diesel and gasoline combustion, recycling, janitorial services, packaging, shipping, and personal care
- Administrative and Logistics Support – security, transportation, storage, waste management, and similar support activities

2.2 No-Action Alternative

Under the no-action alternative, operations currently conducted at the KCNSC Botts Campus and Building 23 would continue with no modification or addition of operating space. Activities programmed to be conducted at Building 23 in the Supplemental EA would proceed under a limited scope as some of them are no longer valid to support the programmed and anticipated workloads; therefore, not satisfying the identified need. The KCNSC Botts Campus facilities were designed with the goal of maximum flexibility in arranging production work to accommodate surges and changes in requirements. Under the no-action alternative the NNSA would continue to adjust to required workloads but has identified

projected shortfalls in space and capabilities required to meet NNSA mission requirements. Over the past five years, the NNSA has taken steps to optimize operations and expand capacity at the KCNSC Botts Campus including:

- Added second and third work shifts
- Purchased new and additional manufacturing equipment
- Hired 2,000 additional employees to accomplish additional workload
- From 2016 through 2019, leased approximately 900 additional offsite office spaces
- In 2020, expanded limited/specific operations to Building 23

The no action alternative would not satisfy the operational needs and is not considered a reasonable alternative. The no action alternative is only carried forward for comparison to the proposed action.

2.3 Actions Removed from Further Consideration

Expansion of the KCNSC Botts Campus including construction of additional facilities on campus and/or construction of new facilities at another location would not address the immediate production needs and would not assist in NNSA's ability to meet critical deadlines. Expansion of the KCNSC Botts Campus or construction of a facility at another location would require separate environmental clearances, adding to the timeframe to complete the project and for the facility to become operational. Relocation of operations to other existing NNSA facilities, located outside of the Kansas City metropolitan area, would be prohibitively expensive and infringe on the operations underway at those facilities, potentially affecting their current capacity and the NNSA's ability to meet its client needs. The NNSA continues to evaluate these actions as possible long-term solutions but at this time, they would not satisfy the immediate needs in Kansas City and have been removed from further consideration.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

This chapter describes the existing conditions associated with the KCNSC Botts Campus, Building 23, the surrounding area, and the potential effects of the proposed action and no-action alternatives on the human and natural environment.

The KCNSC Botts Campus and the leased Building 23 facility are located within the city limits of Kansas City, Jackson County, Missouri, approximately 16 miles south of downtown Kansas City, Missouri. The KCNSC Botts Campus, at 14520 Botts Road, occupies approximately 192 acres of land at the northwest corner of the intersection of Missouri Highway 150 (MO-150) and the Botts Road. The campus is comprised of multiple buildings, parking areas, and general open space. Building 23 located at 14901 Andrew's Road, is just south of MO-150, and approximately one mile east of the KCNSC Botts Campus. The property consists of approximately 37 acres, the majority of which is developed and occupied by a large industrial facility, paved roads, and parking areas. KCNSC occupies approximately 275,000 SF of the 450,000 SF building. The remaining 175,000 SF of Building 23 is occupied by another tenant. Figure 1-1 provides an overview of the KCNSC Botts Campus and Building 23 location and facilities.

The NNSA holds a series of environmental permits, certifications, and registrations ensuring compliance with applicable Federal, State, and local regulations that apply to various environmental resource categories addressed in Section 3.0 of this EA. Table 3-1 presents the list of existing environmental permits, certifications, and registrations held by the NNSA for the KCNSC Botts Campus and Building 23. Some provide combined coverage of both facilities, and others provide individual coverage at either the KCNSC Botts Campus or Building 23.

These permits, certifications, and registrations are also referenced in the applicable resource category described in this section of the EA.

For the purposes of discussing the potential effects of the proposed action, the KCNSC Botts Campus and Building 23 will be collectively referred to as 'KCNSC facilities' unless separate descriptions are warranted. A two-mile radius 'study area' has been defined for expansion of KCNSC operations to an approximately 200,000 SF existing industrial/warehouse location whose location has not be determined at this time.

Table 3-1: KCNSC Existing Permits, Certifications, Registrations, and Plans

Permit/Certification/ Registration/Plan	Applicable Regulation	Applicable KCNSC Facility	Identification #	Regulating Authority	Effective Date	Expiration Date
AIR						
Air Special Case De Minimis Permit	*Clean Air Act*	KCNSC Botts Campus (NNSA operation); Building 23	Installation ID: 095-2442; Permit No.: 032018-001A	MDNR	3/2/2018	3/2/2028
Air Special Case De Minimis Permit	*Clean Air Act*	KCNSC Botts Campus (CenterPoint operation)	Installation ID: 095-2450; Permit No.: 022018-007B	MDNR	2/22/2018	2/22/2028
Air Permit	*Clean Air Act*	KCNSC Botts Campus; Building 23	20/21-AQ-OP-65	KCMO	7/31/2020	7/31/2021
SOLID WASTE						
Solid Waste Management Plan	*Resources Conservation and Recovery Act (RCRA)*	KCNSC Botts Campus	Contingency Plan	EPA	1/21/2021	Not Applicable
Solid Waste Management Plan	*RCRA*	Building 23	Contingency Plan	EPA	12/1/2020	Not Applicable
Facility Identification Number for registration as a Large Quantity Generator (LQG)	*Under RCRA (1976), the KCNSC Botts Campus is registered with EPA as a LQG of hazardous waste; permit not required*	KCNSC Botts Campus	EPA ID MOR000545376	MDNR	10/16/2012	Not Applicable
Facility Identification Number for registration as a Large Quantity Generator (LQG)	*Under RCRA (1976), Building 23 is registered with EPA as a LQG of hazardous waste; permit not required*	Building 23	EPA ID MOR000564674	MDNR	9/25/2020	Not Applicable
STORMWATER						
No Exposure Certification for exclusion from NPDES Stormwater Permitting	*Clean Water Act, Section 402, NPDES*	Building 23	MONX00745	MDNR	12/5/2019	12/4/2024
No Exposure Certification for exclusion from NPDES Stormwater Permitting	*Clean Water Act, Section 402, NPDES*	KCNSC Botts Campus	MONX00441	MDNR	7/27/2020	7/26/2025
Stormwater Pollution Prevention Plan (SWPPP)	*Clean Water Act, Section 402, NPDES*	KCNSC Botts Campus	--	Internal	3/1/2020	3/1/2025
Stormwater Pollution Prevention Plan (SWPPP)	*Clean Water Act, Section 402, NPDES*	Building 23	--	Internal	In Progress	In Progress

Table 3-1 continued

Permit/Certification/ Registration/Plan	Applicable Regulation	Applicable KCNSC Facility	Identification #	Regulating Authority	Effective Date	Expiration Date
WASTEWATER						
Industrial Wastewater Discharge Permit	*Clean Water Act, Section 402, NPDES*	KCNSC Botts Campus	--	KCMO	10/1/2018	1/12/2023
Toxic Organic Pollutant Management (TOPM) Plan	Clean Water Act, Section 307 (b) & (c)	KCNSC Botts Campus	--	KCMO	12/1/2018	12/1/2023
Sludge Discharge Plan	*Clean Water Act, Section 402, NPDES*	KCNSC Botts Campus	--	KCMO	10/1/2016	10/1/2021
WATER RESOURCES						
Spill Prevention Control and Countermeasure (SPCC) Plan	*Clean Water At, Section 331, Oil Pollution Prevention*	KCNSC Botts Campus	--	EPA	10/1/2016	10/1/2021
Spill Prevention Control and Countermeasure (SPCC) Plan	*Clean Water At, Section 331, Oil Pollution Prevention*	Building 23	--	EPA	In Progress	In Progress
EMERGENCY MANAGEMENT						
Emergency Management Plan	DOE Order 151.1D	KCNSC Botts Campus; Building 23	--	USDOE	8/20/2020	8/20/2023
TRANSPORTATION						
Hazardous Material Transportation Security Plan	49 CFR Part 172, Subpart I	KCNSC Botts Campus; Building 23	--	USDOT	1/18/2021	Not Applicable

3.1 Land Use

3.1.1 Affected Environment

3.1.1.1 General Land Use

Development of the KCNSC Botts Campus site was initiated in 2010 and facility construction was completed in 2013. Construction of the Building 23 facility was completed in 2016 by the CenterPoint Properties for use as an industrial warehouse. Prior to construction of these facilities the area was part of the Richards-Gebaur Air Force Base. Richards-Gebaur opened in 1941 as the Grandview Airport on land owned by the city of Kansas City, Missouri. The U.S. Army Air Forces and the U.S. Navy used the base during World War II as an overflow training airfield. With the onset of the Cold War, the airport was leased by the U.S. Air Force (USAF) and upgraded to accommodate support units and fighter squadrons. In 1994 all active military operations ceased at the facility and the city of Kansas City, Missouri re-acquired most of the land. In 2003, the Port Authority of Kansas City (PortKC) took over the property to commence the intense clean-up of the property and to attract private development. The KCNSC Botts Campus and Building 23 sites were both open areas supporting cultivated crops and hay pasture before they were developed. Currently, the KCNSC Botts Campus is zoned for Urban Redevelopment and Building 23 is zoned for Manufacturing use by the City of Kansas City, Missouri (KCMO, 2021).

Land use within the two-mile radius study area surrounding the KCNSC Botts Campus under consideration for expansion of KCNSC operations to a new facility is varied. The eastern portion of the study area is largely developed, consisting of commercial and industrial uses and substantial residential development along both sides of the Interstate 49(I-49)/US Highway 71 (US-71) corridor, with hay pastures and forested land occupying small pockets of undeveloped land while the western portion of the area is largely undeveloped forested land interspersed with agricultural fields. Scattered residences are present within the western portion of the study area.

Five city-owned parks and two privately-owned golf courses are wholly or partially within the two-mile study area. The nearest park is Belvidere Park in Grandview, approximately 0.7 miles to the east of the existing KCNSC facilities. Figure 3-1 illustrates the land cover/land use types within and adjacent to the study area.

Review of future land use plans indicates that the area immediately surrounding the existing KCNSC facilities will continue to be used for industrial purposes, with expansion of industrial zoned areas occurring both north and south of the MO-150 corridor. Residential development will likely increase in the eastern and western portions of the study area, but farther removed from the MO-150 corridor. Much of the areas to the north and west are zoned for residential use but is currently used for agricultural purposes. No changes or expansion of the identified park areas are anticipated (KCMO, 2020 and Grandview, 2020).

3.1.1.2 Properties of Potential Environmental Concern

The study area includes several properties of potential environmental concern that are current or past hazardous waste generators. Hazardous wastes are wastes with properties that make them dangerous or potentially harmful to human health or the environment and can be liquids, solids, contained gases, or sludges. The inventory of such properties shown in Figure 3-2 includes two non-National Priorities List (NPL) Superfund sites associated with activities conducted at the former Richards-Gebaur Air Force Base. As a follow-up to closure of the base in 1994 under the Defense Base Closure and Realignment Act of 1990, the EPA issued a Record of Decision (ROD) (document ID 40287548) designating the area as a Superfund site with two operable units (soil and groundwater) requiring remediation. The Air Force Real Property Agency has been responsible for the environmental cleanup and property disposal since 1994.

