

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES



**MISSOURI HAZARDOUS WASTE MANAGEMENT FACILITY  
PART I PERMIT**

**PERMIT NUMBER: MO9890010524**

**\*This redline version of the Department-initiated permit modification approved July 14, 2017, shows what conditions were modified. Deletions are shown as red strikeouts and additions are in blue and underlined.**

**These changes will only become effective if, and only if, the property is transferred to the private developer. Until that time, the Part I Permit, as modified Aug. 24, 2012, will remain in effect.**

**PERMITTEE**

~~Owner: U.S. Department of Energy~~ ~~Operator: Honeywell FM&T, LLC~~  
~~P.O. Box 410202~~ ~~2000 East Bannister Road~~  
~~Kansas City, MO 64141-0202~~ ~~Kansas City, MO 64131-3095~~

Owner and Operator: Bannister Transformation & Development LLC  
1301 Burlington St., Suite 200  
North Kansas City, MO 64116

Owner and Operator: U.S. General Services Administration ~~Operator: U.S. General Services Administration~~  
~~1500 E. Bannister Road~~ 1500 E. Bannister Road  
~~Kansas City, MO 64131-3088~~ Kansas City, MO 64131-3088

**FACILITY LOCATION**

1500-2000 East Bannister Road  
2306-2312 East Bannister Road  
Kansas City, MO 64131  
T28N, R33W Jackson County  
North Latitude – 38°57'30"  
West Longitude – 94°34'12"

## **FACILITY DESCRIPTION**

The ~~former~~ U.S. Department of Energy (DOE), Kansas City Plant (KCP) and the General Services Administration (GSA) ~~property~~ comprise ~~a 300~~[the 307](#)-acre ~~permitted~~ Bannister Federal Complex (BFC), located ~~13.10~~ miles south of downtown Kansas City, Missouri. The BFC is bordered on the east by the Blue River and Blue River Road, on the south by Bannister Road and Indian Creek, on the west by Troost Avenue, and on the north by a wooded bluff and Legacy Park. The ~~former~~ KCP occupies ~~136.119~~ acres of the complex and the GSA ~~occupies~~[portion currently consists of 188.164](#) acres. [This contingent permit modification contemplates transfer of portions of the permitted property west of the UPRR railroad tracks to a new owner, Bannister Transformation & Development LLC \(BT&D LLC\). The Union Pacific Railroad \(UPRR\) railroad tracks bisect the property in a north-south direction approximately one third of the way across the property to the west of the eastern property boundary. After this property transfer, the GSA-retained portion to the east of the UPRR railroad tracks will consist of approximately 82 acres with the remaining 225 acres to the west of the UPRR railroad tracks owned by BT&D LLC. The United States Marine Corps, National Oceanic and Atmospheric Administration, and the U. S. Department of Agriculture are is a current tenants of on the portion of the permitted property to be retained by GSA. Former tenants include the Federal Aviation Administration and the Internal Revenue Service.](#) Some of the complex is in the 100-year floodplain; however, a completed flood protection project provides protection against a 500-year flood event.

The BFC ~~property~~ is zoned [M3-5 by the City of Kansas City](#) for manufacturing. Adjoining property is zoned for residential use and some commercial tracts. There are ~~also~~ public use recreation areas along the east and north sides of the complex. [An environmental covenant will further restrict future property uses beyond the uses currently allowed by the City of Kansas City's zoning for that portion of the BFC proposed to be transferred to BT&D LLC when, and if, the transfer occurs.](#) The BFC contains over 5 million square feet in the main manufacturing building plus additional buildings. [With the exception of the Marine Corps building on the eastern portion of the BFC property to be retained by GSA, and the building associated with the groundwater treatment system on the former KCP portion of the permitted property, these buildings are scheduled for systematic demolition when, and if, that portion of the BFC proposed to be transferred to BT&D LLC occurs.](#)

The ~~former~~ KCP portion of the facility ~~previously~~ ~~currently~~ manufactures electrical, mechanical, plastic, and other non-nuclear components of nuclear weapons. The facility stored ~~s~~ on-site acids, alkalines, solvents, acid and alkaline contaminated solid waste, solid debris waste, waste oil, wastewater treatment sludges, and toxic metals. These wastes ~~were~~ ~~are~~ stored on-site under generator storage requirements until their disposal at off-site Resource Conservation and Recovery Act ~~-~~permitted facilities or ~~were~~ ~~are~~ treated at the KCP's Industrial Wastewater

Pretreatment Facility (IWPF). The facility ~~historically had~~ ~~currently has~~ six areas of [hazardous waste](#) generator container storage ~~of hazardous waste~~, and three contingent areas.

Some industrial radioactive sources ~~were present~~ ~~are used~~ on-site. The KCP incorporated ~~s~~ small amounts of radioactive materials in products, and used ~~s~~ conventional, sealed sources ~~that are used~~ for instrument calibration, radiography, and laboratory equipment. These processes ~~have~~ intermittently generated mixed waste that ~~was~~ ~~has been~~ managed and shipped off-site ~~for disposal~~. There ~~was~~ ~~is~~ one area for container storage of mixed waste. In addition to the above, from February 1951 until December 1952 there was a small area of the main manufacturing building where natural uranium rods were received from offsite, were machined onsite into slugs and billets, and then shipped offsite for evaluation and use. This short-term slug machining project was used to demonstrate the site's ability to improve slug-finish quality. From 1958 until 1971 machining of parts coated with a film of depleted uranium oxide was also conducted in another area of the building. Both areas were decontaminated and have since been used for non-radiological production operations.

The ~~former~~ [KCP portion of the facility](#) has three former regulated units that are under post-closure care. These include two former lagoons that ~~were~~ ~~have been~~ closed by removing contaminated sediment, backfilling with uncontaminated soil, and covering with a clay cap, topsoil, and vegetation. The third unit was an underground tank farm that consisted of 28 tanks and associated underground piping that stored fuels, coolants, and solvents. Closure of the tank farm removed all tanks, associated piping, concrete support, and fill to a depth of about 15 feet below ground surface. The excavation was backfilled with uncontaminated soil and then covered with a clay cap, topsoil, and vegetation. Groundwater contamination resulting from the operation of these units is subject to remediation under ~~the post-closure care portion of~~ this Permit. Groundwater use restrictions are also in place to guard against unacceptable risks from exposure to contaminated groundwater. All former interim status regulated hazardous waste management units on the KCP portion of the BFC were closed, and certification of closure received/accepted by the Department.

On June 23, 1989, the DOE and U.S. Environmental Protection Agency (EPA) entered into a Corrective Action Administrative Order on Consent, U.S. EPA Docket Number VII-89-H-0026 pursuant to the authority of Section 3008(h) of the Resource Conservation and Recovery Act (RCRA) for the former DOE KCP. The Consent Order initially listed 35 solid waste management units (SWMUs), including the three units described in the previous paragraph, which were defined as possible release sites. Since the signing of the Consent Order, ~~eight~~ ten (10) additional ~~sites~~ SWMUs and two (2) Areas of Concern (AOCs) have been identified. Many of these SWMUs ~~were historically~~ ~~have been~~ grouped together for investigation and remediation purposes due to their geographic proximity and contamination type.

~~All interim status regulated hazardous waste management units on the DOE portion of the BFC have been closed, and certification of closure received/accepted by the Missouri Department of Natural Resources.~~

The GSA portion of the BFC contains office space, warehouse space, and a closed, Former Landfill. The BFC property was previously owned by three federal agencies from 1942 to 1963. These owners included the Defense Plant Corporation (1942-1945), the Reconstruction Finance Corporation (1945-1947) and the U.S. Department of the Navy (1947-1963). The Former Landfill was operated from 1942 to 1964 by government contractors to dispose of manufacturing waste. This included solvents, metals, and petroleum compounds. The U.S Army Corps of Engineers (USACE) is currently conducting investigation and remedial work under the Formerly Used Defense Sites (FUDS) program on the Former Landfill which was previously identified as SWMU 44. The July 1993 Memorandum of Agreement (MOA) between the DOE, GSA, and U.S. Department of Defense (DOD), acting through the USACE, sets forth the understandings and commitments of the parties to the MOA with respect to the responsibilities specified therein for investigatory work at the BFC being performed by the USACE under the FUDS program.

Additional investigations ~~and remedial work~~ are also being conducted on other GSA portions of the BFC. Two AOCs have been identified on that portion of the BFC that is currently owned by GSA and that is scheduled to be retained if the other portions of the BFC are transferred in the future to BT&D LLC. These AOCs include an area just to the west of the Marine Corps building where residual subsurface petroleum contamination was identified during rerouting of electrical utilities and an area to the east of the Marine Corps building where chlorinated solvents are present in the groundwater and a relationship to releases, if any, from the Former Landfill has not been established. This modified Permit is intended to promote integration of these activities with the requirements contained herein.

If, in the future, this Permit is further modified to transfer ownership of portions of the BFC from NNSA/DOE to BT&D LLC, those portions of the permitted property to the west of the UPRR railroad tracks will be owned by BT&D LLC and those portions to the east of these railroad tracks will remain under the ownership of GSA. The division of environmental responsibility for each portion of the permitted property is therefore specified herein should this future transfer occur.

### **PERMITTED ACTIVITY**

This Permit requires post-closure care ~~for of~~ three ~~RCRA~~closed hazardous waste management units: the North Lagoon, South Lagoon, and Underground Tank Farm. It also addresses the continuing implementation of ~~RCRA~~ corrective action requirements, including facility~~site~~-wide

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groundwater monitoring and remediation to address releases from other SWMUs and Areas of Concern. Additional work required by this modified Permit ~~to summarize current complex wide environmental conditions and evaluate further opportunities to reduce contaminated media~~ is presented in the Schedule of Compliance.

EFFECTIVE DATES OF PERMIT: October 6, 1999 to October 6, 2009

July 14, 2017  
Modified Date

[Original signed by Edward B. Galbraith]  
~~David J. Lamb, Director~~  
~~HAZARDOUS WASTE PROGRAM~~  
Edward B. Galbraith, Director  
Division of Environmental Quality

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## INTRODUCTION

After public notice, according to 10 CSR 25-8.124 and 40 CFR Part 124, and review of the Department of Energy (DOE), Kansas City Plant's (KCP) Resource Conservation and Recovery Act (RCRA) Part B Application, (hereafter referred to as the Application), the Missouri Department of Natural Resources (hereafter referred to as the Department) [previously has](#) determined that the application substantially conformed~~s~~ with the provisions of the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act), Section 260.350, et seq., RSMo. Following Section 260.375.13, RSMo, the Department [previously hereby](#) approved~~s~~ the application and issued~~s~~ Permit Number MO9890010524 to DOE, as the facility owner, and to Honeywell FM&T, as the operator, (~~hereafter~~ [previously](#) referred to jointly as the Permittee) for the operation of the hazardous waste management facility and post-closure care as set forth in the Application. ~~Upon completion of the Class 3 Permit Modification dated September 1, 2011, GSA is also a Permittee as an owner/operator of the facility. This Permit also addresses corrective action requirements for Solid Waste Management Units (SWMUs) and the requirements of the Hazardous and Solid Waste Amendments (HSWA) of 1984 as administered and enforced by the Department. Applicable regulations are found in 40 CFR Parts 124, 260 through 264, 268, and 270, as specified in this Permit. Part I of this Permit is issued under state authority and Part II is issued under federal authority. Part I shall remain in effect even if Part II is terminated or has expired.~~

The Permit application that was submitted by the Permittee and received by the Department on July 8, 1992, along with subsequent submittals, replacements, and revisions dated October 31, 1995, January 12, 1996, and December 6, 1996, ~~was the original~~ [will hereafter be referred to as the](#) "approved Permit application." The approved Permit application, along with all of the additional documents [that were previously submitted](#) ~~to be submitted~~ under Schedule of Compliance Item II., ~~was~~[are](#) defined as the "consolidated Permit application."