Figure 3-1: Location of the KCNSC Facilities and Two-Mile Radius Study Area

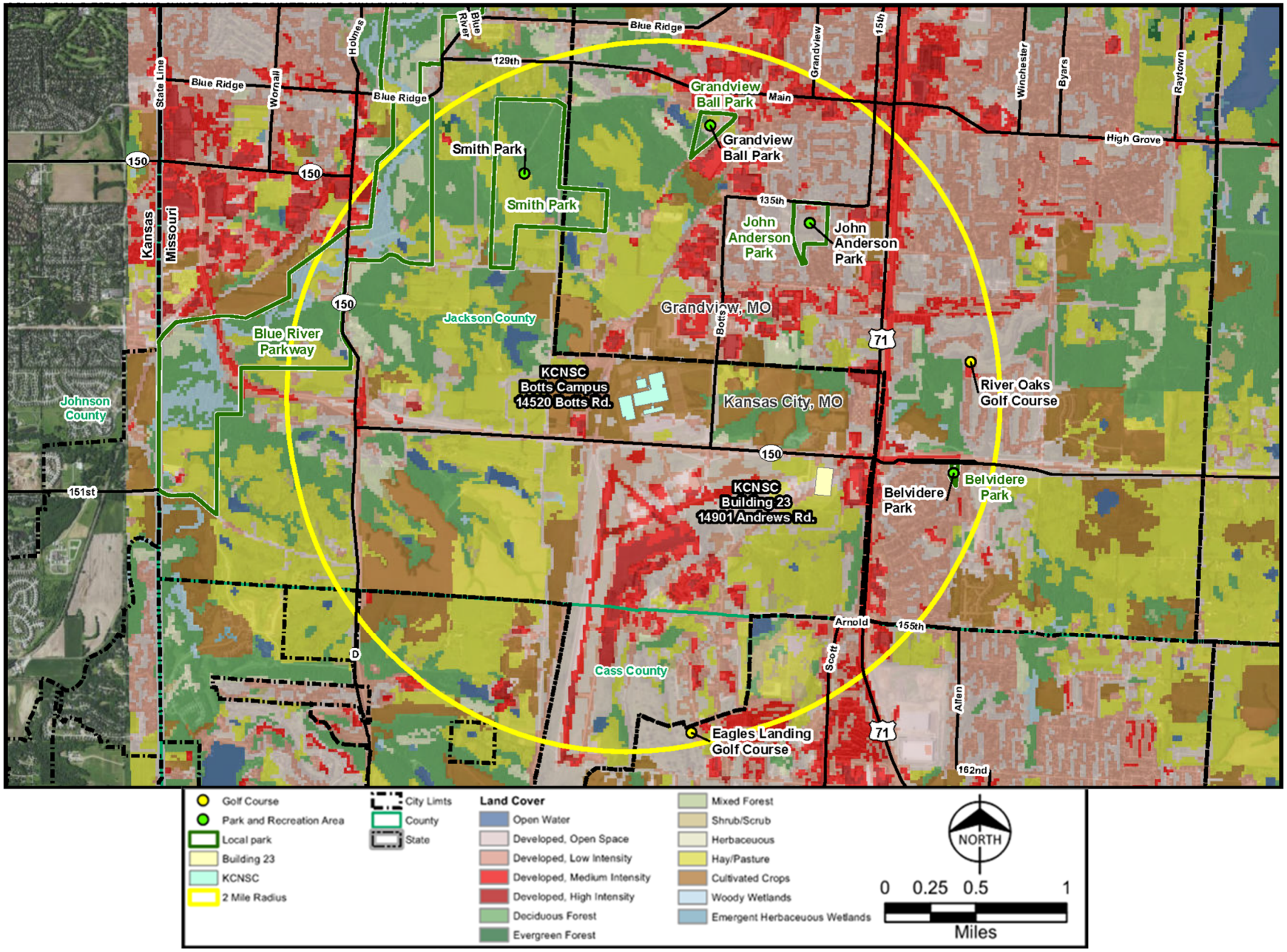
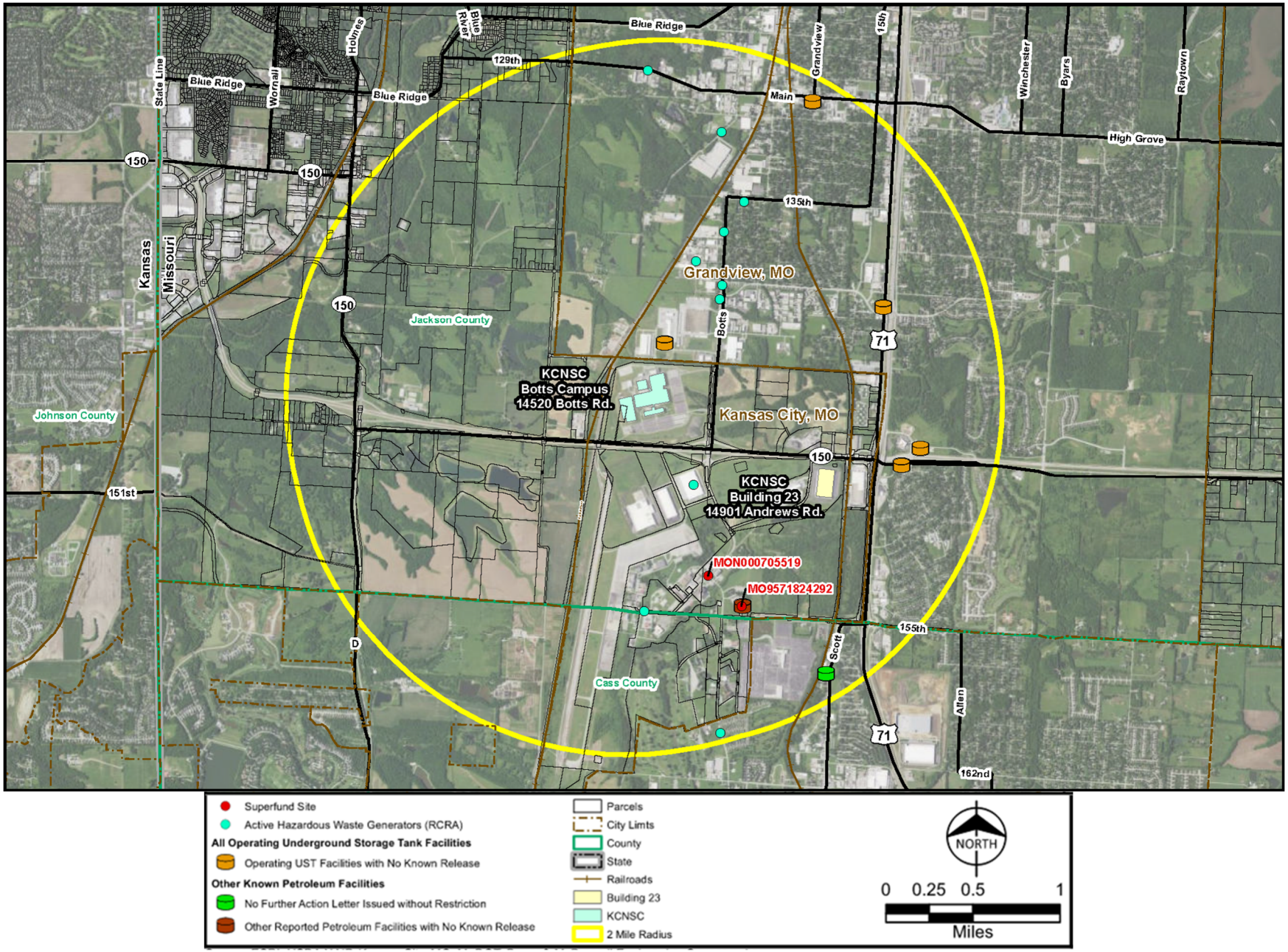


Figure 3-2: Properties of Potential Environmental Concern



With the continuation of remediation and monitoring activities as required under the 2004 ROD, in 2013 the USAF issued a Five-Year Review report noting the property is not on the NPL list, and although not required under the Comprehensive Environmental Response, Compensation, and Liability Act of 1976 (CERCLA), certain remedial actions continue to be performed in accordance with CERCLA guidance. The two identified sites include: MO9571824292 and MON000705519 - adjacent to and south of MO-150 and south of the KCNSC Botts Campus. Soil and groundwater samples continue to be analyzed on a yearly basis.

The RCRA of 1976 regulates the generation, storage, handling, treatment, and disposal of hazardous wastes. Generators of hazardous wastes, as defined in 40 CFR 261, are required to be registered with the EPA based on annual quantities of hazardous materials generated. The EPA defines the categories of Hazardous Waste Generators as very small quantity generators (VSQGs), small quantity generators (SQGs), and large quantity generators (LQGs). Twelve registered active hazardous waste generators were identified within a two-mile radius of the KCNSC Botts Campus (EPA 2021a; EPA 2021b).

A review of MDNR's Environmental Site Tracking and Research Tool (ESTART) database was conducted to identify underground storage tanks (USTs) and petroleum storage facilities within the study area. Five are currently operating USTs and two additional active petroleum storage facilities were identified (MDNR 2021).

3.1.2 Environmental Impacts

3.1.2.1 Proposed Action

The expansion, reconfiguration and/or moving of all or select operations at KCNSC facilities could involve the construction of minor improvements within the footprint of the KCNSC Botts Campus and Building 23 property. These improvements may be necessary to accommodate stormwater or industrial wastewater collection or additional parking to support additional operational capacity. Ancillary improvements such as additional parking, installation of security systems/fencing, and improvement of turn lanes on public roads could occur depending on the site/location selected. These improvements would not change the overall land use of each property. The areas surrounding the KCNSC facilities would continue to be zoned as they are today. The use and operation of the existing KCNSC facilities would require review of the environmental impact to remain consistent with published comprehensive plans of the governing jurisdictions. No properties of environmental concerns are immediately adjacent to either existing KCNSC facility. Neither of the sites identified on the former Richards-Gebaur Air Force Base would be affected by the proposed action.

If the NNSA seeks to expand operations to a new location within the two-mile radius study area it would require review of the particular property selected and the environmental impact of construction / building upgrades / improvements required for occupancy and use. The NNSA would conduct a site-specific analysis of the proposed site, complete the appropriate level of environmental review, and obtain the required permits to use the site. The use and operation of the proposed site would remain consistent with the published comprehensive plans of the governing jurisdictions. At this time, no specific site(s) for expanded operations has been identified.

3.1.2.2 No-Action Alternative

No construction or property acquisition would occur under the no-action alternative resulting in no change to land use in the area. The areas surrounding the KCNSC facilities would continue to be used and zoned as they are today. The use and operation of the KCNSC facilities would continue to be consistent with the published comprehensive plans of the governing jurisdictions.

3.2 Aesthetics

3.2.1 Affected Environment

3.2.1.1 Visual

The KCNSC facilities are along MO-150, an open, relatively flat, mixed-use corridor. MO-150 is a six-lane divided highway with grade-separated interchanges at Botts Road at the southeast corner of the KCNSC Botts Campus, at the Kansas City Southern Railroad (KCS) rail crossing at the southwest corner of the KCNSC Botts Campus, and at the intersection of MO-150 and I-49/US-71 just east of Building 23 (see Figure 1-1). As described in Section 3.1, the surrounding landscape includes commercial and industrial development, agricultural areas, and open and forested spaces characteristic of suburban to rural transitional areas around Kansas City. No designated or recognized scenic areas, overlooks, or byways are within or adjacent to the study area.

3.2.1.2 Noise

The major sources of noise at the existing KCNSC facilities include the manufacturing processes conducted inside of the buildings, vehicle/traffic noise from employee and delivery vehicles entering and existing the sites, and ancillary operational and maintenance noises from exhaust systems and grounds maintenance activities. Facility operations are either housed within a building envelope, or occur far enough from the site boundary that noise from these sources would not be distinguishable from background noise originating from beyond the site boundary. There may be occasional, short-term increases in noise during facility renovation or modification activities. Background noise near both facilities is generated by highway and rail traffic (two rail lines and the I-49 Intermodal Center), neighboring industrial uses (e.g., manufacturing, distribution, asphalt/cement plant), and agricultural operations. Noise sensitive receptors (e.g., residences, schools, churches, etc.) are located more than one half-mile away from the existing KCNSC facilities.

3.2.2 Environmental Impacts

3.2.2.1 Proposed Action

The expansion, reconfiguration and/or moving of all or select operations at the existing KCNSC facilities and the acquisition of an additional facility would result in minor levels of additional noise being generated at these locations location. Manufacturing operations would continue to be contained within existing building envelopes. Minor increases in traffic noise levels would be generated by the movement of employees between facilities and access to the facilities by vendors from MO-150, I-49/US 71, and the surrounding road system. Noise generated from site improvements (e.g., parking expansion, etc.) would be short-term and temporary. In the next 5 to 10 years, staff numbers and the number of vendor deliveries may increase to address workload demand. Because the KCNSC facilities are located in an industrial area and away from sensitive noise receptors, these increases in operational noise should have a minimal effect on the overall sound levels within the immediate area. Because no changes are anticipated to occur to the building exteriors on the KCNSC Botts Campus or to Building 23 (with the possible addition of an industrial wastewater storage and treatment system, see Section 3.8.2.1), minimal visual or aesthetic changes would occur as a result of the proposed action.

The expansion of operations to a new location within the two-mile radius study area could increase noise levels in the vicinity of the proposed site. As part of the selection of a site compatible with industrial/manufacturing uses, the NNSA would evaluate the proximity of the site to noise sensitive receptors (if present) and conduct traffic studies, if warranted, to assess the noise generated by the volume of traffic (employee and vendor) forecasted to access the site to support operations. At this time, no specific site(s) has been identified.

3.2.2.2 No-Action Alternative

Operational noise would continue to be confined to within the building envelopes or within the interior of the existing KCNSC facilities. No appreciable change in exterior noise levels generated by vehicle traffic, ongoing operations, and maintenance activities would occur.

3.3 Air Quality

3.3.1 Affected Environment

The Clean Air Act (CAA), enacted in 1977 and amended in 1990, requires the EPA to establish National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. Ambient air is defined as "that proportion of the atmosphere, external to buildings, to which the general public has access" (40 CFR 50.1(e)). The EPA has set NAAQS for six criteria air pollutants - carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), and sulfur dioxide (SO_2).

States and federally recognized tribes are required to regularly report ambient air quality data to the EPA, which the EPA uses to determine whether the state or tribe meets the NAAQS for each criteria pollutant (attainment) or does not meet the NAAQS for each criteria pollutant (nonattainment). Nonattainment areas are required to prepare a State Implementation Plan (SIP) defining how the state or local government will bring the area into attainment status (EPA, 2017a). As of January 31, 2021, Jackson County, Missouri was categorized by the EPA as a nonattainment area for SO_2 and an attainment area for all other criteria pollutants (EPA, 2021a).

Section 176(c) of the CAA establishes the requirement for general conformity to ensure that Federal actions support a state or area's compliance with the SIP in nonattainment areas. General conformity requirements must be demonstrated for a given project or action to ensure that the action will not cause or contribute to violations of the NAAQS or delay attainment of the NAAQS in nonattainment areas. General conformity is determined by whether an applicable project complies with the *de minimis* levels for annual criteria pollutant emissions, as established in 40 CFR Part 93.153, and listed in Table 3-2.

Table 3-2: General Conformity *De Minimis* Thresholds

Pollutant	*De Minimis* Threshold (tons/year)
O_3 (VOC's or NOx)	
Serious nonattainment area	50
Severe nonattainment area	25
Extreme nonattainment area	10
Other O_3 nonattainment areas outside an O_3 transport region:	100
Other O_3 nonattainment areas inside an O_3 transport region:	
VOC	50
NO_x	100
Carbon Monoxide: All maintenance areas	100
SO_2 or NO_2: All nonattainment areas	100
PM_{10}:	
Moderate nonattainment areas	100
Serious nonattainment areas	70
$PM_{2.5}$ (direct emissions, SO_2, NOx, VOC, and Ammonia	
Moderate nonattainment areas	100
Serious Nonattainment areas	70
Lead: All nonattainment areas	**25**

Source: 40 CFR Part 93.153

De minimis thresholds are applicable to total emissions from construction and operation phases of a project. A project for which emissions would exceed annual *de minimis* thresholds would require further conformity analysis prior to receiving support from a Federal agency. A project for which emissions would not exceed *de minimis* thresholds would be exempt from further conformity analysis. The MDNR implements the Missouri SIP, which is approved by the EPA, and issues permits through its Air Pollution Control Program (APCP).

As described in Section 1.0 of this EA, the KCNSC consists of two separate operations. The production operation is owned by NNSA and operated by Honeywell which manufactures non-nuclear components of nuclear weapons. The support operation owned by CenterPoint includes equipment for providing HVAC, hot water, and emergency power to the KCNSC. The production and support activities have separate installation identification numbers (IDs) and are permitted separately by MDNR's APCP, but are considered part of the same installation. The NNSA and CenterPoint operations at the KCNSC were issued special case *de minims* permits which allow for combined operations that maintain total emissions of PM_{10}, NO_x, volatile organic compounds (VOCs), and hazardous air pollutants (HAPs) that do not exceed *de minimis* thresholds. The NNSA production facility emits PMs, NO_x, VOC, and HAPs emissions, resulting from the activities described in Section 2.1, and operates under Installation Number 095-2442 and Permit No. 032018-001. The CenterPoint support operation operates under Installation Number 095-2450 and Permit No. 022018-007. KCNSC operations at Building 23 are covered under the NNSA production facility permit. Neither the current owner of Building 23 nor the tenant has an air permit for their current operations. Table 3-3 provides the emission limits for combined operations at the KCNSC.

Table 3-3: KCNSC Permitted Air Pollutant Emission Limits (tons/year)

Pollutants	*De Minimis* Level	Limits in NNSA Permit 032018-001	Limits in CenterPoint Permit 022018-007
PM_{10}	15.0	<5.0	<10.0
NO_x	40.0	<10.0	<30.0
VOC	40.0	<39.0	<1.0
Individual HAP	Varies	<SMALL	
Combined HAPs	25.0	<25.0	

Source: KCNSC, 2021; NNSA Permit No. 032018-001 and CenterPoint Permit No. 022018-007

NNSA also maintains an air quality permit number from the Kansas City air quality program, renewed annually. There are no city air quality requirements beyond MDNR requirements. NNSA's current KCMO air quality permit ID number is 20/21-AQ-OP-65. NNSA also monitors operations and emissions to demonstrate that the existing KCNSC facilities maintain exemptions from additional Federal and State air regulations.

3.3.2 Environmental Impacts

3.3.2.1 Proposed Action

The expansion, reconfiguration and/or moving of all or select operations at the existing KCNSC facilities would generate emission levels anticipated to fall below the limits defined in the existing NNSA and CenterPoint special case *de minimis* permits in the near term and would be covered under the existing permits. The expansion of operations may require installation of new/updated emission control units at these facilities, depending on the workload to be supported, to maintain levels under the special case *de minimis* thresholds. The NNSA would continue to monitor air emissions from both facilities to maintain compliance with the permits and any changes in the regulations. If future growth in operations would result in emissions exceeding the current permitted limits, the NNSA would seek to amend the existing permit or request that a new permit be issued by MDNR in accordance with applicable Federal and State regulations. The upgrade and expansion of operations would not affect the overall attainment status of the area, would not exceed the NAAQS, and would maintain compliance with the SIP.

Expansion of operations to a new location within the two-mile radius study area would be evaluated to determine if the existing permits would cover that facility or if a separate facility-specific permit would need to be obtained. The same emissions monitoring protocols conducted at the existing KCNSC facilities would occur at a new facility once it would become operational. Expanding operations to a new location within the study area would not affect the overall attainment status of the area, would not exceed the NAAQS, and would maintain compliance with the SIP. At this time, no specific site(s) has been identified.

3.3.2.2 No-Action Alternative

The NNSA would continue to operate under the special case *de minimis* permits (see Table 3-1) and continue to monitor air emissions from the KCNSC facilities to ensure compliance with permitted limits. The NNSA would forecast any corresponding increase in emissions resulting from any growth or expansion of operations planned in the future. If projected emissions would exceed the current permitted limits, the NNSA would apply for an amendment to the existing permit or request a new permit from MDNR in accordance with applicable Federal and State regulations prior to expanding operations and/or increasing emissions. Continued operations of the KCNSC facilities would not affect the overall attainment status of the area, would not exceed the NAAQS, and would maintain compliance with the SIP.

3.4 Geology and Soils

3.4.1 Affected Environment

3.4.1.1 Geology

The existing KCNSC facilities and study area are underlain by the Bonner Springs Formation consisting of the Bonner Springs Shale – layers of silty, gray, micacecous shale, including lenticular sandstone and locally, silty limestone in the upper part. An extremely thin, irregular coal bed has been reported to occur in the uppermost part of the formation at some localities in northern Missouri. The lower and middle parts of the formation in some locations contain scattered clay-ironstone concretions. The thickness of the formation ranges from less than 20 feet to as much as 40 feet. The Bonner Springs Formation is underlain by the Wyandotte Formation consisting of interbedded shale and limestone (NNSA, 2008).

3.4.1.2 Seismicity

Earthquake activity in Missouri has been concentrated in the southeastern portion of the state, which includes a portion of the New Madrid Seismic Zone. This zone is the most active seismic area in the United States east of the Rocky Mountains and has a long history of seismic activity. The northwest portion of Missouri, including the Kansas City area, is seismically stable. In the past 50 years, there have been nine recorded earthquakes within a 100-mile radius of the KCNSC facilities. The closest of these was a magnitude 3.0 earthquake on May 13, 1999, in Wyandotte County, Kansas, approximately 18 miles northwest of the KCNSC facilities.

3.4.1.3 Soils

The Osage Plains-Flint Hills region encompasses nearly 31,000 square miles in west-central Missouri, northeastern Oklahoma, and eastern Kansas. The KCNSC facilities and study area lie near the northern-most extent of the Osage Plains region, which historically contained expansive accumulations of carbon-rich organic soils and lush tallgrass prairies. Over 90 percent of the original prairie landscape in the region has been tilled and is now used for row crops or hay production (Nature Conservancy, 2000).

Table 3-4 lists the soil units mapped and key soil characteristics underlying the existing KCNSC facilities. The underlying soils are considered highly disturbed due to previous construction and development activities (Natural Resources Conservation Service [NRCS], 2021).

Table 3-4: Soil Units Mapped Under the KCNSC Facilities

Mapped Soil Type	Applicable KCNSC Facility	Drainage Class	Runoff Class	Hydric	Farmland Classification	K-Factor[a]
10000 - Arisburg silt loam, 1%-5% slopes	Building 23	Somewhat poorly drained	Not Available	No	All areas prime farmland	0.49
10082 - Arisburg-Urban land complex, 1%-5% slopes	KCNSC Botts Campus	Somewhat poorly drained	Not Available	No	All areas prime farmland	0.49
10117 - Sampsel silty clay loam, 5%-9% slopes	KCNSC Botts Campus; Building 23	Somewhat poorly drained	Very High	No	Prime farmland if drained	0.32
10120 - Sharpsburg silt loam, 2%-5% slopes	KCNSC Botts Campus	Moderately well drained	Medium	No	All areas prime farmland	0.49
10122 - Sharpsburg silt loam, 5%-9% slopes, eroded	KCNSC Botts Campus	Moderately well drained	High	No	Farmland of statewide importance	0.49
10128 - Sharpsburg-Urban land complex, 2%-5% slopes	KCNSC Botts Campus	Moderately well drained	High	No	All areas prime farmland	0.37
10181 - Udarents-Urban land-Sampsel complex, 5%-9% slopes	Building 23	Somewhat poorly drained	Very High	No	Farmland of statewide importance	0.49
30080 - Greenton silty clay loam, 5%-9% slopes	KCNSC Botts Campus; Building 23	Somewhat poorly drained	Very High	No	Prime farmland if drained	0.32
36083 - Kennebec silt loam, 1%-4% slopes,	KCNSC Botts Campus	Moderately well drained	Medium	No	All areas prime farmland	0.37

Source: Natural Resources Conservation Service, 2021

a. Sheet and Rill Erosion - Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

3.4.2 Environmental Impacts

3.4.2.1 Proposed Action

The expansion, reconfiguration and/or moving of all or select operations at the existing KCNSC facilities could involve the minor disturbance of previously modified land areas at both locations to accommodate construction/installation of parking lots or other minor facility renovations to support operational workloads. The NNSA would obtain the appropriate permits and implement sedimentation and erosion control measures, including development of a SWPPP to avoid stormwater runoff onto adjacent properties and minimize effects on neighboring water features. The existing KCNSC facilities and the two-mile radius study area are located outside of the New Madrid Seismic Zone.

Sites with existing buildings would be considered for the expansion of operations to other locations within the study area. Minimal ground disturbance could occur at a proposed location to accommodate minor access, parking, and infrastructure improvements to support the proposed operations. The NNSA would obtain the appropriate permits and implement sedimentation and erosion control measures, including development of a SWPPP manage stormwater runoff. At this time, no specific site(s) has been identified.

3.4.2.2 No Action Alternative

No construction or soil disturbance is anticipated to occur and operations would continue as they do today.

3.5 Water Resources

3.5.1 Affected Environment

3.5.1.1 Surface Water

The existing KCNSC facilities and study area are within the western portion of the Headwaters Little Blue River watershed (hydrologic unit code 12 [HUC-12] 103001010201) (United States Geological Survey [USGS], 2021). Surface water runoff from the KCNSC Botts Campus flows generally east into unnamed tributaries which flow approximately 1.4 miles east to the Little Blue River. Surface water runoff from the Building 23 site flows into Scope Creek south of the site, which flows approximately 0.4 mile east-northeast to the Little Blue River (see Figure 3-2). The Little Blue River ultimately discharges into the Missouri River near Buckner, Missouri, approximately 40 miles downstream of Kansas City, Missouri. The Missouri River is the source of drinking water for the majority of the Kansas City metropolitan area.

3.5.1.2 Floodplains

Neither existing KCNSC facility is in a 100- or 500-year floodplain (Federal Emergency Management Agency [FEMA], 2021), as shown in Figure 3-2. The nearest 100-year flood hazard zones to these facilities are approximately 0.5 mile east of the KCNSC Botts Campus, associated with an unnamed tributary to the Little Blue River, and approximately 0.2 mile southeast of Building 23, associated with Scope Creek. Floodplains in the study area are primarily associated with the main tributaries and main stems of the Blue River to the west and the Little Blue River to the east.

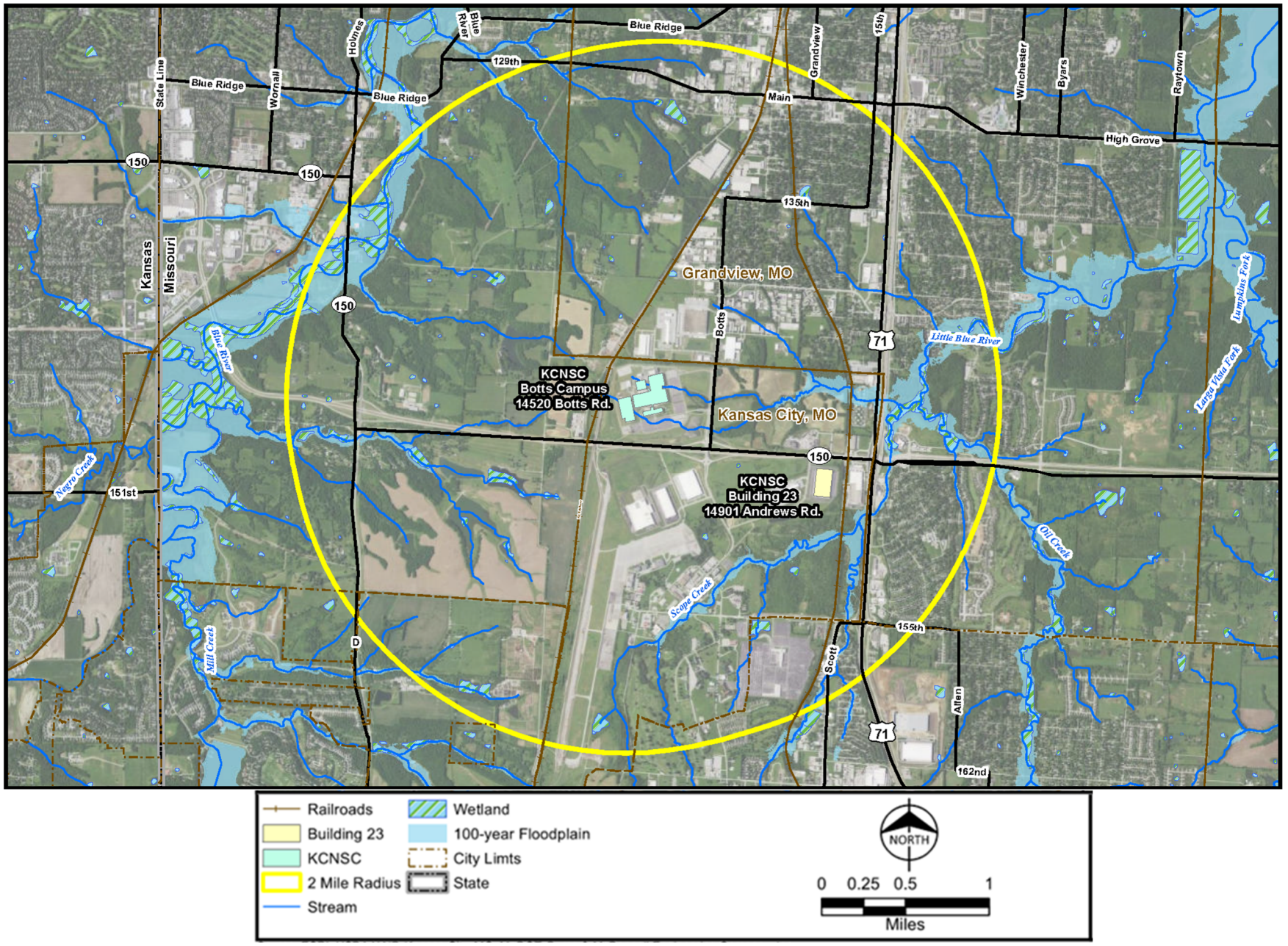
3.5.1.3 Wetlands and Waters of the United States