[A subsequent facility-initiated Class 3 Permit Modification that became effective August 24, 2012, expanded the property covered by this Permit and named GSA as an additional owner/operator \(Permittee\) at the facility.](#) The Class 3 permit modification ~~to~~ expanded the "facility" to include the contiguous GSA portion of the BFC, [required re-evaluation of property-wide risks to human health and the environment](#) ~~e-existing remedies~~, [determinations regarding the existence and filling of e-if data gaps](#) ~~exist through further investigation~~, [performance of a PCB Fate and Transport Study](#), [summarization of the environmental conditions at the expanded BFC](#), and [updated the current groundwater pumping system configuration](#) ~~was submitted by DOE, GSA, and Honeywell FM&T and was received by the Department on September 2, 2011.~~ [These activities required as part of this approved Class 3 permit modification have been completed and so are proposed for deletion from this Permit as part of this Department-initiated modification.](#)

Post-closure care and corrective action activities at operation of this hazardous waste management facility ~~and HSWA corrective action~~ shall continue ~~be~~ in accordance with the provisions of this modified Permit, the Missouri Hazardous Waste Management Law (Sections 260.350 through 260.434, RSMo), the rules and regulations promulgated thereunder [Code of State Regulations, Title 10, Division 25 (10 CSR 25)] as effective on the modified date of this Permit, the approved Permit application which is incorporated into the conditions of this Permit, and any other conditions, changes, or additions to the engineering plans, specifications and operating procedures as specified in this Permit. Applicable federal (RCRA) regulations that are incorporated by reference in 10 CSR 25 are found in 40 CFR 260 through 264, 268, and 270, as specified in this Permit. The conditions specified in this Permit supersede any conflicting information in the approved Permit application. Where conflicts arise between Permit applications, the latest revision shall control. Part I of this Permit and subsequent permit modifications were issued under state authority and Part II and subsequent permit modifications were issued under federal authority. Part I shall remain in effect even if Part II is terminated or has expired.

Any inaccuracies found in information submitted may be grounds for the termination, revocation and reissuance, or modification of this Permit in accordance with 40 CFR Part 270 Subpart D, incorporated by reference in 10 CSR 25-7.270(1) ~~and modified in 10 CSR 25-7.270(2)(D)~~, and for potential enforcement action. The Permittee shall inform the Department of any deviation from, or changes in, the information in the application that would affect the Permittee's ability to comply with the applicable regulations or Permit conditions.

When the Department receives any information (such as inspection results, information from the Permittee, or requests from the Permittee), it may decide whether cause exists to modify, revoke and reissue, or terminate ~~the a~~ facility's Permit. All such changes to the Permit will be made in accordance with ~~10 CSR 25-7.270(2)(D)~~, 10 CSR 25-8, and 40 CFR Part 270 Subpart D, incorporated by reference in 10 CSR 25-7.270(1).

The Permittees ~~are~~ is required to comply with all applicable environmental laws and regulations enforced by the Missouri Department of Natural Resources. These environmental laws and regulations are administered by the Air Pollution Control Program, the Hazardous Waste Program, the Land Reclamation Program, the Solid Waste Management Program, and the Water Protection Program. The local Air Quality Section, Kansas City Health Department, also administers air compliance measures. Noncompliance with these environmental laws and regulations may, in certain circumstances, result in the suspension or revocation of this Permit and may subject the Permit holder to civil and criminal liability.

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This Permit for post-closure and corrective action activities is issued only to the Permittees named above. This Permit ~~was originally is~~ issued for a period of ten years and expires at midnight on October 6, 2009 ; ~~however, this Permit has been administratively “continued” due to the then current Permittees (NNSA/DOE/Honeywell) submitting an application for permit renewal on April 7, 2009.~~ This Permit is subject to review and modification by the Department in accordance with Section 260.395.12, RSMo.

The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby.

All citations to federal regulations throughout this Permit are for the sake of convenient reference. The federal regulations are adopted by reference in 10 CSR Part 25. In the instances where state regulations are more stringent, the appropriate state reference is given and shall apply.

Any appeals of this Permit, ~~or modification thereof~~ based on state authority, shall be filed in accordance with 10 CSR 25-~~2.020 and Sections 260.395.11 and 621.250, RSMo~~[8.124\(2\)](#). ~~If you are~~[Any parties](#) adversely affected ~~or aggrieved~~ by ~~this decision~~[a final decision of the Department](#), ~~you~~ may be entitled to pursue an appeal before the Administrative Hearing Commission (AHC). To appeal, ~~you~~[the party](#) shall file a petition with the AHC within 30 [calendar](#) days after the date this Permit was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, then it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. [Contact information for the AHC can be found online at http://ahc.mo.gov, or by calling \(573\) 751-2422.](#) ~~Contact information for the AHC is as follows: Administrative Hearing Commission, Truman State Office Building, Room 640, 301 West High Street, P.O. Box 1557, Jefferson City, MO 65102, telephone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.~~ The Department further requests that a copy of any appeal request be provided to the Director of the Department’s Hazardous Waste Program, P.O. Box 176, Jefferson City, MO 65102-0176.

40 CFR 264.101(a), as incorporated by reference in 10 CSR 25-7.264(1), requires all owners or operators of facilities seeking a permit for the treatment, storage, or disposal of hazardous waste to institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or hazardous constituents from any SWMU, regardless of the time at which waste was placed in such unit.

40 CFR 264.101(b), as incorporated by reference in 10 CSR 25-7.264(1), requires that Permits issued under the Hazardous Waste Management Law contain a schedule of compliance for corrective action (where corrective action cannot be completed prior to Permit issuance) and assurances of financial responsibility for completing such corrective action.

40 CFR 264.101(c), as incorporated by reference in 10 CSR 25-7.264(1), requires that corrective action be taken by the facility owner or operator beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates that, despite the owner/operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such action. Further, 40 CFR 264.101(c), as incorporated by reference in 10 CSR 25-7.264(1), stipulates that the owner/operator is not relieved of any responsibility to cleanup a release that has migrated beyond the facility boundary where off-site access is denied. On-site property measures to address such releases will be determined on a case-by-case basis. [Off-property measures to address historical releases to Indian Creek, Boone Creek, and the Blue River will remain the future responsibility of NNSA/DOE pursuant to an Administrative Order on Consent for a Portion of the Bannister Federal Complex between the State Of Missouri/Department of Natural Resources, BT&D LLC and NNSA/DOE.](#) In addition, assurances of financial responsibility for completing such corrective action must be provided.

40 CFR 270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1), and Section 260.395.12, RSMo, requires that each Permit issued under that section contain terms and conditions as the Department determines necessary to protect human health and the environment.

On July 6, 1999, Missouri received final authorization for revisions to its hazardous waste management program, including the corrective action portion of the HSWA Codification Rule (July 15, 1985, 50 FR 28702) which had been previously adopted by the state. Thus, the corrective action requirements implemented by the state in lieu of the U.S. Environmental Protection Agency are incorporated into Part I of this Permit and are under state authority. Authority for other Hazardous and Solid Waste Amendments of 1984 requirements for which the state is not authorized is retained by EPA under Part II of the Permit.

## DEFINITIONS

For purposes of this Permit, terms used herein shall have the same meaning as those in the Resource Conservation and Recovery Act (RCRA) and 40 CFR Parts 124, 260, 261, 264, 268, and 270, and Section 260.360, RSMo, unless this Permit specifically provides otherwise. Where terms are not defined in RCRA, the regulations, ~~this~~ Permit, or the U.S. Environmental Protection Agency guidance or publications, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

“Area of Concern (AOC)” means any area where an actual or potential release of hazardous waste or hazardous constituents which is not from a solid waste management unit and is determined by the Department to pose a current or potential threat to human health or the environment. Investigation and/or remediation of AOCs may be required pursuant to Section 260.395, RSMo, and 40 CFR 270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1).

“Bannister Federal Complex (BFC)” means the entire contiguous property comprising the Bannister Federal Complex that is [subject to the jurisdiction of this Permit and that is currently co-owned by NNSA/DOE and GSA and that will, pending successful completion of a future permit modification to facilitate the transfer of a portion of the BFC property, be separately owned in the future by BT&D LLC and GSA](#) ~~currently under federal ownership, thus becoming the “facility” for purposes of corrective action under this Permit. This permit modification expands the jurisdiction of this Permit to include that portion of the BFC owned and operated by GSA along with the previously permitted DOE portion of the BFC~~ (See Figure 3).

“Director” means the Director of the Missouri Department of Natural Resources.

“Facility” means (1) all contiguous land and structures, other appurtenances, and improvements on the land used for treating, storing, or disposing hazardous waste (2) all contiguous property under the control of the owners/operators, for the purpose of implementing corrective action under 40 CFR 264.101, as incorporated by reference in 10 CSR 25-7.264(1) and as specified in Special Permit Conditions I. through XXII. of this Permit.

[“GSA Retained Property” means that portion of the BFC situated to the east of the UPRR Railroad Tracks, which bisect the property in a north-south direction approximately one-third of the way across the permitted property to the west of the eastern property boundary.](#)

“Hazardous constituent” means any chemical compound listed in 40 CFR Part 261 Appendix VIII as incorporated in 10 CSR 25-4.261.

“Hazardous waste” means any waste, or combination of wastes as defined by or listed in 10 CSR 25-4, which because of its quantity, concentration, physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or which may pose a threat to the health of humans or other living organisms.

“Off-property” means beyond the boundaries of the permitted BFC property as shown on Figure 3.

“Property to be transferred to BT&D LLC” means that portion of the permitted BFC comprised of 225 acres and situated to the west of the UPRR Railroad Tracks, which bisect the property in a north-south direction approximately one-third of the way across the permitted property to the west of the eastern property boundary. The approximate 2 acre “Tower Site” property that is located to the north-northwest of the contiguous permitted BFC property and that is proposed to be transferred to BT&D LLC is not subject to the requirements of this Permit.

“Release” means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes (including hazardous constituents) into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents).

“Solid Waste Management Unit (SWMU)” means any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

“Stabilization” means actions to control or abate threats to human health and/or the environment from releases at RCRA facilities and/or to prevent or minimize the further spread of contamination while long-term remedies are pursued.