Prior to development of the KCNSC Botts Campus site, the United States Army Corps of Engineers (USACE) conducted a delineation of aquatic resources on the property in 2008. This delineation identified several small wetlands and intermittent and ephemeral stream channels across the property. The NNSA obtained the required permits to place fill materials in these resources to accommodate construction of the KCNSC Botts Campus. An unnamed tributary to the Little Blue River is mapped within the eastern portion of the KCNSC Botts Campus property which now flows to the east through a culvert under Botts Road. In 2008, this tributary and a small adjacent emergent wetland were determined to be jurisdictional under Section 404 of the Clean Water Act (CWA) by the USACE. This tributary is shown on the current United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) map database (accessed January 2021). An updated field delineation and jurisdictional determination under the current CWA regulations should be conducted if any improvements would be proposed in this area. A large retention basin is in the southeast corner of the KCNSC Botts Campus property. The impoundment is intermittently used by birds and wildlife. Other wetland features may be present across the study area dependent on the underlying soil characteristics and water regime.

3.5.1.4 Stormwater

The MDNR issues *No Exposure Certifications* allowing for an exclusion from National Pollutant Discharge Elimination System (NPDES) stormwater permitting requirements for facilities for which all materials and activities are indoors or protected from exposure to stormwater runoff. The KCNSC Botts Campus and Building 23 were separately issued *No Exposure Certifications* from the MDNR, excluding the facilities from stormwater permit requirements. The KCNSC Botts Campus MDNR certification number is MONX00441, issued July 2020 and expiring July 2025; and the Building 23 MDNR certification number is MONX00745 (see Table 3-1), issued December 2019 and expiring December 2024. Neither the KCNSC Botts Campus nor Building 23 have stormwater outfalls or stormwater management infrastructure onsite.

Figure 3-3: Surface Water Resources and Floodplains



3.5.1.5 Groundwater

The study area included the KCNSC facilities are underlain by a single aquifer system. The Western Interior Plains aquifer system underlies most of Kansas, the eastern and southern portions of Nebraska, and a small area in west-central Missouri. The thickness of the aquifer (including the confining unit) ranges from less than 500 feet to more than 3,000 feet. Regional groundwater in the aquifer system flows towards the east-southeast with much of the water discharging from the aquifer system in the transition zone between the Western Interior Plains and the Ozark Plateaus aquifer systems. The Western Interior Plains aquifer system is considered to have low permeability. The Western Interior Plains aquifer system is entirely subsurface and contains slightly saline water or brine that is under confined conditions everywhere. There is no surficial aquifer system present in the area of the existing KCNSC facilities.

3.5.1.6 Water Use

The Kansas City Water Services Department provides domestic/potable water to both existing KCNSC facilities. Water use at the KCNSC facilities is discussed in Section 3.8.1.1 of this EA. The Jackson County Public Water Supply District #1 provides water and sewer services for properties within the City of Grandview. Both the Kansas City Water Services Department and Jackson County Public Water Supply District #1 obtain water from the Missouri River.

3.5.2 Environmental Impacts

3.5.2.1 Proposed Action

All operations would continue to occur within building envelopes, preventing the potential introduction of materials and wastes into surface water and groundwater resources. The upgrade and expansion of operations at the existing KCNSC facilities could involve minor soil disturbances to accommodate construction and/or installation of parking lots or other minor facility renovations. The NNSA would obtain the appropriate permits and implement sedimentation and erosion control measures, including development of a SWPPP to manage stormwater runoff during those activities. If construction would be proposed within the area immediately east of the KCNSC Botts Campus, a wetland delineation would need to be conducted to evaluate the jurisdictionality of the tributary and previously mapped wetland area. If determined jurisdictional under Section 404 of the CWA and 2020 Navigable Waters Protection Rule, the NNSA may need to obtain a Section 404 permit (nationwide or individual) depending on the amount of fill to be placed within the site's jurisdictional boundaries. Mitigation could be required depending on the level of impact. No impacts to groundwater sources would occur.

Future facility locations would be assessed for surface water features such as wetlands, stream channels, and floodplains. Field studies would be conducted to support coordination with permitting agencies if minor improvements are proposed at the identified site (e.g., parking or access expansion, utilities, minor facility renovation, etc.). The NNSA would obtain the appropriate permits and implement sedimentation and erosion control measures, including development of a SWPPP to manage stormwater runoff during those activities. At this time, no specific site(s) has been identified.

3.5.2.2 No-Action Alternative

No construction or soil disturbance would occur so no changes in surface water conditions on or near either facility would occur. Operations at both facility locations would continue as they do today.

3.6 Biological Resources – Vegetation and Wildlife

3.6.1 Affected Environment

3.6.1.1 Vegetation

The existing KCNSC facilities and study area are within the Wooded Osage Plains Level IV Ecoregion, characterized by little bluestem-sideoats grama prairie, big bluestem-Indiangrass prairie, cordgrass wet prairie, and oak woodlands (EPA, 2017). Establishment of the KCNSC Botts Campus, construction of Building 23 (by others), and prior landowner farming activity resulted in the removal of any native habitats that may have been present. The areas surrounding both facilities have also been cleared over time to accommodate development. Remnants of these native habitats may be present along drainages and on undeveloped parcels primarily west of the KCNSC Botts Campus. Open areas of both facilities are maintained in managed turf grasses and limited areas of ornamental landscaping.

3.6.1.2 Wildlife

Development completed prior to the siting of the KCNSC facility removed much of the native habitats across the study area that supported wildlife species. Remnants of such habitats are now limited to undeveloped areas along drainages and isolated pockets associated with agricultural lands. Non-native, human created landscapes now provide much of the habitat for wildlife species. These areas including residential neighborhoods and golf courses likely support wildlife species that have adapted to human development including a variety of bird and small rodent species; racoon, skunk, and opossum; and white-tailed deer. Raptor species including turkey vultures and a number of hawk species may also forage along roadsides and across agricultural fields. The western and northern edges of the KCNSC Botts Campus are fenced, but wildlife can still access the lawn areas along MO-150 and Botts Road. The Building 23 property is not currently fenced.

Three federally listed species are listed for Jackson County, Missouri by the USFWS: the gray bat (endangered), the Indiana bat (endangered), and the northern long-eared bat (threatened). These bat species may roost in trees in wooded areas and forage along drainageways. No critical habitats have been identified within the study area and no hibernacula are mapped within the county.

The Migratory Bird Treaty Act (16 U.S.C. §§ 703-712) makes it unlawful to pursue, hunt, take, capture, kill, or possess any migratory bird, part, nest, egg or product without a permit. A number of migratory bird species occupy the general area either as permanent residents or seasonal migrants. These species can occupy a variety of habitats from natural areas and residential landscapes to both abandoned and occupied buildings. Because of the highly developed nature of the KCNSC Botts Campus and Building 23 facilities, the migratory bird species present are those highly adaptable to human activity and are most likely to use nearby undeveloped habitats.

3.6.2 Environmental impacts

3.6.2.1 Proposed Action

The expansion, reconfiguration and/or moving of all or select operations at the KCNSC facilities would not remove or disturb habitat or displace resident or migratory wildlife. Minor improvements may be made in areas currently occupied by lawn or paved parking areas at both facility locations to accommodate operations. Improvements may include full or partial fencing of the Building 23 property. Any disruption to wildlife present on or adjacent to either property would be minimal and temporary. Building exteriors and grounds adjacent to areas proposed for improvement (e.g., installation of exterior ventilation structures or wastewater management systems) would be assessed for the presence of nesting birds. If active nests are discovered, removal of the nest to facilitate the proposed activities would not occur until after the young have fledged.

Because future locations within the study area would contain existing buildings, parking lots, access drives, and utilities, no vegetation or wildlife habitat would be expected to be removed. Activities at this site should not disrupt resident or migratory wildlife. At this time, no specific site(s) has been identified.

3.6.2.2 No-Action Alternative

No construction, land disturbance, or modification of any open areas at the existing KCNSC facilities would occur that could affect resident or migratory wildlife.

3.7 Cultural Resources

3.7.1 Affected Environment

A Cultural Resources Assessment of the KCNSC Botts Campus property was conducted in 2007 prior to development of the site (DOE]/EA-1592). The assessment did not identify any specific areas of concern including no previously recorded sites or the potential for undiscovered archaeological or historic resources on the Botts Campus property. No non-archaeological historic resources (e.g., homes, farmsteads, etc.) were identified on or in the vicinity of the KCNSC Botts Campus property. According to a review of online data available from the MDNR State Historic Preservation Office, several cultural resources surveys have been conducted across the study area to support development of major underground utility improvements and redevelopment of the former Richards-Gebaur Air Force Base south of MO-150. There are no recorded sites on or near Building 23. The Grandview Residential Historic District, listed on the National Register of Historic Places (NRHP), is approximately one mile north-northeast of the KCNSC Botts Campus.

Undeveloped areas along drainages within the study area have a moderate probability for the presence of undiscovered archaeological resources. No known tribal or cultural sites including cemeteries are recorded within the study area.

3.7.2 Environmental impacts

3.7.2.1 Proposed Action

The expansion, reconfiguration and/or moving of all or select operations at the existing KCNSC facilities or to other locations would not involve construction or land disturbance activities in areas of recorded archaeological and historical sites within the study area. No resources eligible for listing or currently listed on the National Register of Historic Places would be affected by the proposed action. A site-specific assessment of the potential for archaeological resources would be undertaken to support NEPA clearance for a new facility location. At this time, no specific new location site(s) has been identified.

3.7.2.2 No-Action Alternative

No construction or land disturbance activities would occur that would affect the locations of recorded archaeologic and historic sites.

3.8 Infrastructure

3.8.1 Affected Environment

3.8.1.1 Utilities

Electricity - The KCNSC purchases electricity from Evergy to power its production machinery, chillers, pumps, compressors, lights, and general office equipment. Two 161-kilovolt (kV) overhead transmission lines from the Turner Road #6 and Martin City East #5 substations supply electricity to the KCNSC Botts Campus. Two onsite transformers owned by Evergy step the voltage down to 13.8 kV and deliver power to two main busses for distribution at the main switchgear and then to subsequent substations and

transformers. Electricity for Building 23 is provided from single feeds directly from the Evergy grid. Electricity from Evergy has been reliable, high quality, and adequate to serve facility requirements.

Under current operational levels, the annual electrical consumption at the KCNSC Botts Campus is approximately 76,000 megawatt-hours (MWh). Annual electrical consumption is approximately 14,000 MWh at Building 23. This electrical demand is a very small portion of the amount distributed by Evergy annually.

Fuel - The KCNSC purchases natural gas, the facility's primary fuel source at the KCNSC Botts Campus, through a commodity contract held by the Defense Logistics Agency, and local pipelines deliver the natural gas to the facility. Natural gas is the primary fuel for the hot water boilers that heat the buildings at the KCNSC Botts Campus. Spire Inc., the primary provider of natural gas to the local Kansas City, Missouri area, provides natural gas to heat Building 23. The annual consumption of natural gas at the KCNSC Botts Campus is 1,900,000 hundreds of cubic feet (ccf) and is estimated to be approximately 50,000 ccf at Building 23 once full operations commence.

At the KCNSC Botts Campus, No. 2 diesel fuel is used as secondary boiler fuel if the natural gas supply is limited. KCNSC uses competitive bids from commercial suppliers to purchase diesel fuel, which is stored in two 8,000-gallon aboveground storage tanks (ASTs) adjacent to the CUP on the KCNSC Botts Campus. The annual consumption of diesel fuel at the KCNSC Botts Campus is 7,5000 gallons. Diesel fuel is not currently consumed to support operations at Building 23. As would be expected, the amounts of petroleum-based fuels that are typically used at KCNSC facilities are very small in comparison with the amounts distributed within the state.

Water - The Kansas City Water Services Department supplies water to both KCNSC facilities. The facilities use domestic water as make-up for heating hot water, chilled water, condenser water, and fire protection systems, and for sanitary applications (toilets, sinks, eyewashes, showers, drinking fountains, and in the cafeteria). An isolation cross-connection control program protects potable water from that used for industrial uses. The KCNSC Botts Campus fire suppression system consists of two water supplies that provide water through a 10-inch underground and interior fire main grid. The Building 23 fire suppression system is supplied by a 12-inch main line, and uses a pressurized fire water loop that feeds an automatic sprinkler system as well as fire hydrants.

Current operations at the KCNSC Botts Campus consume approximately 71,000 ccf of potable water annually. The consumption at Building 23 is estimated to be approximately 8,000 ccf of potable water annually at full operation. Potable water demand at KCNSC facilities is a very small portion of the quantity produced and distributed by the Kansas City Water Services Department annually.[1]

Heating Hot Water, Compressed Air, and Chilled Water - Centralized utilities for the KCNSC Botts Campus are provided from the CUP. The CUP houses four boilers that produce hot water used to regulate temperature for personnel comfort and production requirements. The compressed air system supplies clean, dry, compressed air to the KCNSC Botts Campus for production requirements and temperature and humidity climate control devices. The CUP houses seven centrifugal chillers with capacity to chill 10,510 tons of water to regulate temperature and humidity controls for personnel comfort, production requirements, and process cooling. The CUP does not provide utility service to Building 23.

Sanitary Sewer – Both existing KCNSC facilities are serviced by the local KCMO sanitary sewer system. Sewage from both locations is treated by the Little Blue Valley Sewer District.

[1] In 2011, Kansas City Water Services Department produced and distributed approximately 58.8 million ccf of potable water (2013 EA)

Table 3-5 summarizes the average monthly volume of incoming water flows and outgoing flows to the sanitary sewer from the KCNSC Botts Campus. Because operations were coming online at Building 23 in late 2020, there are no water supply or sewage discharge volumes available for that facility.

Table 3-5: Average Monthly Usage at the KCNSC Botts Campus – Incoming Water Flows and Outgoing to Sanitary Sewer, November 2018-April 2019

Incoming Water Flows			Outflows to Sanitary Sewer		
Source:	**Metered or Estimated**	**Quantity in Gallons per Day (gpd)**	**Source:**	**Metered or Estimated**	**Quantity in Gallons per Day (gpd)**
Municipal	Estimated	121,357	Cooling Tower Blowdown	Metered	5,080
Well	NA	NA	Process Effluent	Metered	18,583
Other	NA	NA	Polymer Production	Metered	0
			Sanitary and Irrigation	Metered	32.973
			Footing Tile Drains		1,602
			Total Discharged to Combined Sanitary Sewer Point	Metered	58,193

Industrial Wastewater - Dilute inorganic waste streams are treated at the IWPF on the KCNSC Botts Campus pursuant to a discharge permit under Section 307(b) of the CWA before being discharged to the sanitary sewer system. During initial occupancy and low volume workload at Building 23, the wastewater will be containerized and shipped offsite to a Treatment, Storage, and Disposal Facility (TSDF) based upon the characteristics present (i.e. heavy metals present). As workload increases, a large storage tank (up to 20,000 gallons) may be used to store and then bulk ship larger volumes of wastewater. Smaller holding tanks may be utilized to collect and take samples, and would be located within secondary containment and covered under the KCNSC Botts Campus and Building 23 SPCC plans. If this option occurs, the NNSA will obtain the appropriate permit from Kansas City, Missouri. It is anticipated that once permitted, and samples retrieved indicate the wastewater is within appropriate limits, the approved wastewater will be discharged to the sanitary sewer system. If the samples retrieved exceed the permit limits, holding tanks will be used to store and transport the wastewater until an IWPF solution is developed and implemented at Building 23.

3.8.1.2 Transportation

Two major highways provide access to the existing KCNSC facilities and the study area. I-49/US-71, approximately one mile east of the KCNSC Botts Campus, is the major north-south freeway through eastern Kansas City connecting to I-70 near the Missouri River to the north and to I-44 in Joplin and through northwest Arkansas to the south. MO-150 is the major east-west highway through the area. Two driveway entrances to the KCNSC Botts Campus are provided from Botts Road, along the eastern edge of the KCNSC property. Access to Building 23 is provided by two driveway entrances located on the east side of Andrews Road, approximately 300 and 1,300 feet south of MO-150, respectively. These roadways are utilized to transport employees, equipment, and materials to, from, and between the KCNSC Botts Campus and Building 23. Both properties contain large, paved parking areas and narrow paved interior service roads. Both facilities are equipped with multiple loading docks to accommodate inbound and outbound shipments. Materials and supplies, equipment, and products are brought in and out of both facilities using large trucks and semi-trailers. Such deliveries and employee vehicles use the same facility entrances as describe above.

A BNSF Railway line runs north-south adjacent to the eastern property boundary of Building 23, and a KCS line runs generally north-south adjacent to the western boundary of the KCNSC Botts Campus and feeds the KCS/I-49 Intermodal Center south of MO-150. The 37-acre property on which Building 23 is located is part of the larger I-49 Intermodal Center.

3.8.2 Environmental impacts

3.8.2.1 Proposed Action

Utilities – The utilities serving the existing KCNSC facilities have sufficient capacity to support upgraded and expanded operations and no changes and any associated impacts would occur. As new workloads are monitored at Building 23, it may become necessary to construct an IWPF to address industrial wastewater volumes. The IWPF would be a similarly-scaled operation to that present at the KCNSC Botts Campus (occupying approximately 5,000 SF adjacent to Building 23). Construction and operation of the IWPF would have minimal to no effects on the area surrounding Building 23. The approximately 5,000 SF area would be cleared, graded, and a concrete pad established to support the system. Appropriate visual screening and security would be installed in conformance with development codes. The actual location and timing of construction of this improvement will be based on workload and is undetermined at this time.

The NNSA would evaluate a selected site(s) to determine if adequate utility services are provided. Only minor utility improvements may be undertaken to facilitate operations such as the installation of an IWPF if needed. At this time, no specific site(s) has been identified.

Transportation - Employee and supply traffic would continue to flow between both facilities using the local roadway system. MO-150 is a six-lane highway with ample capacity to accommodate delivery traffic and shift changes. Minor improvements to parking areas at both facility locations may be necessary to accommodate increases in staff levels as operations expand. Materials would be transported daily between facilities resulting in a minimal increase in truck traffic on the one-mile segment of MO-150 connecting the sites. The upgrade in operations at either facility would not require access to the neighboring rail lines.

The other roadways that service both facilities and the study area have adequate capacity to support KCNSC facility expansion. The site(s) selected would be evaluated by the NNSA to ensure that adequate onsite capacity is available to accommodate employee parking and access by vendors. At this time, no specific site(s) has been identified.

3.8.2.2 No-Action Alternative

The existing utilities and roadway network are able to adequately accommodate the current level of operations at the KCNSC facilities.

3.9 Socioeconomic Resources

3.9.1 Affected Environment

3.9.1.1 Population, Environmental Justice, Title VI, and Limited English Proficiency

Table 3-6 provides an overview of the historic and forecasted population growth in City of Kansas City, Jackson County, and the State of Missouri. The population statistics for 2010 are presented to illustrate the baseline conditions occurring at the time the KCNSC proposed its move to the KCNSC Botts Campus. The population of Missouri increased 3.1 percent from 2010 to 2019, while the population across Jackson County and Kansas City grew at higher rates over the same time period, at 4.4 and 6.9 percent, respectively.

Table 3-6: Population and Growth Trends by Jurisdiction

Jurisdiction	2000[a]	2010[b]	2019[c]	2030 Forecast[d]
Kansas City	441,545	454,876	486,404	Not Available
Jackson County	654,880	666,997	696,216	714,702
State of Missouri	5,595,211	5,922,314	6,104,910	6,746,762

Sources:

a. U.S. Census Bureau, Census 2000 Summary File, Profile of General Demographic Characteristics: 2000. Retrieved July 30, 2019 from https://factfinder.census.gov/

b. US Census Bureau, 2010 American Community Survey 5-Year Estimates Data Profiles, ACS Demographic and Housing Estimates. Retrieved February 5, 2021 from https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles/

c. US Census Bureau, 2019 American Community Survey 5-Year Estimates Data Profiles, ACS Demographic and Housing Estimates. Retrieved February 5, 2021 from https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles

d. 2030 forecast for Missouri, Missouri Office of Administration, 200-2030 Projections. Retrieved July 30, 2019 from https://oa.mo.gov/budget-planning/demographic-information/population-projections/

Tables 3-7 and 3-8 summarize the general racial and ethnic characteristics of Kansas City, Jackson County, and the State of Missouri. Figure 3-4 illustrates the percent minority population within the census tracts intersected by the study area.

Table 3-7: Population by Race by Jurisdiction

	White Alone		Black/African American		American Indian & Alaska Native		Asian		Native Hawaiian & Other Pacific Islander		Total Racial Minority Percentage	
Jurisdiction	2010	2019	2010	2019	2010	2019	2010	2019	2010	2019	2010	2019
Kansas City	60.5%	60.9%	29.9%	28.2%	0.5%	0.4%	2.3%	2.7%	0.2%	0.2%	39.5%	39.1%
Jackson County	67.8%	67.0%	24.0%	23.3%	0.5%	0.4%	1.6%	1.8%	0.2%	0.3%	32.3%	33.0%
State of Missouri	83.4%	82.2%	11.5%	11.5%	0.4%	0.4%	1.6%	2.0%	0.1%	0.1%	16.7%	17.8%

Sources:

a. US Census Bureau, 2010 American Community Survey 5-Year Estimates Data Profiles, ACS Demographic and Housing Estimates. Retrieved February 5, 2021 from https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles/

b. US Census Bureau, 2019 American Community Survey 5-Year Estimates Data Profiles, ACS Demographic and Housing Estimates. Retrieved February 5, 2021 from https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles

Table 3-8: Hispanic and Latino Ethnicity by Jurisdiction

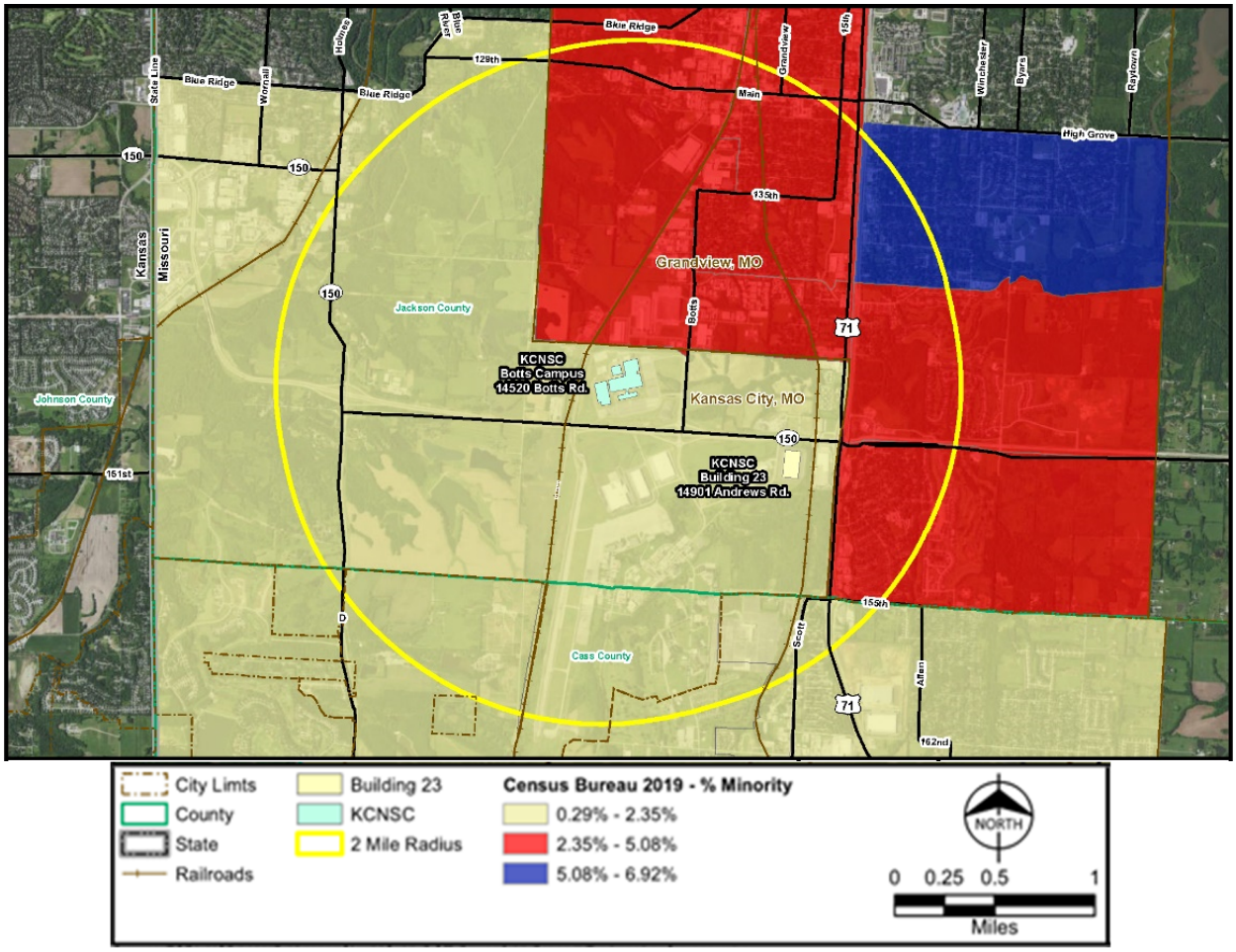
	Hispanic or Latino (of any race)		Not Hispanic or Latino (of any race)	
Jurisdiction	2010	2019	2010	2019
Kansas City	9.7%	10.6%	90.3%	89.4%
Jackson County	7.9%	9.0%	92.1%	91.0%
State of Missouri	3.4%	4.2%	96.6%	95.8%

Sources:

a. US Census Bureau, 2010 American Community Survey 5-Year Estimates Data Profiles, ACS Demographic and Housing Estimates. Retrieved February 5, 2021 from https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles/

b. US Census Bureau, 2019 American Community Survey 5-Year Estimates Data Profiles, ACS Demographic and Housing Estimates. Retrieved February 5, 2021 from https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles

Figure 3-4: Minority Population Census Tracts in the Study Area



3.9.1.2 Employment and Income

Table 3-9 summarizes the employment and income status of Jackson County in comparison to the State. Median household Incomes have increased across all jurisdictions while the percent of the population living below poverty and the unemployment rate have decreased. Figure 3-5 illustrates the percent of the population living below poverty in the census tracts intersected by the study area.