## SCHEDULE OF COMPLIANCE

- I. Upon successful completion of this contingent permit modification and wWithin 60 days (unless otherwise specified below) after the effective date of ~~this Permit modification~~ actual transfer of a portion of the BFC to BT&D LLC via a subsequent Class 1 permit modification with prior Director’s approval, BT&D LLC and GSA ~~the Permittee~~ shall, as Permittees, separately submit for their respective portions of the permitted BFC property:
- ~~A. Provide a progress report on obtaining an agreement with Missouri Department of Transportation (MoDOT) and City of Kansas City, respectively, to place access and deed restrictions for contaminated soil on Bannister Road and 95th Terrace right of way, to control future excavation and construction in this area to prevent exposure to contaminated soil. Updates shall be included in the Semi-annual Progress Reports under Special Permit Condition XIX.~~
- ~~B.~~ A ~~Submit a~~ certification signed by the Permittee that the Permittee ~~has~~ read this modified Permit in its entirety and understands all Permit conditions contained herein.
- ~~C.~~ A ~~Submit a~~ check or money order to the Department’s Hazardous Waste Program payable to the State of Missouri for any outstanding engineering review and corrective action oversight costs applicable to the respective portions of the permitted property.
- ~~D. Submit any Long-Term Operation, Maintenance and Monitoring (LTOM&M) Plan changes resulting from this Permit modification.~~
- ~~E.~~ U ~~Submit an u~~ Updated Spill Control Plan/Emergency Plans, as needed, for the ~~(or Appendix) to in~~ respective portions of ~~lude applicable provisions for the GSA portion of the permitted property BFC owned by BT&D LLC and GSA.~~
- II. ~~Within 150 days after the effective date of the Permit modification, the Permittee shall submit a Description of Current Conditions Report (DCCR) that includes a qualitative risk screening evaluation and that summarizes current BFC-wide environmental conditions. The DCCR shall include historical environmental information associated with investigations conducted at the BFC by DOE, GSA, and the USACE.~~

~~The DCCR shall include a discussion of historical beryllium and depleted uranium presence/use at the facility with a discussion of current and potential future impacts related to the actual and/or potential release of these materials to the environment.~~

~~The DCCR shall review and summarize previous indoor air investigations, analysis, and sampling at the BFC and make recommendations concerning the need for further evaluation of indoor air risks related to contaminated media (e.g., soil/groundwater) in light of current uses and potential future uses of the property.~~

~~The USACE is the federal agency responsible for environmental investigations associated with the Former Landfill currently being addressed under the Formerly Used Defense Sites (FUDS) program. The USACE will remain responsible for defining the extent and rate of migration of any contamination associated with or released from the Former Landfill. The Permittee shall request information, data, and documents produced by the USACE as a result of its investigation and remediation activities to facilitate preparation of the DCCR and other documents/evaluations required by this Permit. If the Department determines that additional corrective action activities are needed beyond those performed by the FUDS program at the Former Landfill, the Permittee shall be responsible for the additional work pursuant to this Permit.~~

~~The DCCR shall provide a BFC-wide (including the Former Landfill) historical review of operations and include a summary of results of sampling of environmental media used to characterize and define the extent of releases of hazardous waste and/or hazardous waste constituents to the environment. The historical review of operations should include a full and detailed review of all Naval (DOD) operations and identify any areas that require additional investigation. To the extent possible, the Permittee shall locate/summarize historical DOD “as-built” drawings and records and incorporate those elements into the DCCR. If not already identified in Special Permit Condition IV, Identification of Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs), of this Permit, any new areas at the BFC identified as a source or potential source of a release of hazardous waste and/or hazardous constituents shall be subject to the corrective action requirements of this Permit and shall be identified in the DCCR as SWMUs or AOCs, as applicable. Any new SWMUs and AOCs shall be assigned a successive numerical designation that is consistent with those designations outlined in Corrective Action Condition IV.~~

~~The risk screening evaluation in the DCCR shall be based on the “current day” risk screening guidance sources enumerated below including any updates to these guidances that may occur prior to submission of the DCCR. This risk screening evaluation shall address all environmental media, biota and contaminants of concern, and potential~~

~~current and future human and ecological exposures across the range of possible BFC future re-use scenarios. These scenarios shall include re-use of the BFC for industrial, commercial, residential, and recreational purposes including uses where all current buildings are removed. This risk screening evaluation shall also include potential human and ecological exposures in portions of Boone Creek, Indian Creek and the Blue River that border the BFC.~~

~~The risk screening evaluation shall be performed using, but not limited to, the following guidance, as appropriate:~~

~~Soil and Groundwater:~~

~~The most current version of EPA's Consolidated Regional Screening Levels for soil and groundwater which can be found on the EPA Region 3 website at [www.epa.gov/reg3hwmd/risk/human/rb-concentration\\_table/Generic\\_Tables/index.htm](http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm).~~

~~Surface Water in Boone/Indian Creeks and the Blue River:~~

~~The most current version of Missouri Water Quality Standards for surface water which can be found on the Missouri Secretary of State's website at [www.sos.mo.gov/adrules/esr/current/10esr/10e20-7A-G.pdf](http://www.sos.mo.gov/adrules/esr/current/10esr/10e20-7A-G.pdf).~~

~~Sediment in Boone/Indian Creeks and the Blue River:~~

~~The most current version of Prediction of Sediment Toxicity using Consensus-Based Freshwater Sediment Quality Guidelines, June 2000, EPA 905/R-00/007 which can be found on the U.S. Geological Survey's website at [www.cerc.usgs.gov/pubs/center/pdfdocs/91126.pdf](http://www.cerc.usgs.gov/pubs/center/pdfdocs/91126.pdf).~~

~~The most current version of the National Oceanic and Atmospheric Administration's Screening Quick Reference Tables (SQuiRTs) which can be found on their website at <http://response.restoration.noaa.gov/sites/default/files/SQuiRTs.pdf>.~~

~~Fish Tissue:~~

~~The most current version of EPA's Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories—Volume 2, Risk Assessment and~~

~~Fish Consumption Limits Third Edition, November 2000, EPA 823-B-00-008, which can be found on their website at [http://water.epa.gov/scitech/swguidance/fishshellfish/techguidance/risk/upload/2009\\_04\\_23\\_fish\\_advice\\_volume2\\_v2cover.pdf](http://water.epa.gov/scitech/swguidance/fishshellfish/techguidance/risk/upload/2009_04_23_fish_advice_volume2_v2cover.pdf).~~

#### ~~Vapor Intrusion:~~

~~The most current version of Interstate Technology and Regulatory Council (ITRC) Vapor Intrusion Pathway: A Practical Guide, January 2007, which can be found on their website at [www.itreweb.org/guidancedocument.asp?tid=49](http://www.itreweb.org/guidancedocument.asp?tid=49).~~

~~The most current version of OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance), November 2002, EPA530-D-02-004; which can be found on EPA's website at [www.epa.gov/osw/hazard/correctiveaction/eis/vapor.htm](http://www.epa.gov/osw/hazard/correctiveaction/eis/vapor.htm).~~

#### ~~Ecological Risk (soil-related):~~

~~Guidance for Developing Ecological Soil Screening Levels, OSWER Directive 9285.7-55, November 2003, revised February 2005, which can be found on EPA's website at [www.epa.gov/ecotox/ecossl/pdf/ecossl\\_guidance\\_chapters.pdf](http://www.epa.gov/ecotox/ecossl/pdf/ecossl_guidance_chapters.pdf).~~

~~The DCCR shall evaluate opportunities for additional contaminant source area reduction/mitigation in light of the pending departure of the DOE and potential departure of GSA from the BFC. This evaluation shall place special emphasis on areas where additional contaminant source removal has the potential to reduce the scope and duration of groundwater pump and treat operations in light of potential changes in future use of the BFC.~~

~~The DCCR will be reviewed in accordance with the procedures set forth in Special Permit Condition XXI., Review and Approval Procedures. The summary information and risk screening/source reduction evaluations in the DCCR shall form the basis for conclusions in the DCCR regarding the presence of "data gaps" with respect to the extent of environmental releases/impacts and knowledge of potential human and environmental exposures. If the DCCR identifies and/or the Department determines that data gaps exist, the Department may require additional investigation(s) to address the data gaps and shall so advise the Permittee in writing as to the next step(s) in the corrective action process which may include submission of an RFI Work Plan.~~

~~III. Any required RFI Work Plan(s) shall be prepared and submitted for Department approval in accordance with the provisions contained in Special Permit Condition VIII. of this Permit. Upon completion of activities outlined in the Department approved RFI work plan, an RFI Report shall be prepared and submitted in accordance with the schedule contained in the RFI Work Plan and the provisions contained in Special Permit Condition IX of this Permit. The RFI Report shall summarize the findings of the investigations conducted to fill the data gaps identified in the DCCR and, if necessary, propose additional work that is needed to address any remaining data gaps.~~

~~Any required RFI Report will be reviewed in accordance with the procedures set forth in Special Permit Condition XXI., Review and Approval Procedures. If the Department determines, based on review of the RFI Report, that data gaps remain, the Department may require additional investigation. Upon Department approval of the RFI Report, the Department will direct the Permittee to prepare a BFC wide risk assessment utilizing the most current version of EPA's Risk Assessment Guidance for Superfund (RAGS) to ensure consistency with the National Contingency Plan (NCP).~~

~~IV. Areas identified in the DCCR and/or RFI Reports as potentially requiring further corrective action based on the screening evaluation shall be further evaluated via assessment of human health and ecological risks utilizing the most current version of EPA's RAGS. The Risk Assessment (RA) shall include an analysis of the potential adverse health and environmental effects (current or future) caused by hazardous waste and hazardous substance releases to the environment at or from the BFC in the absence of any actions to control or mitigate these releases (i.e., under an assumption that existing engineering and institutional controls do not exist). The RA shall also include an analysis of the potential adverse health and environmental effects (current or future) caused by hazardous waste and hazardous substance releases to the environment in light of currently existing engineering and institutional controls. The results of the RA shall be used to verify the efficacy of existing remedies and previous remedy decisions, determine whether additional corrective action is necessary in light of future potential property reuse(s), develop new or modify existing clean up goals and support decisions regarding the need for, and implementation of, any new or modified remedies.~~

~~Any required RA will be reviewed in accordance with the procedures set forth in Special Permit Condition XXI., Review and Approval Procedures. Upon Department approval of the RA, the Department will advise the Permittee as to the next step in the corrective action process which may include submission of a Corrective Measures Study (CMS) Work Plan and/or CMS Report pursuant to Special Permit Conditions X. and XI. and/or an Interim Measures Workplan.~~

~~V. If the RA findings indicate that additional corrective measures are needed to address unacceptable risks to human health and/or the environment, the Permittee shall evaluate and provide the basis of support via the CMS process for any new or modified remedies that are proposed to address these risks. Any required CMS Report will be reviewed in accordance with the procedures set forth in Special Permit Condition XXI., Review and~~

~~Approval Procedures. Following approval of the CMS Report, the Department will follow Special Permit Condition XII. in the approval of any new or modified remedies at the BFC.~~

~~A.D. If the Permittee has not already done so prior to modification of this Permit, the Permittee shall submit Aa revised Community Involvement Plan (CIP) within 90 days after the effective date of actual transfer of a portion of the BFC to BT&D LLC to the Department and EPA within 60 days of the effective date of this permit modification. The CIP shall describe the holistic efforts at expected future activities on the respective portions of the BFC and efforts to involve-keep the public and interested stakeholders informed regarding the building demolition, remediation and monitoring, property reconfiguration and reuse activities ~~in the activities and corrective action/decision-making processes embodied in this Permit. The plan shall also include a description of the various established ongoing community groups formed to foster community involvement in cleanup and future property reuse at the BFC.~~ Planned and contingent community outreach activities and contact information for the various activities shall also be described in the CIP. The CIP will be reviewed in accordance with the procedures set forth in Special Permit Condition XXI., Review and Approval Procedures.~~

~~VI. Upon the effective date of this permit modification, the Permittee shall implement modifications to the current groundwater monitoring program as follows:~~

~~A. Modify the groundwater pumping system to incorporate the recommendations contained in the document entitled “Evaluation of Optimized Groundwater Extraction Systems at the United States Department of Energy Kansas City Plant,” submitted to the Department and EPA in a letter dated August 5, 2010. Current groundwater pumping wells no longer being used shall not be abandoned (except for wells 277 and 278 due to iron fouling problems) for at least five years after they are taken out of service. The facility shall conduct a periodic re-evaluation of the groundwater pumping system on a 5-year cycle (the first evaluation should be five years after implementation of the optimized design).~~

~~EPA guidance, “A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems (EPA/600/R-08/003)” should be followed. Prior to this re-evaluation, any incremental migration of contaminated groundwater and any instances of increased contaminant levels at compliance point wells shall be noted and discussed in the Annual Groundwater Corrective Action Report required by Special Permit Condition II.F. of this Permit.~~

~~VII.E. Within 60 days of the effective date of this Permit modification, the Permittee shall submit a~~ revised Groundwater Sampling and Analysis Plan (SAP) ~~to the Department and EPA that conforms to~~ within 90 days of the date of the property transfer to BT&D LLC that addresses the groundwater-related requirements modifications in this Permit as applied across the respective portions of the BFC, including the following elements. This revised SAP may propose coordination, as appropriate, with other sitewide sampling events required by this Permit.

~~The nine existing monitoring wells located on the GSA portion of the BFC shall be included in the list of monitoring wells subject to the requirements of this Permit. The revised groundwater SAP shall also include an acknowledgement that any new wells installed on the GSA portion of the BFC, including those installed by the USACE in the investigation of the Former Landfill, will become subject to the requirements of this Permit.~~

~~Revise the point of compliance wells for the Blue River Groundwater Flow System to replace pumping wells 277 and 278 with groundwater wells 261, 83, and 68. Wells 277 and 278 may be abandoned.~~

~~Modify the list of perimeter and effectiveness wells that are monitored for the purposes specified in this Permit to reflect current remediation efforts and operational strategies.~~

~~Reduce the frequency of submission of the Groundwater Corrective Action Reports required by this Permit from semi-annual (two reports/yr) to annual (one report/yr) in accordance with the current requirement of 40 CFR 264.100(g), as incorporated by reference in 10 CSR 25-7.264(1).~~

~~Specify that all sampling and analysis data and measurements for wells located on the contiguous BFC property, including information from the USACE’s wells at the Former Landfill, will be included in the BFC wide groundwater flow and quality evaluation contained in the Annual Groundwater Corrective Action Report required by this Permit.~~

~~VIII. A Polychlorinated Biphenyl (PCB) Fate and Transport Study Work Plan shall be submitted to the Department and EPA within 90 days of the effective date of this permit modification. This study shall evaluate all environmental media and the transport mechanisms that may be contributing to the presence of PCBs in surface water, sediment, and biota in receiving streams near the facility. This study shall also identify/evaluate additional corrective actions that may have the potential to further address human health concerns via reduction of PCB concentrations in environmental media and biota.~~

~~The PCB Fate and Transport Study Work Plan will be reviewed in accordance with the procedures set forth in Special Permit Condition XXI., Review and Approval Procedures. This study shall be conducted in accordance with the schedule contained in the approved work plan. The work plan schedule shall include submission of a PCB Fate and Transport Study Report. The PCB Fate and Transport Study Report shall also be reviewed in accordance with the procedures set forth in Special Permit Condition XXI., Review and Approval Procedures.~~

~~IX.~~ II. As applicable, each The Permittee shall independently comply with the schedule for planned groundwater monitoring, surface water body monitoring, and corrective action activities as specified in this Permit and as summarized in Table IV attached hereto.

~~X.~~ III. Each The Permittee shall independently comply, as necessary, with the schedule(s) for contingent corrective action activities as specified in the Special Permit Conditions Section of this Permit and as summarized in Table V attached hereto.

## **CONTINGENT PERMIT MODIFICATION & DIVISION OF ENVIRONMENTAL RESPONSIBILITIES**

The proposed modifications to this Permit are “contingent” in nature and are being offered as Department-initiated modifications pursuant to the applicable criteria in 10 CSR 25-7.270(1), incorporating 40 CFR 270.41. These modifications will become effective if, **AND ONLY IF**, the approval process for these contingent modifications is successfully completed following public review and comment, the Department satisfactorily responds to public comments and issues its final decision, **AND** a subsequent Class 1 Permit modification with prior Director approval is successfully completed following the procedures contained in 10 CSR 25-7.270(1), incorporating 40 CFR 270.40, to transfer portions of the BFC and related environmental responsibilities from NNSA/DOE as owner and Honeywell FM&T as operator to BT&D LLC as owner and operator. If the property is successfully transferred, the effective date of the proposed modifications contained herein (assuming there is no unresolved appeal of these contingent Department-initiated modifications) will be the date of the Class 1 Permit modification for the property transfer. Prior to the permit transfer and in the event that the transfer does not occur, all proposed modifications contained herein will be null and void and the current Permittees (NNSA/DOE, Honeywell FM&T, and GSA) will continue to comply with the requirements of the existing unmodified permit until it is reissued or further modified.

If, and when, the Class 1 Permit modification for the property transfer is approved, ongoing permit compliance and the associated environmental responsibilities will reside with the then current owners/operators (i.e., BT&D LLC and GSA) and any successors, assigns, etc. BT&D LLC and GSA will be individually responsible for any investigation, remediation, reporting, operation, maintenance, monitoring, and/or other activities related to any known and/or newly-identified releases to the environment originating on or from their respective portions of the permitted BFC. The Permittees shall allow access to one another to conduct the activities required by this Permit and shall proactively coordinate with one another when conducting such activities so as not to unduly disrupt one another’s operations and to maximize the efficiency of each party in the conduct of the activities required by this Permit.

The DOD, acting through the USACE, is the federal agency responsible for environmental investigation and remediation of the Former Landfill (SWMU 44) located on the GSA portion of the permitted BFC property that is currently being addressed under the Formerly Used Defense Sites (FUDS) program. The USACE will remain responsible for defining the extent and rate of migration of any contamination associated with or released from the Former Landfill. As necessary and appropriate, GSA shall request information, data, and documents produced by the USACE as a result of its investigation and remediation activities to facilitate preparation of documents/evaluations required by this Permit related to GSA’s designated environmental responsibilities. If the Department determines that additional corrective action activities are

~~U.S. Department of Energy, Kansas City Plant~~Bannister Transformation & Development LLC  
and U.S. General Services Administration  
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needed on the GSA-retained portion of the BFC beyond those activities performed under the FUDS program at the Former Landfill, and that are related to releases to the environment located on or originating from the GSA-retained property, the Department will so notify GSA in writing pursuant to the contingent corrective action provisions of this Permit. GSA shall then be responsible for any additional work pursuant to this Permit related to those releases.

## STANDARD PERMIT CONDITIONS

- I. As applicable, each ~~The~~ Permittee shall comply with the requirements set forth in the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act), Section 260.350, 40 CFR Part 264 Subpart F, 40 CFR 270.30, 40 CFR 270.40, 40 CFR 270.42, and 40 CFR 270.51, as incorporated and modified in 10 CSR 25-7 and 10 CSR 25-8.

## GENERAL PERMIT CONDITIONS

### I. General Requirements

As applicable, each ~~The~~ Permittee shall comply with the requirements set forth in 40 CFR Part 264 Subpart B-General Facility Standards, 40 CFR Part 264 Subpart C-Preparedness and Prevention, 40 CFR Part 264 Subpart D-Contingency Plan and Emergency Procedures, and 40 CFR Part 270, as incorporated in 10 CSR 25-7 and 10 CSR 25-8.

### II. Preparedness and Prevention [40 CFR Part 264 Subpart C]

~~Each~~ ~~The~~ Permittee shall comply with the most recent update of ~~the Appendix B~~, Spill Control Plan/Emergency Plan for their respective portions of the permitted facility to fulfill the requirements of 40 CFR Part 264 Subpart C. Should state or local authorities decline to enter into such arrangements, each ~~the~~ Permittee shall document the refusal in their operating record.

### III. Contingency Plan and Emergency Procedures [40 CFR Part 264 Subpart D]

~~Each~~ ~~The~~ Permittee's Contingency Plan and emergency procedures for their respective portions of the permitted property shall comply with the most recent update of ~~the Appendix B~~, Spill Control Plan/Emergency Plan and all conditions of this Permit.

- A. Copies of the Contingency Plan [40 CFR 264.53]. A copy of the approved Contingency Plan and all revisions of this plan shall be kept with the local site ~~facility~~ representative and/or at the facility, and the Contingency Plan and all revisions must be submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams or organizations that may be called to provide emergency services.

IV. Notification of an Emergency Situation (Chapter 260.505.4, RSMo)

| As applicable, BT&D LLC and GSA shall independently, ~~The Permittee shall~~ at the earliest practical moment upon discovery of an emergency involving the hazardous waste under the Permittee's control, notify the Department's emergency response hotline at (573) 634-2436 and the National Response Center at 1-800-424-8802.

V. Reporting Requirements [40 CFR 270.30 (l)(9)]

| As applicable, BT&D LLC and GSA shall independently submit a biennial report ~~shall be submitted~~ covering facility activities by March 1 during even numbered calendar years, as required by 40 CFR 264.75.

## SPECIAL PERMIT CONDITIONS

### I. Post-Closure [40 CFR Part 264 Subpart G]

The Permittee [on whose property the closed regulated units reside \(i.e., BT&D LLC\)](#) shall comply with all applicable requirements of 40 CFR Part 264 Subpart G, as incorporated by reference in 10 CSR 25-7.264(1), and all provisions of this Permit.

#### A. Post-Closure Care [40 CFR 264.117]

Post-closure care of the hazardous waste management units begin after completion of closure and continues for 30 years after that date unless otherwise specified by the Department. This facility, therefore, has a post-closure care period, which shall, [at a minimum](#), last until September 22, 2019. Post-closure care shall be extended, ~~at a minimum~~, until such time as the groundwater protection standard maximum concentration limits or alternate concentration limits, as applicable, are met for a period of three consecutive years under the groundwater monitoring and corrective action program described in the Special Permit Conditions section of this Permit. Care during this period must consist of maintenance, monitoring, and reporting in accordance with 40 CFR Part 264 Subparts F and N, as incorporated ~~by reference~~ in 10 CSR 25-7.264(1).

The Permittee may submit a request to the Department to shorten the post-closure care period. Adequate justification for shortening the post-closure care period must accompany any such request. If the Department finds that a shorter post-closure care period is sufficient to protect human health and the environment, shortening of the post-closure care period shall be handled in accordance with the applicable Permit modification procedures under [10 CSR 25-8.124](#) ~~40 CFR Parts 124~~ and [40 CFR Part 270](#).

B. Post-closure use of the property shall be restricted by the Permittee to prevent disturbance of the integrity of the final cover on the closed surface impoundments and to prevent damage to the monitoring systems. The Department may approve a use of the property that disturbs the integrity of the final cover if it is necessary for the proposed use of the property and will not increase the potential hazard to human health or the environment, or if it is necessary to reduce a threat to human health or the environment.

C. Post-Closure Plan and Amendments [40 CFR 264.118]

Post-closure care shall be in accordance with the plan contained in Section I of the approved Permit application and all conditions of this Permit. The Post-closure Care Plan may be amended at any time during the post-closure care period. The Permittee must submit a written request to the Department for a Permit modification to authorize a change in the approved Post-closure Care Plan. Amendments are subject to the applicable Permit modification requirements of 40 CFR Part 270 Subpart D, ~~10 CSR 25-7.270(2)(D)~~, and 10 CSR 25-8. Written requests for amendments must be submitted at least 60 days prior to the proposed change in facility site operations, or not later than 60 days after an unexpected event which has affected the plan. The Department may request modifications to the plan if changes in facility site operations affect the approved plan. The Permittee must submit the modified plan no later than 60 days after a Departmental request for modification of the plan. Any modifications requested by the Department will be approved, disapproved, or modified in accordance with the procedures in 40 CFR Parts ~~124 and~~ 270 and 10 CSR 25-8. 124.

D. Future Removal of Hazardous Wastes [40 CFR 264.119(c)]

If the Permittee wishes to remove hazardous wastes, hazardous waste residues, contaminated soils or contaminated sludges ~~at from beneath~~ the ~~closed former~~ regulated units, the Permittee must request a modification to this Permit in accordance with the applicable requirements in 40 CFR Parts ~~124 and~~ 270 and 10 CSR 25-8.124. The request for a modification must include a demonstration that the action will not increase the potential hazard to human health or the environment, or the action is necessary to reduce the threat to human health or the environment. In addition, a demonstration must be made indicating that the action will satisfy the criteria of 40 CFR 264.117(c). By removing contaminants, the Permittee may become a generator of hazardous waste and must manage any removed material in accordance with all applicable requirements.