Table 3-9: Income, Poverty, and Unemployment by Jurisdiction

	Median Income[a, b]		Percent of People Below Poverty Level[a, b]		Unemployment Rate[a, b]		Poverty Threshold[c]	
Jurisdiction	**2010**	**2019**	**2010**	**2019**	**2010**	**2019**	**2010**	**2019**
Kansas City	$44,113	$54,194	18.1%	16.1%	9.2%	4.8%	$22,314	$26,172
Jackson County	$46,252	$55,134	15.7%	14.7%	8.8%	4.4%		
State of Missouri	$46,262	$55,461	14.0%	13.7%	7.4%	4.6%		

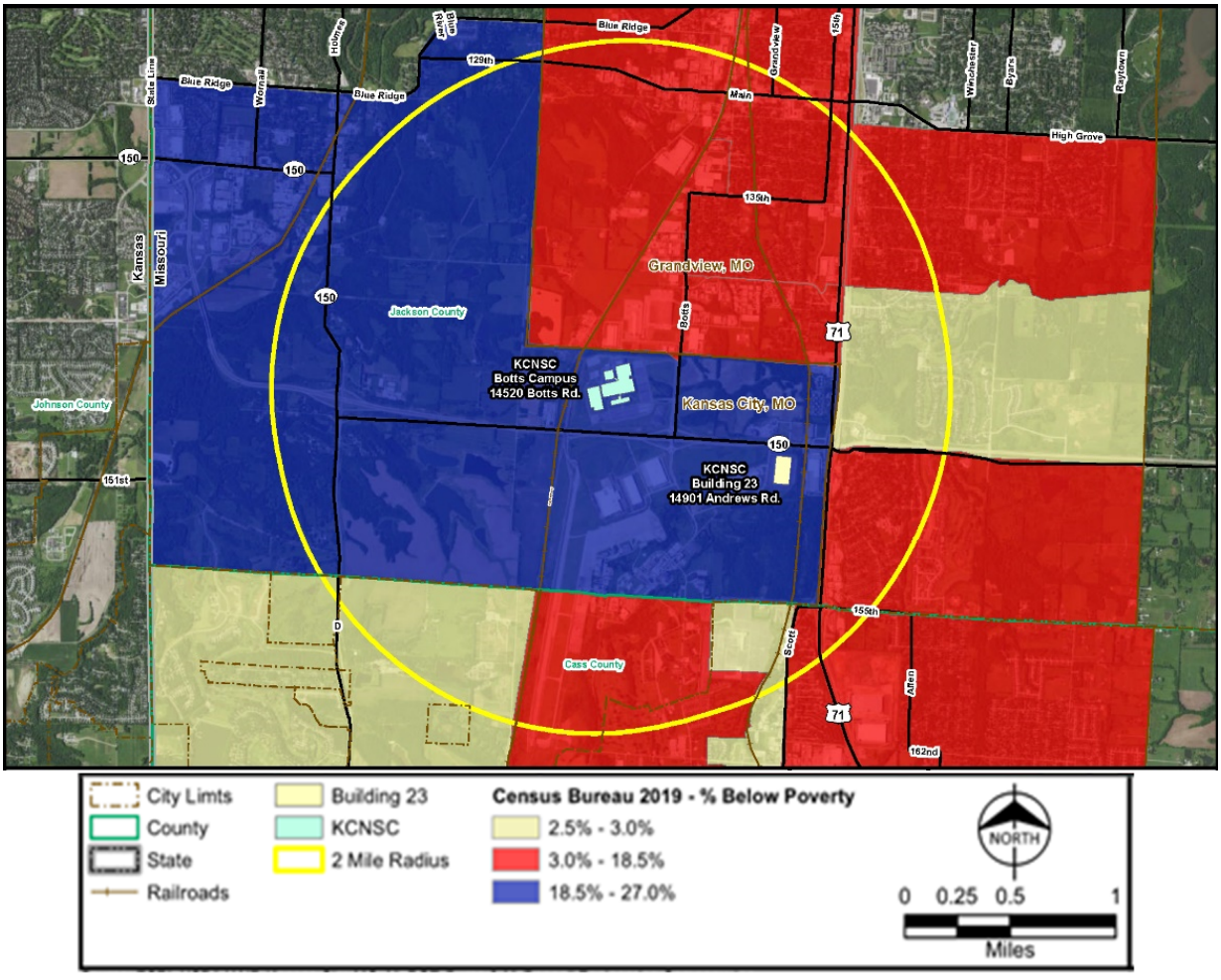
Sources:

a. US Census Bureau, 2010 American Community Survey 5-Year Estimates Data Profiles, ACS Selected Economic Characteristics. Retrieved February 5, 2021 from https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles

b. US Census Bureau, 2019 American Community Survey 5-Year Estimates Data Profiles, ACS Selected Economic Characteristics. Retrieved February 5, 2021 from https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles

c. US Census Bureau, Poverty Thresholds, Poverty Thresholds by Size of Family and Number of Children, 2010 and 2019. Retrieved February 5, 2021 from https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html

Figure 3-5: Low-Income Population Census Tracts in the Study Area



3.9.1.3 Community Services

The existing KCNSC facilities are served by the Kansas City Police Department, Fire Department, and Emergency Medical Services and Rescue Services. Grandview Police and Fire Department provide secondary response to the facilities. The closest medical centers providing trauma services are Lee's Summit Medical Center, 18.8 miles to the east, and Saint Luke's South Hospital, 9.8 miles to the west in Overland Park, Kansas. No churches, schools, libraries, or other community facilities are located west of I-49/US71 and south of Main Street in Grandview within the study area. Several elementary schools and churches are east of I-49/US-71, the closest, Belvidere United Methodist Church, approximately 0.5 mile east of Building 23.

3.9.2 Environmental Impacts

3.9.2.1 Proposed Action

With the expansion, reconfiguration and/or moving of all or select operations at the existing KCNSC facilities, additional employees would be hired to support the current and projected workloads. At this time, the number of additional employees needed over the next 5 to 10 years is undetermined. Both KCNSC facilities are located within sparsely populated areas of Kansas City, but area that support industrial and commercial employers. The proposed action is focused on existing property/facility acquisition and would not require major construction or facility demolition and, therefore, would not displace any homes or businesses nor result in any changes to surrounding neighborhoods.

Future facility locations would be located in areas supporting industrial/warehouse uses, most likely more distant from the residential neighborhoods prevalent in the northern and eastern parts of the study area. The expansion of operations to another location would also provide additional jobs and indirectly support local businesses (e.g., restaurants, gas stations/convenience stores, etc.). No disproportionately high impacts to minority or low-income populations would occur as the result of upgrading and expanding operations.

No changes in travel times by emergency responders would occur to either facility. No community facilities would be affected by the upgrade and expansion of operations at the existing KCNSC facilities or to a future facility location. At this time, no specific site(s) has been identified.

3.9.2.2 No-Action Alternative

Employment at the KCNSC facilities would be largely maintained at current levels in the short-term and would be expected to increase overtime to support the current and anticipated workloads and the facility's needs. No displacements and no changes to surrounding neighborhoods would occur. No disproportionately high impacts to minority or low-income populations would occur under the no-action alternative. Travel times by emergency responders to either facility would not change, and no community facilities would be affected under the no-action alternative.

3.10 Waste Management

3.10.1 Affected Environment

3.10.1.1 Pollution Prevention and Waste Minimization

Activities at the existing KCNSC facilities generate and require the management of non-hazardous and hazardous wastes, and small quantities of low-level radioactive waste. Waste management operations consist mainly of hazardous and non-hazardous waste storage in preparation of offsite treatment or disposal. State of Missouri and Federal hazardous waste statutes, including 40 CFR Parts 260, 261, 264, and 270 and the corresponding State regulations, regulate waste generated by existing KCNSC facilities.

The KCNSC's management of wastewater, including sanitary sewage and industrial wastewater, is addressed in Section 3.3.8.1 of this EA.

As presented in Table 3-10, the existing KCNSC facilities generated approximately 2.1 million pounds of hazardous and non-hazardous wastes in fiscal year 2020. Approximately 1.7 million pounds, or approximately 81 percent, of the total waste generated was recycled, reclaimed, or used for energy recovery. Section 3.3.10.3 further addresses waste minimization and recycling activities at the KCNSC facilities.

Table 3-10: Quantities of Hazardous and Non-Hazardous Wastes Generated, Recycled, and Disposed from KCNSC

Total Quantity (Pounds)	FY 2018	FY 2019	FY 2020
WASTES GENERATED			
Baling Steel Recycling	542,200	453,700	465,420
Fuelblend	316,751	275,588	252,371
Water Treatment	113,932	190,695	232,284
E-Scrap Recycling	73,075	81,156	87,905
Incineration	60,742	38,885	41,227
Scrap Metal Recycling	59,337	134,341	151,822
RCRA Landfill	43,635	19,078	13,721
Precious Metal Recycling	31,130	80,287	70,598
Battery Recycling	4,787	9,230	10,318
Co-Generation		249,547	441,200
Municipal Solid Waste	390,620	462,760	340,700
Total Generated	**1,636,209**	**1,995,267**	**2,107,566**
WASTES RECYCLED			
Baling Steel	542,200	453,700	465,420
Fuelblend	316,751	275,588	252,371
Co-Generation		249,547	441,200
Water Treatment	113,932	190,695	232,284
E-Scrap	73,075	81,156	87,905
Precious Metal	31,130	80,287	70,598
Batteries	4,787	9,230	10,318
Total Recycled	**1,141,212**	**1,474,544**	**1,711,916**
WASTES DISPOSED			
Incineration	60,742	38,885	41,227
RCRA Landfill	43,635	19,078	13,721
Municipal Solid Waste	390,620	462,760	340,700
Total Disposed	**494,997**	**520,723**	**395,648**

All solid waste materials generated from KCNSC facilities are managed, transported, and disposed of offsite at facilities permitted in accordance with Federal, State, and local requirements. Industrial wastewater, as described in Section 3.8.1.1, is either contained onsite and transported offsite for disposal or released to the sanitary sewer system. Additionally, Honeywell follows established corporate standards, protocols, and requirements to ensure that all waste disposal sites and waste transporters

used have been sufficiently reviewed, vetted, and approved to mitigate potential risks. Wastes are transported directly from the generating facility, the KCNSC Botts Campus and Building 23, to the end-processor or disposer. Wastes are not transported between KCNSC facilities. Refer to Section 3.3.8.1 for additional description of industrial wastewater generation and management.

3.10.1.2 Hazardous Substances

The KCNSC is regulated by Federal and State hazardous waste regulations and is subject to inspections under the RCRA conducted by the EPA and MDNR. The KCNSC Botts Campus (EPA ID MOR000545376) and Building 23 (EPA ID MOR000564674) are registered separately as LQGs of hazardous waste, defined as facilities that generate 1,000 kilograms per month of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Several operations at the KCNSC facilities generate hazardous wastes, as defined by 40 CFR 261. Hazardous wastes are routinely generated by metal fabrication, cleaning, finishing, coating, and encapsulation/ potting operations. Cleaning of metal parts in acid and alkaline solutions generates acid and alkaline waste. Waste rubber, foam, and resin components are generated by encapsulation/potting operations. Waste solvents are generated by degreasing, cleaning, and circuit board printing operations. The fabrication and machining of metal parts generates waste metal grindings. Waste paints and thinners are generated by product and facility painting operations. Miscellaneous waste chemicals are generated in laboratory processes. In addition, maintenance projects may yield wastes that are hazardous.

Hazardous wastes are managed in the same general manner as other generated wastes through onsite management, transport, and disposal at offsite facilities permitted in accordance with applicable Federal, State, and local requirements. Additionally, Honeywell follows established corporate standards, protocols, and requirements to ensure that all waste disposal sites and waste transporters used have been sufficiently reviewed, vetted, and approved in order to mitigate potential risks.

Hazardous wastes subject to the RCRA are stored onsite for a period of less than 90 days in compliance with RCRA requirements for LQGs. These wastes are then transported offsite by licensed transporters or are transferred to the KCNSC Botts Campus CWA-permitted IWPF. Recycling, treatment, or disposal of wastes occurs at facilities currently in compliance with Federal and State hazardous waste regulations, as applicable. Operations that contribute the majority of hazardous wastes generated at KCNSC facilities include wastewater treatment, plating, and etching processes.