E. Certification of Completion of Post-Closure Care [40 CFR 264.120]

No later than 60 days after completion of the post-closure care period, the Permittee shall submit to the Department, by registered mail, a certificate that the post-closure care period was completed in accordance with the approved Post-closure Care Plan. For this Permit, the post-closure care certification is due by November 21, 2019, or at such time as the groundwater protection standard

maximum concentration limits or alternate concentration limits, as applicable, are met for a period of three consecutive years, whichever is later, unless otherwise amended. The certification must be signed by the Permittee and an ~~independent~~ professional engineer registered in the state of Missouri, and documentation supporting the certification must be furnished to the Department prior to the Permittee's release from the financial assurance requirements for post-closure care under 40 CFR 264.145(i).

II. Groundwater Monitoring and Corrective Action Program - ~~Closed Former~~ Lagoons/~~and~~ Underground Tank Farm ~~and~~ SWMUs/AOCs [40 CFR 264.90 - 264.101~~0~~]

A. Groundwater Protection Standard, Hazardous Constituents, and Concentration Limits [40 CFR 264.92, 264.93, and 264.94]

The Groundwater Protection Standard (GPS) establishes the maximum concentration limits for hazardous constituents in the groundwater at and beyond the point of compliance and permitted facility property boundaries during the compliance period. The hazardous constituents, maximum concentration limits, and ~~required maximum~~ analytical detection limits specified in Tables I and IA of this Permit constitute the GPS for the Permittee's closed lagoons, underground tank farm, ~~solid waste management units (SWMUs), and areas of concern~~ AOC. The hazardous constituents listed in Tables I and IA have been detected in the groundwater beneath and beyond the subject units and are reasonably expected to be in or derived from wastes managed at the facility.

1. The maximum concentration limits for the GPS hazardous constituents listed on Table I and Table IA for the Blue River groundwater flow system (BRGFS) and the Indian Creek groundwater flow system (ICGFS) respectively, are based on protection of human health and the environment and were derived from several different sources as explained by the footnotes to Table I and Table IA.
2. The GPS maximum concentration limit for some hazardous constituents is below the lowest, reasonably achievable analytical detection limit (due to limitations in current analytical technology) for particular hazardous constituents. In these cases, the GPS maximum concentration limit has been set at the corresponding GPS required analytical ~~maximum~~ detection limit.

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3. The allowable GPS ~~required analytical maximum~~ detection limit shall never be greater than the GPS maximum concentration limit. If the GPS ~~required analytical maximum~~ detection limit for specific GPS parameters cannot be achieved due to matrix interferences or other reasonable analytical limitations (provided that appropriate supporting documentation is provided), the affected sample and associated chemical analyses will be exempted from this requirement. Such an exemption does not, however, in any way relieve the Permittee from complying with the GPS maximum concentration limits.
  
  4. The Department reserves the right, based on future advances in analytical technology, to modify this Permit to require the Permittee to achieve analytical detection limits for the hazardous constituents covered by Special Permit Condition II.A.2. which allows for an adequate comparison with appropriate health- or environmental protection-based concentration limit(s).

**Table I – Groundwater Protection Standard  
 for the Blue River Groundwater Flow System**

<b>Hazardous Constituent - Monitoring Parameter</b>	<b>Maximum Concentration Limit (<math>\mu\text{g/l}</math>)</b>	<b>Required Analytical Maximum Detection Limit (<math>\mu\text{g/l}</math>)*</b>
Acetone	<del>5500</del> <u>1400</u> (c)	10.0
Benzene	5 (a), (b)	2.0
2-butanone (MEK)	<del>7000</del> <u>560</u> (c)	5.0
Carbon disulfide	<del>1000</del> <u>81</u> (c)	5.0
Chlorobenzene	100 (a), (b)	0.7
Chloroethene ( <u>vinyl chloride</u> )	2 (a), (b)	1.8
Chloroform	5.7 (b)	0.5
1,2-dichlorobenzene	600 (a)	1.0
1,1-dichloroethane	<del>810</del> <u>28.0</u> (c)	0.7
1,2-dichloroethane	5 (a), (b)	0.5
1,1-dichloroethene	7 (a), (b)	1.3
1,2-dichloroethene	70 (a)	0.5
<u>1,4-dioxane</u>	<u>4.6</u> (c)	<u>3.0</u>
4-Methyl-2-pentanone (MIBK)	<del>2000</del> <u>630</u> (c)	5.0
Tetrachloroethene	0.8 (b)	0.5
Toluene	1000 (a), (b)	2.0
1,1,1-trichloroethane	200 (a), (b)	0.5
1,1,2-trichloroethane	5 (a), (b)	0.5
<u>TPH (Aliphatic Low) GRO</u>	<u>130</u> (c)	<u>100</u>
Trichloroethene	5 (a), (b)	1.2

\* The lower of practical quantitation limits (PQLs) contained in the latest version of the EPA publication entitled: Test Methods for Evaluating Solid Waste – Physical/Chemical Methods (SW-846) or method specific detection limits routinely achieved by Permittee’s laboratory.

- (a) Denotes limits derived from state (10 CSR 60 Chapter 4, dated ~~February 29, 2016~~October 31, 2003) and federal public drinking water regulations.
- (b) Denotes limits derived from Missouri Water Quality Standards (10 CSR 20-7.031, dated ~~January 29, 2014~~November 30, 2005) for protection of groundwater.
- (c) Denotes limits derived from EPA Regional Screening Level (RSL) Tables for tap water (May 2016, TR=1x10<sup>-6</sup> adjusted to TR=1x10<sup>-5</sup> and HI=0.1)~~Preliminary Remediation Goals (PRGs) for tap water as contained on the EPA Region IX PRG Table dated October 2004.~~

**Table IA – Groundwater Protection Standard  
 for the Indian Creek Groundwater Flow System**

<b>Hazardous Constituent - Monitoring Parameter</b>	<b>Maximum Concentration Limit (<math>\mu\text{g/l}</math>)</b>	<b>Required Analytical Maximum-Detection Limit (<math>\mu\text{g/l}</math>)*</b>
Benzene	5 (a), (b)	2.0
Chlorobenzene	100 (a), (b)	0.7
Chloroethene ( <u>vinyl chloride</u> )	2 (a), (b)	1.8
1,2-dichlorobenzene	600 (a)	1.0
1,1-dichloroethane	<del>810</del> <u>28.0</u> (c)	0.7
1,2-dichloroethane	5 (a), (b)	0.5
1,1-dichloroethene	7 (a), (b)	1.3
1,2-dichloroethene (total)	70 (a)	0.5
<u>1,4-dioxane</u>	<u>4.6</u> (c)	<u>3.0</u>
Ethylbenzene	700 (a), (b)	2.0
4-Methyl-2-pentanone (MIBK)	<del>2000</del> <u>630</u> (c)	5.0
Polychlorinated biphenyls	0.5 (a), (d), (e)	0.5
1,1,1-trichloroethane	200 (a), (b)	0.5
1,1,2-trichloro-1,2,2-trifluoroethane	<del>59,000</del> <u>5500</u> (c)	5.0
Tetrachloroethene	0.8 (b)	0.5
Toluene	1000 (a), (b)	2.0
<u>TPH (Aliphatic Low) GRO</u>	<u>130</u> (c)	<u>100</u>
Trichloroethene	5 (a), (b)	1.2
Trichlorofluoromethane (Freon 11)	<del>1300</del> <u>520</u> (c)	0.8
Xylenes (total)	10,000 (a), (b)	7.0

\* The lower of practical quantitation limits (PQLs) contained in the latest version of the EPA publication entitled: Test Methods for Evaluating Solid Waste – Physical/Chemical Methods (SW-846) or method specific detection limits routinely achieved by Permittee’s laboratory.

- (a) Denotes limits derived from state (10 CSR 60 Chapter 4, dated February 29, 2016~~October 31, 2003~~) and federal public drinking water regulations.
- (b) Denotes limits derived from Missouri Water Quality Standards (10 CSR 20-7.031, dated January 29, 2014~~November 30, 2005~~) for protection of groundwater.
- (c) Denotes limits derived from EPA Regional Screening Level (RSL) Tables for tap water (May 2016, TR=1x10<sup>-6</sup> adjusted to TR=1x10<sup>-5</sup> and HI=0.1)~~Preliminary Remediation Goals (PRGs) for tap water as contained on the EPA Region IX PRG Table dated October 2004.~~
- (d) The Department reserves the right, based on future advances in analytical technology, to modify this Permit to require the Permittee to achieve analytical detection limits for the hazardous constituents covered by

Special Permit Condition II.A. which allows for adequate comparison with appropriate health- or environmental protection-based concentration limit(s).

- (e) Health and/or environmental-based levels are lower than the ability of current analytical technology to routinely attain detection limits at or below such levels. These constituents and their health- and/or environmental-based criteria are listed below.

<u>Constituent</u>	<u>MCL (<math>\mu\text{g/L}</math>)</u>	<u>Source</u>
Polychlorinated biphenyls	0.000045	(b)

5. The Permittee may make a demonstration to the Department, at any time during the term of this Permit, for establishment of Alternate Concentration Limits (ACLs) in lieu of the groundwater protection standards maximum concentration limits contained herein. Any such demonstration shall ensure that any and all ACLs proposed in lieu of the GPS maximum concentration limits are protective of human health and the environment in accordance with the requirements of 40 CFR 264.94(b). In proposing an ACL(s), the Permittee shall consider and formally address the factors listed in 40 CFR 264.94(b)(1) and (2). Any ACLs approved by the Department shall require a Permit modification in accordance with 40 CFR 270.42.
6. The Permittee shall propose modifications of the GPS to include any additional hazardous constituent(s) (40 CFR Part 261, Appendix VIII) in the groundwater which is/are identified during future sampling and analysis, if such constituents may be attributed to past operation of the regulated unit(s) and/or the degradation of hazardous constituents known to be present in the groundwater. The Appendix IX (40 CFR Part 264) groundwater sampling and analysis requirements contained in Special Permit Condition II.E.6. shall be used as the basis for determining if the addition of hazardous constituents to the GPS is necessary. Note that pesticides/herbicides and dioxins and furans are deleted from Appendix IX sampling required in Special Permit Condition II.E.6.

Any addition of hazardous constituents to the GPS as a result of the above determination shall require a Class 1 Permit modification with prior Director's approval. Any other changes to the GPS list of hazardous constituents shall require a permit modification in accordance with 40 CFR 270.42.

B. Point of Compliance [40 CFR 264.95]

The point of compliance is the location at and beyond which the GPS must be achieved. Due to the presence of two separate groundwater flow systems at the facility, the complex nature of the [subsurface at the facility site](#), various sources of contamination, and effects created by footing drains, leaking water lines, and numerous recovery wells, the groundwater does not flow across one single downgradient boundary for the entire [facility site](#). The point of compliance is defined as a vertical surface that extends perpendicularly downward at the limit of the waste management area that extends into the uppermost aquifer underlying the regulated units. This definition is based upon the nature of the contaminants managed at the former regulated units and the existing data from the current sampling and monitoring at the [facility site](#) which shows contaminants in groundwater in a direction(s) other than that dictated by the direction(s) of local groundwater flow. In the case of multiple regulated units and SWMUs, an imaginary line circumscribing the regulated units may be used, or a line of wells on the leading edge of the contaminated groundwater plume.

Monitoring wells 68, 83, 261, [510, 513, KC95-03, KC95-04, KC06-01, and KC06-02](#) monitor groundwater passing the point of compliance for the BRGFS. Wells monitoring the groundwater passing the point of compliance for the ICGFS include well numbers 73U, 73L 195U, 195L, 196U, 196L, 197U, 197L, 198U, 198L 202U and 202L. Groundwater contamination at and beyond the point of compliance that exceeds the GPS maximum concentration limits shall be subject to corrective action pursuant to 40 CFR 264.100 [and 40 CFR 264.101](#). See Figure 2.

C. Compliance Period [40 CFR 264.96]

The compliance period for the closed underground tank farm, which is in the ICGFS, shall be equal to the active life of the former waste management area, which is 44 years. The compliance period for the closed impoundment area, which is in the BRGFS, shall be equal to the active life of the [closed former](#) North Lagoon, which is 23 years.

The compliance period for each [area](#) ~~shall~~ [begin](#) on the effective date of this Permit ([October 6, 1999](#)). If the GPS maximum concentration limits are being exceeded at the end of the compliance period at or beyond the point of compliance, the Permittee's groundwater corrective action program shall continue

until the Permittee demonstrates that these limits have not been exceeded at and beyond the point of compliance for a period of three consecutive years.

D. General Groundwater Monitoring Requirements [40 CFR 264.97]

The Permittees shall comply with that portion of 40 CFR 264.97 applicable to monitoring programs conducted in accordance with 40 CFR 264.100, 40 CFR 264.101 and the following additional requirements.

1. The Permittees' groundwater monitoring systems shall be designed, installed, operated, and maintained during the compliance period in a manner which ensures:
  - a. Detection and/or delineation of the horizontal and vertical extent of groundwater contamination at and beyond the point of compliance (including beyond the facility property boundary);
  - b. Determination of representative concentrations of hazardous constituents and/or contaminant plume indicator parameters in the groundwater; and
  - c. The Permittees' ability to determine the effectiveness of any groundwater corrective action activities in terms of contaminant removal, destruction, and/or containment.
2. The number, location, and depth of the Permittee's monitoring wells shall be sufficient to define the horizontal and vertical extent of groundwater contamination beneath the Permittee's property and beyond the facility property boundary. If, at any time during the compliance period, the Permittee or the Department determines that the existing monitoring system fails to define the horizontal and vertical extent of groundwater contamination, the Permittee shall submit, within 30 days of such determination by the Permittee or written notification by the Department, a proposal for the installation of additional monitoring wells to define such extent.

The addition of new monitoring wells to specifically monitor releases from the closed former lagoons and underground tank farm (regulated units) shall require a Class 2 permit modification in accordance with

40 CFR 270.42. Any other new monitoring wells installed for corrective action purposes pursuant to 40 CFR 264.101, as incorporated ~~by reference~~ in 10 CSR 25-7.264(1), shall be proposed by the Permittee in applicable corrective action work plans or other documents for review and approval by the Department. All new wells shall, following approval, be included in a revised Groundwater Sampling and Analysis Plan to be submitted for the Department's review and approval. Procedures cited in the most recent, approved Groundwater Sampling and Analysis Plan (SAP) shall be followed in the sampling and analysis of samples from any new wells required under this Permit. An updated SAP shall be submitted to the Department for review and approval that incorporates the groundwater monitoring program modifications contained herein. ~~The previous SAP was revised in September 2008, with revised pages to respond to comments, submitted in February 2009.~~

At such time as the Department determines that the Permittee has adequately redefined the horizontal and/or vertical extent of groundwater contamination, the wells defining such extent shall be incorporated into and designated for continued monitoring in the Permittee's SAP. The Department will notify the Permittee in writing when it makes the determination. Within 30 days of this notification, the Permittee shall submit appropriate SAP revisions to the Department [for review and approval](#)'s ~~Hazardous Waste Program~~.

3. Any new groundwater monitoring well(s) installed by the Permittees to meet the requirements of this Permit shall be designed and constructed in accordance with the requirements of 40 CFR 264.97, 10 CSR 23 Chapter 4, Monitoring Well Construction Code of the Missouri Well Construction Rules and/or well-specific plans and specifications approved by the Department.
  - a. The Permittee shall submit to the Department's Hazardous Waste Program, a copy of the well certification report form and the resulting certification acceptance required by 10 CSR 23-4.020 for any new monitoring wells installed pursuant to this Permit. This information shall be reported as part of the Annual Groundwater Corrective Action Report required by Special Permit Condition II.F.

- b. Any change in the number of wells monitoring releases from the closed regulated units shall require a Class 2 Permit modification in accordance with 40 CFR 270.42. The Permittee may elect to submit an annual modification to incorporate changes in the number of monitoring wells in lieu of a modification for each individual change.
  4. Plugging and abandonment of any groundwater monitoring well(s) operated by the Permittees pursuant to the requirements of this Permit shall meet the requirements of 10 CSR 23-4.080.
    - a. The Permittee shall submit to the Department’s Hazardous Waste Program, a copy of the well registration report form and resulting registration acceptance required by 10 CSR 23-4.080 for any monitoring wells plugged pursuant to this Permit. This information shall be reported as part of the Annual Groundwater Corrective Action Report required by Special Permit Condition II.F.
    - b. At such time as the Permittee’s well registration has been accepted by the Department’s ~~Division of Geology and Land~~[Missouri Geological Survey \(MDGLS\)](#), the plugged wells shall be removed from the Permittee’s Groundwater SAP. Within 30 days of ~~MGSDGLS~~’ registration acceptance, the Permittee shall submit appropriate SAP revisions to the Department’s Hazardous Waste Program.
    - c. Any change in the number of wells monitoring releases from the closed regulated units shall require a Class 2 Permit modification in accordance with 40 CFR 270.42. The Permittee may elect to submit an annual modification to incorporate changes in the number of monitoring wells in lieu of a modification for each individual change.
  5. The Permittees shall contact the Department at least five working days prior to conducting any field work associated with the construction or modification of the groundwater monitoring system required by this Permit. The Department will then have the option of observing any portion of the system’s construction or modification. This notification

requirement applies to major work such as new wells, retrofitting of existing wells, or abandonment of wells. It does not apply to minor repairs, maintenance, or modification.

6. All SAP procedures and techniques used in groundwater sampling, analysis, and measurement of groundwater-related parameters shall be designed to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated ~~by reference~~ in 10 CSR 25-7.264(1), [the most current version of the Department-approved SAP](#) and this Permit. The Permittee's sampling, analysis, and measurement protocols shall ensure the representative nature of all analysis and measurement results.
7. A monitoring well inspection and maintenance program shall be implemented for the duration of the compliance period. This program shall be designed to ensure the structural integrity of all monitoring well installations during the compliance period. The Permittee's revised SAP shall address the details of this program in accordance with the following requirements.
  - a. Surface well integrity inspections shall be performed at the time of each sampling event and shall be documented on an inspection log sheet. Surface integrity evaluations for each monitoring well shall include a visual inspection of the outer protective casing, inner casing riser, surface well seal, well cap, and locking mechanism to document any damage or deterioration. The ground surface in the immediate vicinity of each monitoring well and the annular space between the outer protective casing and casing riser shall be inspected for visible anomalies (e.g., collection or ponding of water, ground subsidence, etc.).
  - b. Subsurface well integrity inspections shall be performed annually in 20 percent of all wells in accordance with the provisions contained in the Permittee's SAP and shall be documented on a well inspection log sheet, with all wells being evaluated once every five years. Subsurface well integrity inspections may consist of a combination of elements, including total well depth measurements, groundwater turbidity measurements, in-situ hydraulic conductivity tests, casing caliper logs, down-hole television

camera surveys, and/or other methods capable of verifying the subsurface integrity of the well casing and screen.

- c. The Permittee's SAP shall specify performance of an annual wellbore siltation evaluation to assess downwell siltation and well screen occlusion in 20 percent of all monitoring wells, with all wells being evaluated once every five years. This requirement shall be designed to ensure the representative nature of the Permittee's groundwater sample analysis and field measurement results through minimization of sampling and measurement interferences (e.g., turbidity, excessive well screen occlusion, etc.). The Permittee's SAP shall specify a well redevelopment trigger criterion based on a percentage of well screen occlusion and the potential of such occlusion to compromise the representative nature of the Permittee's groundwater sample analysis and field measurement results. Wells demonstrating well screen occlusion equal to or in excess of the selected criterion shall be redeveloped prior to the next sampling event.
- d. Monitoring well repairs shall be undertaken within ~~seven~~ 60 days of identification of any surface or subsurface well integrity problem. If adverse weather or ~~facility~~site conditions preclude the Permittee from gaining access to and/or repairing ~~damaged flood-impacted~~ monitoring wells within the above-noted periods, then the Permittee shall take appropriate action as soon as practicable. Written justification for any delay, completed well inspection log sheets, a narrative description of any well repairs, and before and after photographic documentation (in the case of visible surface well repairs) shall be provided to the Department as part of the Annual Groundwater Corrective Action Report required by Special Permit Condition II.F.

E. Corrective Action Program [40 CFR 264.100 [and 40 CFR 264.101](#)]

The ~~above-referenced~~ closed regulated units [and SWMUs/AOCs](#) are subject to the corrective action program requirements of 40 CFR 264.100 [and 40 CFR 264.101](#), as incorporated ~~by reference~~ in 10 CSR 25-7.264(1), and this Permit until such time as these requirements have been satisfied.

1. The Permittee's corrective action program ~~for the regulated units~~ shall consist of groundwater and surface water body monitoring in accordance with Special Permit Conditions I, II., and III. Further ~~site~~ investigation, evaluation, and/or implementation of remedial alternatives to address facility~~site~~-wide groundwater contamination shall be performed in accordance with Special Permit Conditions VII. through XII. if needed to address a newly-identified release. The corrective action program shall address any groundwater contamination that has migrated beyond the boundaries of the permitted facility~~off site~~. Substantial integration of the corrective action monitoring program for the closed regulated units and SWMUs/AOCs ~~with the sitewide program~~ is required due to:
  - a. The need for up to date subsurface ~~further site~~ characterization to adequately support decisions regarding evaluation and/or implementation of groundwater remedial alternatives;
  - b. The inability to differentiate groundwater contamination related to releases from the closed lagoons and underground tank farm versus that potentially related to nearby SWMUs/AOCs which are subject to corrective action in accordance with 40 CFR 264.101; and
  - c. The desirability of implementing a holistic, facility~~site~~-wide approach to groundwater investigation, monitoring, and remediation given the foregoing circumstances.
2. The Permittee shall perform groundwater sampling/analysis and field measurement of groundwater-related parameters according to the schedule presented in Table II.
  - a. Sampling and analysis in accordance with this schedule shall begin during the next regularly scheduled sampling event following approval of the most recent revised SAP referenced in Special Permit Condition II.D.6. Given the potential lag time between receipt and approval of a revised SAP, the Permittee shall continue sampling and analysis in accordance with the previously-approved SAP until such time as the revised SAP is approved.
  - b. Wells monitored to ensure adequate delineation of the horizontal and vertical extent of groundwater contamination (hereafter

referred to as perimeter wells) shall be sampled and the samples analyzed on a semi-annual basis in accordance with Table II following approval of the revised SAP as referenced in Special Permit Condition II.D.6., provided that the horizontal and vertical extent of groundwater contamination remains adequately defined. If not, quarterly sampling and analysis of new perimeter wells shall be required in accordance with Special Permit Condition II.E.2.e.

- c. Specific perimeter wells to be monitored shall be specified in the Permittee's revised SAP referenced in Special Permit Condition II.D.6.
- d. Installation of additional perimeter wells during the compliance period may be necessary to meet the requirements of 40 CFR Part 264 Subpart F as incorporated ~~by reference~~ in 10 CSR 25-7.264(1), and this Permit. If any such wells are installed, they shall be subject to the monitoring requirements contained in Table II.
- e. Installation of new monitoring wells following the issuance of this Permit ~~that which~~ are used for the purpose of delineation of the extent of groundwater contamination shall be subject to quarterly sampling and analysis for a period of time which is sufficient to establish contaminant trends in such wells. Thereafter, the monitoring frequency may be modified to reflect the long-term monitoring strategy and usage of such wells.
- f. Any future changes to the list of perimeter wells monitoring releases from the closed regulated units as established in the Permittee's approved SAP shall require a permit modification in accordance with 40 CFR 270.42, and shall be approved in writing by the Department. The Permittee may elect to submit an annual modification to incorporate changes in the number of monitoring wells in lieu of a modification for each individual change. Within 30 days of receipt of the Department's approval, the Permittee shall submit additional SAP revisions to incorporate the approved changes.