The *Emergency Planning and Community Right-to-Know Act* (EPCRA) of 1986 was created to help communities plan for chemical emergencies. It also requires industry to report on the storage, use, and releases of hazardous substances to Federal, State, and local governments. Under Section 312 of EPCRA, NNSA routinely reviews the lists of extremely hazardous substances (EHSs) in Appendices A and B of 40 CFR Part 355 for the chemicals used onsite at KCNSC facilities. Under the Tier II requirements of EPCRA, an EHS is any substance for which a facility must maintain a Safety Data Sheet (SDS) under the Occupational Health and Safety Administration (OSHA) Hazard Communication Standard (29 CFR 1910). The NNSA is required to report the amount of an EHS which equals or exceeds the threshold planning quantity (TPQ) set by the EPA.

Table 3-11 lists the EHSs used at the KCNSC Botts Campus and Building 23 that equaled or exceeded the TPQ during the 2020 reporting year.

Table 3-11: KCNSC Botts Campus – Tier II Reportable Chemicals That Equaled or Exceeded EPCRA Threshold Planning Quantities (TPQ) in Reporting Year 2020

Chemical (full list)	CAS[a] #	EHS[b] Listed	Used at the Botts Campus	Used at Building 23
Boron-10	14798-12-0	No	Yes	No
Urea	57-13-6	No	Yes	No
2.4 TDI (toluene 2,4-diisoyante) [benzene]	584-84-9	Yes	Yes	No
Highly refined petroleum oils	64742-54-7	No	Yes	No
Lead	7439-92-1	No	Yes	No
Argon	7439-37-1	No	Yes	No
Rock Salt	7647-14-5	No	Yes	No
Sulfuric acid (H_2SO_4)	7664-93-9	Yes	Yes	Yes
Nitric acid	7697-37-2	Yes	Yes	No
Nitrogen	7727-37-9	No	Yes	No
Graphite	7782-42-5	No	Yes	No
2,6 TDI (toluene 2,6-diisocyante) [benzene]	91-08-7	Yes	Yes	No

Source: Honeywell, 2021

a. Chemical Abstract Service registry number

b. The EHS list was first compiled by EPA, and subsequently incorporated into EPCRA, to identify chemicals that could cause serious irreversible health effects from accidental releases. EHSs are listed in 40 CFR Part 355.

Table 3-12 lists the EHSs used at the KCNSC Botts Campus and Building 23 that did not exceed the TPQ for recording year 2020.

Table 3-12: KCNSC Botts Campus – Tier II Reportable Chemicals That Did Not Exceed EPCRA Threshold Planning Quantities (TPQ) in Reporting Year 2020

Chemical (full list)	CAS[a] #	EHS[b] Listed
Epichlorohydrin [oxirane, (chloromethyl)]	106-89-8	Yes
Chloroethanol	107-07-03	Yes
Acrylonitrile	107-13-1	Yes
Ethylenediamime	107-15-3	Yes
Vinyl acetate monomer [acetic acid ethenyl ester]	018-05-4	Yes
Phenol	108-95-2	Yes
Piperidine	110-89-4	Yes
Hydroquinone (1,4-Benzenediol)	123-31-9	Yes
Cadmium oxide	1306-19-0	Yes
Vanadium pentoxide [vanadium oxide]	1314-62-1	Yes
Gallium trichloride	13450-90-3	Yes
Sodium cyanide	143-33-9	Yes
Potassium cyanide	151-50-8	Yes
Sodium azide	26628-22-8	Yes
Isophorone diisocyante (cyclohexane)	4098-71-9	Yes
Formaldehyde	50-00-0	Yes
4-Aminopyridine	504-24-5	Yes
Dithiobiuret	541-53-7	Yes
Benzenamine {Aniline)	62-53-3	Yes
Chloroform	67-66-3	Yes
Sulfur dioxide	7446-09-5	Yes
Ethylene oxide (oxirane)	75-21-8	Yes
Propylene oxide (oxirane, methyl-)	75-56-9	Yes
Dimethyldichlorosaline	75-78-5	Yes
Lithium hydroxide	7580-67-8	Yes
Hydrogen fluoride {hydrofluoric acid)	7664-39-3	Yes
Ammonia	7664-41-7	Yes
Phosphorus	7723-14-0	Yes
Chlorine	7782-50-5	Yes
Acrylamide	79-06-1	Yes
Peracetic acid	79-21-0	Yes

Source: Honeywell, 202; This list is subject to change at any time for either site as new materials are purchased onsite to support daily operations. Monthly review of on-hand balances for EHSs is completed by health, safety & environment (HS&E) and appropriate action is taken as required under EPCRA.

a. Chemical Abstract Service registry number

b. The EHS list was first compiled by EPA, and subsequently incorporated into EPCRA, to identify chemicals that could cause serious irreversible health effects from accidental releases. EHSs are listed in 40 CFR Part 355.

3.10.1.3 Waste Minimization and Recycling

Waste minimization is an integral part of the KCNSC's Environmental Management system. It is an ongoing effort to systematically reduce material releases to all environmental media as well as conserve energy and water. The overall waste minimization program focuses on the reduction and eventual elimination of significant environmental impacts of waste generation. The preferred approach is source reduction or elimination of waste sources. When elimination is not feasible, options for recycling or reuse of waste materials are considered. Treatment and disposal are only considered when source reduction or recycling and reuse options are not feasible or cost effective. The waste minimization program emphasizes the procurement of environmentally preferable products containing recycle materials as process inputs.

Opportunities to minimize waste and pollutants, including chemical wastes, are identified through Preliminary Hazard Assessment (PHA) reviews of all new projects and processes. The PHA process is a multi-disciplinary review of health, safety, environmental, utility engineering, and waste management concerns. All construction projects managed by the KCNSC also require a Waste Identification Table to be completed prior to initiation of construction activities. These processes provide an opportunity to identify product substitution, pollution prevention, and waste reduction opportunities.

In 2020, approximately 1.7 million pounds, or 81 percent, of the total waste generated at KCNSC facilities was recycled, reclaimed, or used for energy recovery. Refer to Table 3-10 for detailed quantification of waste generation, recycling, and disposal. Approximately 97 percent of all wastes generated from production activities was recycled in 2020. Recycling of production-generated wastes is accomplished through metal, paper, e-scrap, batteries, water treatment, and precious metal recovery. Co-generation and fuel blending of several waste streams is also performed offsite and used as waste to energy to power homes and cement kilns. Approximately 14 percent of this waste stream was used for fuel blending in cement kilns and approximately 25 percent was used for co-generation in the production of electric power. Additional minor amounts of industrial wastes are captured by the IWPF at the KCNSC Botts campus and disposed of in accordance with applicable regulations.

Recycling and reclamation of wastes at existing KCNSC facilities has steadily increased over the previous five years. This increase results from KCNSC's waste management program's coordination with various recyclers to re-characterize and recycle waste that was previously disposed of at landfills or by incineration.

3.10.2 Environmental Impacts

3.10.2.1 Proposed Action

The volume of waste generation would increase at the existing KCNSC facilities with the update and expansion of operations. Regardless of the characteristics of the waste stream, management of non-hazardous, hazardous, and small quantities of low-level radioactive waste would continue to occur in the same manner as under current operational levels. All wastes would continue to be categorized and disposed of according to the Federal and State permits held by the NNSA and following applicable Federal, State, and local regulations. At the KCNSC Botts campus and in the future at Building 23, industrial wastes captured by the IWPF at each facility will continue to be disposed of in accordance with applicable regulations. Wastes would be minimized through continued and expanded reuse and recycling efforts.

Currently, very low volumes of low-level radioactive wastes are generated at the KCNSC Botts campus as the result of the use of x-rays. With the upgrade in operations approximately 40 pounds per year of low-level radioactive wastes are expected to be generated at the KCNSC Botts Campus and Building 23. Current operations at Building 23 do not involve the use of x-rays; therefore, no low-level radioactive

wastes are currently generated at Building 23. With the expansion of additional operations to Building 23, very low volumes of low-level radioactive wastes may be generated there in the future.

Operations at a future industrial/warehouse facility within the two-mile radius study area would also generate various waste streams and the management and disposal of those wastes would occur in the same manner they are addressed the existing KCNSC facilities. At this time, no specific site(s) has been identified.

3.10.2.2 No-Action Alternative

No changes would occur in the management of non-hazardous, hazardous, and small quantities of low-level radioactive waste. All wastes would continue to be categorize and disposed of according to the Federal and State permits held by the NNSA and following applicable Federal, State, and local regulations.

3.11 Human Health and Safety

3.11.1 Affected Environment

3.11.1.1 Public Health and Safety

The NNSA has established management systems at the KCNSC facilities to implement and monitor its environmental protection responsibilities. These systems monitor and maintain compliance with applicable Federal, State, and local regulations to ensure continued health and safety of the public. KCNSC facilities have no history of spills or releases of hazardous materials into the environment. Both locations have historically been in compliance with all applicable EPA regulations and have no recorded violations (EPA ECHO database).

3.11.1.2 Worker Health and Safety

The KCNSC conducts an Emergency Planning Hazard Assessment every three years and has also developed an annual Emergency Management Plan based on the assessment, effective August 2020 through August 2023. Potential material and chemical hazards to worker health and safety present at KCNSC facilities include cyanide salts, beryllium, mercury, chromium, acids, caustics, ammonia, and polychlorinated biphenyls (PCBs); as noted in Table 3-11 and Table 3-12. Potential physical hazards include machine operations, noise, high-voltage electrical equipment, pressurized systems, and construction activities. The existing KCNSC facilities do not contain asbestos or lead-based paint in building materials.

3.11.2 Environmental Impacts

3.11.2.1 Proposed Action

Waste generation rates at both existing KCNSC facilities would be monitored as operations are expanded for planned increases in manufacturing capacity needed to support forecasted workloads, and waste management operations would be adjusted as needed. Onsite waste management staff (employed by the KCNSC Management and Operations contractor) would continue to manage waste disposal operations. Onsite staff would also prepare shipments and contract with local permitted waste management and recycling contractors for collection and transport of waste to licensed disposal facilities. The KCNSC has an existing U.S. Department of Transportation (USDOT) Security Plan for the transport of hazardous wastes as required under 49 CFR 172.800; the proposed action would be covered under this existing KCNSC plan and the plan would be amended as needed to reflect any changed is waste generation.

Minimal site construction or minor building renovation may generate construction wastes that would be managed in accordance with guidance provided in the MDNR technical bulletin “Managing Construction

and Demolition Waste" (MDNR, 2017). Nonhazardous waste would be disposed of at a locally permitted sanitary landfill such as the Johnson County [Kansas] Landfill or, if available, a local landfill permitted solely for construction-type debris. Minimal hazardous waste is anticipated to be encountered or generated during renovation of Building 23. If encountered, any hazardous waste would be handled in compliance with applicable regulatory requirements. These measures would minimize hazards for worker safety.

Acquisition of approximately 200,000 SF of existing industrial/warehouse space located within the study area is also likely to generate the same or similar types of wastes as the existing KCNSC facilities, most likely in reduced quantities depending on the operations to be conducted there. The new location may also be classified as a LQG and would be permitted in the same manner as the existing facilities. All wastes generated from a new facility would be managed and disposed of in the same manner as wastes generated at the existing KCNSC facilities. At this time, no specific site(s) has been identified. The transport of hazardous wastes from a new location to disposal facilities would be covered under KCNSC's existing USDOT Security Plan.

3.11.2.2 No-Action Alternative

All current operations, including operation of equipment that generates wastes, would continue at the existing KCNSC facilities. Increases in operational levels and therefore increase in the production of all wastes would be managed as future workloads increase. Wastes would continue to be managed and disposed of in the same manner they are today.

3.12 Intentional Destructive Acts

Section 5.3.9 of DOE/EA-1592 discusses the considerations and evaluation of potential intentional destructive acts prior to the construction of the Botts Camus. This information and threat level designation would be applicable to Building 23 and any other location proposed for the expansion of current operations.

DOE considers intentional destructive acts (i.e., acts of sabotage or terrorism) in all of its EAs and Environmental Impact Statements. After review of the types of operations and, including potential hazards, that would be upgraded and expanded at existing KCNSC facilities and possibly expanded to a new location within the study area, the NNSA has determined that the likelihood of such acts for the proposed action would be low. It is possible that random acts of theft or vandalism could happen as at any other location. The act of relocating the functions included under the proposed action would not create a particularly attractive target or opportunity for terrorists or saboteurs to inflict adverse impacts to human life, heath, or safety.

4.0 CUMULATIVE IMPACTS

4.1 Current and Reasonably Foreseeable Future Action

The Kansas City metropolitan area is a mixed-use community with industrial activities, offices, parks and recreation, and residential areas. The activities associated with these mixed uses produce impacts across all resource areas assessed in this EA. This EA accounts for these impacts in the affected environment descriptions for the proposed action. This EA also assumes that such uses would continue into the future, producing additional but minor impacts across various resources in the region. For example, facilities would be repaired as required, jobs would be gained and lost, and community services (e.g., hospitals, education, and police) would continue to provide needed services to the area. This area of Jackson County provides some of the last undeveloped land with close access to the interstate system and would continue to develop over the next 10 years.