3. Wells monitored to assess the effectiveness of the Permittee’s corrective action program (hereafter referred to as effectiveness wells) shall be sampled and the samples analyzed on a semi-annual basis in accordance with Table II.
  - a. Specific effectiveness wells to be monitored shall be specified in the Permittee’s revised SAP, which is referenced in Special Permit Condition II.D.6.
  - b. Installation of additional effectiveness wells during the compliance period may be necessary to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated ~~by reference~~ in 10 CSR 25-7.264(1), and this Permit. If any such wells are installed, they shall be subject to the monitoring requirements contained in Table II.
  - c. Any future changes to the list of effectiveness wells monitoring releases from the closed regulated units established in the Permittee’s approved SAP shall require a permit modification in accordance with 40 CFR 270.42, and shall be approved in writing by the Department. The Permittee may elect to submit an annual modification in lieu of a modification for each individual change.

Within 30 days of receipt of Department approval, the Permittee shall submit additional SAP revisions to incorporate the approved changes.

4. Only single sample analyses (as opposed to replicates) are required for the parameters listed in Table II, with the exception of duplicate samples taken for Quality Assurance/Quality Control (QA/QC) purposes.
5. Field parameter values measured and reported by the Permittee shall be representative of stabilized well conditions.
  - a. Downwell measurement of [Non-Aqueous Phase Liquid \(NAPL\)](#) thickness, static water level, and total well depth shall be taken prior to well purging in accordance with the approved SAP. Specific conductance, pH, and temperature measurements reported to the Department shall be those taken immediately following well purging in accordance with the approved SAP.

- b. Additional field parameter measurements such as those taken to verify the adequacy of well purging shall be recorded in the field logbook.
6. Every five years as per Table II, the Permittee shall sample and analyze groundwater from three historically contaminated wells for all parameters, excluding pesticides/herbicides and dioxins and furans, contained in Appendix IX of 40 CFR Part 264.
  - a. The wells sampled to meet this requirement shall be left to the discretion of the Permittee; however, the choice of wells shall include one well containing low levels of dissolved phase contamination, one well containing moderate levels of dissolved phase contamination, and one well demonstrating the presence of free phase contamination, if present~~applicable~~. The sample to be analyzed from the free phase contaminated well shall be the groundwater (aqueous phase) obtained from this well, not the non-aqueous phase liquid.
  - b. This sampling and analysis is required to determine if additional hazardous constituents (40 CFR Part 261, Appendix VIII) and/or contamination indicator parameters are present in the groundwater ~~that which~~ may be attributable to a release(s) from the closed lagoons/~~and~~ underground tank farm and/or SWMUs/AOCs, and/or degradation of currently known hazardous constituents or contamination indicator parameters.
  - c. If hazardous constituents and/or contamination indicator parameters are identified in the groundwater which are not currently specified in the GPS, the Permittee may resample the groundwater in accordance with 40 CFR 264.99(g). If the Permittee's subsequent groundwater analyses confirm the presence of additional hazardous constituents or contamination indicator parameters, then the Permittee shall propose a Class 1 Permit modification with prior Director approval to add the confirmed hazardous constituents or contamination indicator parameters to the GPS (Table I) and the monitoring program

specified in Table II. The Permittee shall submit additional SAP revisions to incorporate the approved changes within 30 days of receipt of Department approval.

**Table II – Groundwater Corrective Action Monitoring,  
 Sampling, Analysis, and Parameter Measurement Schedule**

Parameters	Type*	<u>Required Analytical  <del>Maximum</del> Detection                  Limit (<math>\mu\text{g/l}</math>)</u>	Frequency
Appendix IX (1)	HC	PQLs per SW-846**	Every 5 years
Volatiles (2)	HC	Per Table I/IA	*** (see note)
Metals (3)	HC	Per Table I/IA	*** (see note)
PCBs (4)	HC	Per Table I/IA	*** (see note)
<u>TPH (Aliphatic Low) GRO (5)</u>	<u>HC</u>	<u>Per Table I/IA</u>	<u>*** (see note)</u>
NAPL Thickness	FM	Not Applicable	**** (see note)
pH	FM	Not Applicable	*** (see note)
Specific Conductance	FM	Not Applicable	*** (see note)
Static Groundwater Elevation ( <del>5</del> )	FM	Not Applicable	**** (see note)
Temperature	FM	Not Applicable	*** (see note)
Total Well Depth	FM	Not Applicable	**** Annually

(1) Modified Appendix IX (40 CFR Part 264) scan on three wells only.

(2) EPA SW-846 Method 8260 or equivalent, wells to be sampled for 1,4-dioxane are identified in the most recent approved groundwater Sampling and Analysis Plan (SAP) and will be analyzed using EPA SW-846 Method 8260SIM or equivalent.

(3) EPA SW-846 Method 7000 series or equivalent.

(4) EPA SW-846 Method 8082 or equivalent.

(5) EPA SW-846 Method 8015M or equivalent, wells to be sampled are identified in the most recent approved groundwater Sampling and Analysis Plan (SAP)

~~(5)~~ Potentiometric measurements shall be obtained quarterly from all monitoring wells at the facility, including those that are not being sampled regularly.

\* HC = Hazardous Constituent, FM = Field Measurement

\*\* The EPA approved SW-846 version at the time of sampling.

\*\*\* Semiannual sampling of VOCs in Tables I and IA for primary (effectiveness) wells as per the approved SAP, and annual for all other established wells. New wells shall be sampled quarterly as per Special Permit Condition II.E.2.e. for parameters from this Table specified by the Department for the new wells. Sampling for metals is not required for semi-annual and annual sampling unless indicated by changing site conditions and/or request by the Department.

\*\*\*\* Non-aqueous phase liquid (NAPL) detection and thickness measurements shall be made at the time of sampling (prior to well purging) and prior to manual removal of NAPL from any well in accordance with the approved SAP. Static groundwater elevations and total well depth measurements shall be made prior to well purging.

F. Groundwater-Related Reporting Requirements.

~~The~~ Permittee shall, [for their respective portions of the permitted facility property and releases to groundwater originating on and/or migrating from,](#) submit to the Department, on an annual basis for the preceding calendar year (i.e., January through December), a Groundwater Corrective Action Report. The Permittee shall submit the Groundwater Corrective Action Report to the Department by March 1 of each calendar year for the preceding calendar year. This report shall include all raw analytical data from the Permittee's<sup>2</sup> groundwater sampling events, groundwater analysis results, field parameter measurement results, copies of field sampling and well inspection log sheets, well repair documentation, QA/QC data, statistical analysis of groundwater data, field investigation results, volume of groundwater extracted, and other relevant groundwater-related information. The report shall also discuss any exceedances of the GPS and limits in the State Operating Permit.

In addition to the information outlined above, the Permittee's<sup>2</sup> Groundwater Corrective Action Report shall contain a comprehensive evaluation, as described below, of the facility-wide groundwater monitoring program for the preceding calendar year (i.e., January through December).

1. The report shall contain a narrative discussion of the nature and evolution of the Permittee's<sup>2</sup> ~~facility-wide~~ groundwater monitoring program [for their portion of the permitted property](#) as well as conclusions concerning the overall adequacy of the program as related to its intended purpose, including discussion of any groundwater-related interim measures or stabilization actions taken in the preceding calendar year. Any conclusions concerning inadequacies in the Permittee's<sup>2</sup> groundwater monitoring program shall be accompanied by a discussion of proposed remedies. The Permittee shall develop specific details concerning any proposed remedies outside of the scope of these reports and/or as otherwise specified in this Permit.
2. The report shall comprehensively address all of the technical requirements of 40 CFR Part 264 Subpart F and this Permit. The Permittee shall summarize relevant groundwater monitoring information and shall present this information in the form of narrative discussions, groundwater flow calculations, and/or diagrammatic illustrations (e.g., tabular groundwater and statistical data summaries, hydrogeologic and potentiometric contour

maps/cross-sections, chemical parameter trend graphs, calculated rate(s) of contaminant migration, contaminant isoconcentration maps/cross-sections, fence/isometric diagrams, groundwater flow nets, etc.), as appropriate.

3. The report shall evaluate the effectiveness of the groundwater corrective action program, including, but not limited to, the following:
  - a. The rate and direction of groundwater movement in subsurface zones impacted by contamination ~~underlying aquifers~~ and potential effects on any corrective action measures being designed, ~~or~~ implemented, or operated at the facility for removal, containment or control of the groundwater contaminant plume(s);
  - b. The horizontal and vertical extent and concentrations of hazardous constituents (Tables I & IA) in groundwater throughout the contaminant plume(s) as evaluated from the data obtained through the Permittee's groundwater monitoring program;
  - c. Any surface and/or subsurface well integrity problems and their potential or actual influence on the groundwater data or efficiency of the groundwater corrective action program;
  - d. The quantity of free NAPLs if present and groundwater extracted from the subsurface during either stabilization activities or as part of the groundwater corrective action program. This information should be reported both as a total amount and per well or extraction location if possible, and shall be used in conjunction with dissolved phase contaminant concentration information to estimate quantities of contaminants removed;
  - e. The conclusions and summary, including statistical evaluation, of analytical results from surface water monitoring conducted during the report period; and
  - f. Information related to extraction of groundwater, installation, and operation of the on-property ~~site~~ groundwater treatment plant and

discharge of treated or untreated groundwater to surface water and/or to the a publicly-owned treatment works, including the following:

- (1) Groundwater extraction rates, volumes and pressures to determine if plugging of the well screens and/or the surrounding geologic strata is occurring;
  - (2) Concentrations of the groundwater monitoring parameters (Tables I & IA) in the groundwater treatment system influent and treated effluent to determine if substantial removal of contaminants is being achieved by the groundwater treatment system, and whether the levels of treatment meet all applicable federal, state, and local requirements; and
  - (3) Any groundwater treatment plant operation and maintenance problems in terms of their potential or actual influence on effluent monitoring and treatment plant efficiency.
4. The Permittee shall submit to the Department, in the report, detailed boring logs for new exploratory borings and/or detailed as-built monitoring well diagrams for any new monitoring wells installed during the corresponding reporting period and the monitoring well-related information specified in Special Permit Conditions II.D.3. and 4.

III. Surface Water Body Monitoring Program ~~10-CSR-25-7.264(2)(F)4.~~

- A. ~~The Permittee shall continue~~ The surface water body monitoring program shall continue to address ~~in accordance with~~ the corrective action requirements of 40 CFR 264.101. This program shall continue ~~10-CSR-25-7.264(2)(F)4~~ ~~throughout the post-closure care period or~~ until such time as ~~the Permittee makes~~ a successful demonstration for ~~exemption from these requirements~~ cessation of this program is made based on three consecutive sampling events confirming the return of water quality, sediment quality and fish tissue contamination with PCBs to levels representative of non-facility related background conditions (i.e., not affected by releases from the facility).

Beyond the information and requirements contained in this Permit related to the surface water body monitoring program, the specific responsibilities and long-term obligation to perform this activity is contained in the Administrative Order on Consent for a Portion of the Bannister Federal Complex between the State Of Missouri/Department of Natural Resources, BT&D LLC and NNSA/DOE.