The area surrounding the existing KCNSC facilities is designated for continued industrial use west of I-49/US-71 and for suburban uses (e.g., residential, commercial, light industrial) to the east of I-49/US-71. The land south of MO-150 and west of Building 23 is part of the I-49 Intermodal Center that contains a number of industrial and distribution businesses. The vacant land between the main intermodal development and Building 23 would most likely be developed for industrial uses within the next 5 years. Additionally, land north of MO-150 and east of Botts Road is also on the market to support commercial/industrial development.

4.1.1 Additional Leased Spaces

Construction began on the new KCNSC Botts Campus in 2010 with the NNSA relocating operations to the new facility in 2013. To address the unanticipated expanding workload and subsequent lack of adequate space at the KCNSC Botts Campus, between 2016 and 2019, the NNSA leased additional office space at three locations in Kansas City as described in Table 4-1. In 2019, the NNSA leased 275,000 SF of production space within Building 23. Table 4-1 summarizes additional leased office space and number of personnel located with each lease.

Table 4-1: KCNSC NNSA Additional Leased Office Space; Categorical Exclusions (CE) 2016-2019[(a)]

Year	Number of Personnel Relocated	Office Space Lease Location	NEPA ID; Applicable Categorical Exclusions
2016	96	KCNSC South: 15431 Andrews Rd., Kansas City MO 64147	NSC 16-02 B1.24 Property Transfers
2017	423	KCNSC West: 6700 W. 115th St. Overland Park KS 66211	KCNSC 17-03 B1.24 Property Transfers
2019	400	KCNSC North: 9221 Ward Parkway, Kansas City, MO 64114	KCNSC 18-02 B1.24 Property Transfer

Source: NNSA, August 2019

4.2 Potential Cumulative Impacts

The upgrade and expansion of operations at existing KCNSC facilities and the acquisition of an additional 200,000 SF of existing industrial/warehouse space would result in minor cumulative impacts. Expansion of operations to meet larger volumes of production requirements will result in the hiring of additional employees, minor increases in surface traffic volumes resulting from increased employment and material deliveries, air emissions, industrial wastewater generation, power usage, and waste generation would occur to support the forecasted workload over the next 5 to 10 years. Overall, the expansion of operations across the existing and proposed KCNSC facilities would result in minimal cumulative impacts.

The NNSA is evaluating long-term solutions to address their ongoing mission which may include expansion of existing facilities or acquisition of additional properties within the study area that would accommodate industrial/distribution activities, however this solution will not provide necessary resources to meet more immediate space needs. At this time, no specific properties have been identified and the timeline has not been established. The proposed action in this EA addresses very immediate needs while allowing time for the NNSA to establish an appropriate long-term plan.

5.0 REGULATORY REQUIREMENTS

This chapter provides a discussion of regulatory requirements associated with the proposed action. The following summarizes additional regulatory requirements and permitting that would be necessary to update operations at the KCNSC Botts Campus and provide the flexibility to expand all or select operations to KCNSC Building 23, and to a future facility within a two-mile radius of the KCNSC Botts Campus.

5.1 Regulatory Agencies

Federal and State laws and local ordinances are the basis for the environmental, safety, and health requirements for KCNSC and NNSA facilities and operations. In addition to DOE, EPA, DOT, and the U.S. Department of Labor are responsible for implementing Federal environmental, safety, and health statutes. The implementation direction can be statutory or by Executive Order. The EPA has delegated permitting and enforcement for the CAA, CWA, and RCRA to the MDNR; however, the EPA retains oversight of such State programs.

State agencies operate under their own statutory authorities to establish and enforce environmental, health, and safety laws. The MDNR administers environmental regulatory programs that affect NNSA facilities and operations and is responsible for the protection and improvement of Missouri land, air, water, and recreation resources. Most State environmental regulations are in Title 10 of the *Missouri Code of State Regulations*. In addition, the City of Kansas City administers the Industrial Wastewater Pretreatment permitting program.

The CAA, CWA, and the RCRA have the greatest effect on the maintenance of related permits. Other regulations that affect the KCNSC facilities are those adopted under the *Toxic Substances Control Act of 1976* (TSCA) and the USDOT (49CFR 171-180). In addition, CERCLA and EPCRA impose requirements on hazardous materials.

5.2 Federal, State, and Local Environmental Statutes and Regulations

Table 5-1 lists major Federal statutes, regulations, and Executive Orders applicable to the proposed action. Table 5-2 lists major State and local statutes, regulations, and orders also applicable to the proposed action. The NNSA currently complies with these and other regulations applicable to operations at the KCNSC Botts Campus and would maintain compliance for those applicable to operations relocated to Building 23 or another future location.

Table 5-1: Major Federal Environmental Laws

Environmental Law and Regulation	Requirements
Clean Air Act	Enacted in 1970, the *Clean Air Act* provides air quality standards for criteria pollutants, control technology standards for hazardous air pollutants and new sources, a construction permit program, regulations on O_3-depleting substances, Section 112(r) emergency release regulations, and operating permit requirements. Missouri has an EPA-approved program administered by MDNR.
Clean Water Act	The 1972 amendments establish the National Pollutant Discharge Elimination System (NPDES) to control pollutants discharged to Waters of the United States from a point source. EPA establishes technology-based effluent limitations and requires permits for discharges. Missouri has an approved program administered by MDNR. The Act contains requirements for oil spill control and prevention. The City of Kansas City administers the Industrial Wastewater Pretreatment permitting program.
Comprehensive Environmental Response, Compensation, and Liability Act	Enacted in 1980, CERCLA establishes requirements for hazardous materials that may be subject to certain reporting requirements.
Superfund Amendments and Reauthorization Act	Enacted in 1986, this Act increased State involvement in the CERCLA program and increased program focus on human health problems posed by hazardous waste sites. The 1986 Act created the Emergency Planning and Community Right-to-Know program and requires reporting of hazardous chemical usage and release.
Toxic Substances and Control Act	Enacted in 1976, this Act establishes procedures for reporting the use and manufacture of specific new and existing chemicals. It establishes certain prohibitions and regulates the manufacture, processing, distribution, use, disposal, storage, and marking and labeling of certain hazardous materials.
Resource Conservation and Recovery Act	Enacted in 1976, RCRA regulates the generation, storage, handling, treatment, and disposal of hazardous wastes.
Community Environmental Response Facilitation Act of 1992	This Act amends CERCLA to establish a process for the identification, before termination, of Federal activities on property that does not contain contamination. It requires prompt identification of parcels that would not require remediation to facilitate the transfer of such property for economic redevelopment.
Federal Facilities Compliance Act (Public Law 102-386)	This Act waives sovereign immunity for Federal facilities under RCRA, including the KCNSC, and requires development of plans and agreements with States for the management of specific waste streams.
Pollution Prevention Act of 1990	This Act establishes the Federal Government's preference for source reduction followed by recycling rather than treatment or disposal of waste or pollutants.
National Environmental Policy Act of 1969	Enacted in 1970, NEPA establishes a national policy that requires consideration of environmental impacts in Federal decision making. A Federal agency considering an action that could impact the human environment must prepare an EA. If such assessment determines that impacts could be significant, the agency must prepare a more detailed analysis in the form of an environmental impact statement.
Occupational Safety and Health Act of 1970	DOE, through 10 CFR Part 851, exercises its jurisdiction over worker safety and health programs at KCNSC by substantially adopting *Occupational Safety and Health Act of 1970* establishes standards to enhance safe, healthy working conditions in places of employment throughout the United States. While DOE and EPA each have a mandate to reduce exposure to toxic substances, the Administration's jurisdiction is limited to safety and health conditions in the workplace environment. In general, under the Act, each employer must furnish all employees a place of employment that is free of recognized hazards that are likely to cause death or serious physical harm. Employees have a duty to comply with the occupational safety and health standards and all related rules, regulations, and orders.

Environmental Law and Regulation	Requirements
Federal Pipeline Safety Regulations (various)	Created in 2004, the Pipeline and Hazardous Materials Safety Administration (PHMSA), an agency of USDOT, carries out a national safety program, including security matters, to protect against the risks to life and property inherent in the transportation of hazardous materials in commerce by all transportation modes.

Table 5-2: Major State and Local Environmental Laws, Regulations, and other Potentially Applicable Requirements Environmental Law and Regulation

Environmental Law and Regulation	Requirements
Missouri Revised Statutes, Chapter 653, Air Conservation – Title 10 Code of State Regulations (CSR) Division 10, Chapters 1–6	Establishes the State program implementing the *Clean Air Act*. Requires permits to construct, modify, or operate an air contaminant source, and adopts the primary National Emission Standards for Hazardous Air Pollutants for State enforcement.
Missouri Revised Statutes, Chapters 640 and 644, Clean Water Law – Title 10 CSR Division 20, Chapters 1–15	Establishes the State Program implementing the *Clean Water Act*. Requires permits for discharges to State waters, establishes water quality standards, and regulates storage tanks.
Missouri Revised Statutes, Chapter 260 Environmental Control, Chapter 260.353-430 Missouri Hazardous Waste Management Law, Chapter 260.200-260.345 Missouri Solid Waste Management Law – Title 10 CSR Division 25, Chapters 1–19; 10 CSR Division 24 Chapters 1–5 and 10 CSR Division 10 CSR Division 100 Chapters 1–5	Establishes the Missouri program that incorporates the requirements of CERCLA, RCRA, *Federal Facilities Compliance Act,* and *Toxic Substances and Control Act*. Regulates aspects of storage tanks. Requires permits for hazardous waste storage and disposal facilities and remediation of contaminated sites.
Missouri Revised Statutes, Sections 260.1000 to 260.1039 (*Missouri Uniform Environmental Covenants Act*)	Creates a standard for the development and application of environmental covenants that increases their reliability when used as part of the cleanup of contaminated sites.
Code of Ordinances of Kansas City, Missouri; Chapter 88	Contains regulations for land development and use.
Code of Ordinances of Kansas City, Missouri; Section 60-130 to 60-147	Outlines requirements for industrial/sanitary wastewater permit.

5.3 Consultations

Minimal amounts of land disturbance and minor increases in emissions and waste generation would occur as operations are expanded at the existing and proposed KCNSC facilities. As workload and staffing levels demand, modifications to existing buildings, expansion of parking areas, and introduction of an IWPF (at Building 23) would occur. Similar investments could also be made at the additional 200,000 SF existing industrial/warehouse facility location if the NNSA chooses to move forward with that acquisition. The NNSA will continue to consult, as appropriate, with Federal, State, and local agencies to support those changes as they occur.

6.0 REFERENCES

Finding of No Significant Impact (FONSI) and Supplemental Environmental Assessment (SEA) for the *Relocation and Performance of KCNSC Operations in Building 23* (DOE/EA-1592-S1); issued August 28, 2019.

Environmental Assessment (EA) for the *Modernization of Facilities and Infrastructure for the Non-Nuclear Production Activities Conducted at the Kansas City Plant* (U.S. Department of Energy [DOE]/EA-1592); issued April 21, 2008.

Environmental Protection Agency (EPA) (2021a). Current Nonattainment Counties for all Criteria Pollutants. Retrieved 2 February 2021 from https://www3.epa.gov/airquality/greenbook/ancl.html

EPA. (2017a). Basic Information about Air Quality SIPs. Retrieved 2 February 2021 from https://www.epa.gov/sips/basic-information-air-quality-sips#what-is-a-sip

EPA (2013). *Recommendation for Acceptance of the Second Five-Year Review, Operable Unit 2 (groundwater) Former Richards-Gebaur Air Force Base, Kansas City, Missouri.* June 7, 2013.

https://www.epa.gov/eco-research/ecoregion-download-files-state-region-7#pane-23
Federal Emergency Management Agency (FEMA); National Flood Insurance Program (NFIP). https://www.fema.gov/flood-maps/national-flood-hazard-layer; https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed January 2021.

Final Environmental Assessment (Final EA) for the *Transfer of the Kansas City Plant, Kansas City, Missouri* (U.S. Department of Energy [DOE]/EA-1947); issued May 2013.

Finding of No Significant Impact (FONSI) for the *Modernization of Facilities and Infrastructure for the Non-Nuclear Production Activities Conducted at the Kansas City Plant* (U.S. Department of Energy [DOE]/EA-1592); issued April 29, 2008.

Grandview 2030 Comprehensive Plan, July 1, 2020 (Grandview). https://www.grandview.org/work/city-government/community-development/development-zoning/grandview-2030; accessed January 2021.

Kansas City Martin City Area Plan, March 5, 2020 (KCMO). https://www.kcmo.gov/city-hall/departments/city-planning-development/area-plans-list/find-your-area-plan; accessed January 2021.

Kansas City National Security Campus (KCNSC). 2020. Nuclear Security Mission. Retrieved 3 March 2021 from https://kcnsc.doe.gov/Missions.

Missouri Department of Natural Resources (MDNR). 2017. Managing Construction and Demolition Waste. Retrieved 21 August 2017 from https://dnr.mo.gov/pubs/pub2045.htm.

https://www.conservationgateway.org/ConservationPlanning/SettingPriorities/EcoregionalReports/Documents/final_plan.pdf

United State Air Force (USAF) Real Property Agency, 2004. *Record of Decision (Operable Units 1 and 2), Former Richards-Gebaur Air Force Base, Missouri*. July 2004.

United States Geological Survey (USGS). Belton Quadrangle, Headwaters Little Blue River watershed (HUC-12 103001010201) https://water.usgs.gov/GIS/huc.html. Accessed January 2021.