1. The ~~Permittee's~~ surface water body monitoring program shall be incorporated directly into and be submitted as part of the revised SAP for the BT&D LLC portion of the permitted facility referenced in~~required by~~ Special Permit Condition II.D.6.
2. The ~~Permittee's~~ surface water sampling and analysis methods for chemical indicator parameters and hazardous constituents shall be consistent with those specified in Table II for groundwater.
3. The ~~Permittee's~~ surface water body monitoring program shall use the locations identified and parameters described in Appendix B, Sampling and Analysis Plan (SAP) for Long Term Monitoring of Indian Creek (surface water, sediment, and fish tissue sampling), Corrective Measures Study for the 95th Terrace Site, July 26, 2004. The most recent approved SAP includes this ~~appendix as~~ SAP Appendix E. ~~Any modifications to change an approved SAP shall follow the permit modification procedures in 40 CFR 270.42. The Permittee may propose e~~Changes ~~to in~~ the Surface Water Body Monitoring Program may be proposed in any future modification of the SAP. After the Department approves such changes, they shall be implemented in accordance with this Permit and any schedule contained in the approved SAP.
4. ~~The Permittee shall continue t~~The comprehensive surface water body monitoring program shall continue for ~~Outfall 002~~. This monitoring shall sample for volatiles and polychlorinated biphenyls (PCBs) in the water and for PCBs in sediment and fish tissue. The most recent SAP ~~submitted as Appendix B in the approved 95th Terrace Site corrective measures study,~~ includes semi-monthly sampling of storm water at the Outfall 002 flap gate and quarterly sampling of ~~the~~ Indian Creek sediment adjacent to Outfall 002. This sampling shall continue until Outfall 002 has been decommissioned by BT&D LLC as part of their infrastructure abandonment and replacement efforts. At such time as Outfall 002 is no longer discharging to Indian Creek, this element of sampling may be

~~discontinued.~~ Fish tissue sampling and analysis was previously done in 2005, 2007, 2013, and will be done again in 2013~~2017~~ and every five years thereafter until such time as the performance standard in Special Permit Condition III.A. above is achieved. ~~This m~~Monitoring frequency shall be specified in~~follow~~ the revised SAP. ~~once it has been approved by the Department.~~

5. Reporting and analysis of data/information collected as part of the surface water body monitoring program shall ~~be sufficient to ensure that the requirements of 10 CSR 25-7.264(2)(F)(4) are met, and shall~~ be included in the Annual Groundwater Corrective Action Report required by Special Permit Condition II.F. ~~Analysis of the data/information shall be done for each comprehensive evaluation that is required in the Annual Groundwater Corrective Action Report.~~

- B. The Permittee may, at any time ~~during the post-closure care period~~, make a demonstration to the Department for cessation of the a surface water body monitoring program exemption. This demonstration shall be certified by ~~an independent~~ geologist or professional engineer registered in the State of Missouri; ~~as described in 10 CSR 25-7.264(2)(F)4.~~ A successful demonstration for cessation will~~such an exemption would~~, at a minimum, have to demonstrate based on three consecutive sampling events, the return of water quality, sediment quality and fish tissue contamination with PCBs to levels representative of non-facility related background conditions (i.e., not affected by releases from the facility)~~adequately address the elements of 40 CFR 264.94(b) as applied to potentially affected surface water bodies.~~ Departmental approval of the Permittee's surface water monitoring cessation exemption~~shall necessitate a~~ Permit modification in accordance with 40 CFR 270.42.

#### IV. Identification of Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs)

- A. On June 23, 1989, the ~~U.S. DOE~~ Department of Energy and ~~U.S. Environmental Protection Agency (EPA)~~ entered into an Administrative Order on Consent (hereafter referred to as the Consent Order), Docket No. VII-89-0026-H, pursuant to the authority of Section 3008(h) of the Resource Conservation and Recovery Act (RCRA). Appendix D of the Consent Order listed the SWMUs for which further investigation was required. Under the conditions of the Consent Order, the Permittee was required to complete a RCRA Facility Investigation (RFI) and

Corrective Measures Study (CMS) at these SWMUs. ~~The Permittee has fully or partially completed corrective action~~ Under the referenced Consent Order, DOE had previously implemented final remedies at the 33 SWMUs with the exception of SWMU 42 when this ~~at the time of~~ Permit ~~was originally issued~~ ~~and~~ ~~on~~ (October 6, 1999). The general location of the individual SWMUs is illustrated on Figure 1.

- B. Several SWMUs were previously identified by the EPA as requiring no further corrective action. Appendix E of the Consent Order lists some of these. Additional SWMUs ~~were~~ ~~are~~ identified for no further action in a Confirmation Study submitted to EPA in June, 1989, and in an RFI for Miscellaneous Contaminated Soils dated April 8, 1993, and are enumerated as follows:

SWMU 15: New 002 Storm Sewer Outfall  
SWMU 18: North Lot for soil  
SWMU 19: Building 16 Underground Pit  
SWMU 22: East of Oil Storage Tanks, Underground Tank Farm, and Building 15, extending to the Lagoons  
SWMU 23: PCBs and Hydraulic Oil Spills in open area east of Department 182 Barrel Lot  
SWMU 24: Wastewater dumping west of Building 16  
SWMU 25: Spill of cutting oil and coolants near lot 187-L outside diked area  
SWMU 26: Spill of caustic wastewater north of manufacturing support building  
SWMU 27: Dumping of PCB contaminated wastewater west of lagoons  
SWMU 28: Spill of plating acid from truck (east half of barrel lot)  
SWMU 29: Southeast Parking Lot; however additional field characterization reported in “Additional Field Investigation Report Southeast Parking Lot Area-Funnel and Gate Passive Groundwater Treatment Systems,” dated May 1997, recommended ongoing monitoring using existing wells and supplementing them with additional wells at key locations. Additional investigation performed under this ~~P~~ permit, resulted in the addition of two interceptor wells, 235 and 236. Operation of these wells provides control of the plume that was coming from under the Main Manufacturing Building.

- C. RCRA Facility Investigations (i.e., RFI Work Plans and associated reports), except as noted below, were completed and approved by EPA or the Department at the following SWMUs:

SWMU 1: Underground Tank Farm (approved 07-11-95)  
SWMU 2: TCE Still Location (approved 10-30-94)  
SWMU 3: Waste Transfer Spill Area (approved 10-30-94)  
SWMU 4: Classified Waste Trenches (approved 10-30-94)  
RCRA 5: North Lagoon (approved 12-03-93)  
SWMU 6: Old Ponds (approved 12-03-93)  
SWMU 7: North Lagoon Trench Area (approved 12-03-93)  
SWMU 8: Outfall 001 Raceway (approved 06-16-94)  
SWMU 9: Building 57 Acid & Alkaline Tank (approved 10-25-93)  
SWMU 10: Waste Oil Tank under Plating (approved 10-25-93)  
SWMU 11: Substation 18 N. of Plating (approved 10-25-93)  
SWMU 12: Department 26 Outside (approved 10-25-93)  
RCRA 13: South Lagoon (approved 11-30-92)  
SWMU 14: Old 002 Outfall (approved 03-20-90)  
SWMU 16: Sales Building (approved 10-30-94)  
SWMU 17: Building 54 (approved 10-08-93)  
SWMU 18: North Lot (approved 12-14-92)  
SWMU 19: Building 16 Underground Pit (approved 12-14-92)  
SWMU 20: Abandoned Fuel Lines (approved 12-14-92)  
SWMU 21: Fuel Oil Tank Unloading Area (approved 12-14-92)  
SWMU 29: Southeast Lot (approved 6-23-89)  
SWMU 30: Department 27 - Outside (approved 10-30-94)  
SWMU 31: Department 26 - Inside (approved 07-06-95)  
SWMU 32: Department 27 - Inside (approved 11-30-92)  
SWMU 33: Oil House (approved 10-30-94)  
SWMU 35: East Boilerhouse (approved 3-1-97)  
SWMU 36: Maintenance Vehicle Repair Shop (approved 10-08-93)  
SWMU 37: Abandoned Sump (approved 10-30-94)  
SWMU 38: Reported Buried Drum Site (approved 10-30-94)  
SWMU 39: Department 95 (approved 10-30-95)  
SWMU 40: Former Chip Handling Building (approved 10-30-94)  
SWMU 41: Department 20 Degreaser Pit (approved 10-30-94)  
SWMU 42: 95th Terrace Site (approved 9-2-2001)  
SWMU 43: Test Cells (approved 10-08-93)

- SWMU 44: Former Landfill (current CERCLA Remedial Investigation being done by USACE under Formerly Used Defense Sites [FUDS])
- SWMU 45: Building 50 (approved 6-18-2015); ~~previous groundwater sampling in vicinity has detected volatile organic compounds; GSA indicates additional investigation will be done~~

D. Corrective Measures Studies have been completed and have been approved by EPA or the Department at the following SWMUs:

- SWMU 1: Underground Tank Farm (approved 07-28-92)  
(Note: In the Final Decision, Statement of Basis, 02-18-92, wells KC87-61, KC87-62, and KC87-63 are both compliance points and extraction wells)
- SWMU 2: TCE Still Location (Multiple Sites CMS)
- SWMU 3: Waste Transfer Spill Area (Multiple Sites CMS)
- SWMU 4: Classified Waste Trenches (approved 06-08-95)
- RCRA 5: North Lagoon (approved 08-12-94)
- SWMU 6: Old Ponds (approved 08-12-94)
- SWMU 7: North Lagoon Trench Area (approved 08-12-94)
- SWMU 8: Outfall 001 Raceway (approved 08-12-94)
- SWMU 9: Building 57 Acid and Alkaline Tanks (Multiple Sites CMS)
- SWMU 10: Waste Oil Tank Under North End of Plating Building (Multiple Sites CMS)
- SWMU 11: Substation 18 North of Plating Building (Multiple Sites CMS)
- SWMU 12: Department 26 Outside (Multiple Sites CMS)
- SWMU 14: Old 002 Outfall (approved 07-30-91)
- SWMU 16: Sales Building (Multiple Sites CMS)
- SWMU 17: Building 54 (Multiple Sites CMS)
- SWMU 18: North Lot (approved 11-30-94) for soil
- SWMU 18: North Lot (Multiple Sites CMS) for groundwater
- SWMU 19: Building 16 Underground Pit (approved 11-30-94)
- SWMU 20: Abandoned Fuel Lines (approved 11-30-94)
- SWMU 21: Fuel Oil Tank Unloading Area (approved 11-30-94)
- SWMU 31: Department 26 (Multiple Sites CMS)
- SWMU 32: Department 27 Inside (Multiple Sites CMS)
- SWMU 33: Oil House (Multiple Sites CMS)

- SWMU 35: East Boilerhouse (IM Report approval 03-20-97)
- SWMU 36: Maintenance Vehicle Repair Shop Sump (Multiple Sites CMS)
- SWMU 37: Abandoned Sump (Multiple Sites CMS)
- SWMU 39: Department 95 (Multiple Sites CMS)
- SWMU 40: Former Chip Handling Building (Multiple Sites CMS)
- SWMU 41: Department 20 Degreaser Pit (Multiple Sites CMS)
- SWMU 42: 95th Terrace (approved 10-5-2004)

E. Soil, surface water, and groundwater contamination discovered during the RFI were evaluated to determine if contamination from a particular SWMU posed any threat to human health and the environment. It ~~was~~has been determined that remediation ~~was~~is not required ~~at this time~~ to protect human health and the environment at the following SWMUs:

- SWMU 13: South Lagoon
- SWMU 14: Old 002 Outfall
- SWMU 15: New 002 Outfall
- SWMU 18: North Lot
- SWMU 19: Building 16 Underground Pits (PCBs)
- SWMU 30: Department 27 - outside
- SWMU 34: Sanitary Sewer Pump Station
- SWMU 38: Reported Buried Drum Site

F. Based upon the Department's or EPA's historical approval of the various Corrective Measures Studies and Interim Measures Reports, ~~it was~~it has been previously determined that further corrective action ~~was~~is needed at the following SWMUs to protect human health and the environment as specified in the footnotes to this Section. If, and when, the contingent proposed revised remedy specified in this Permit is implemented based on the transfer of a portion of the permitted property to BT&D LLC, the historical elements in the footnotes to this Section will be modified to conform to the approved revised remedy:

- SWMU 1: Underground Tank Farm (~~4P/E~~)
- SWMU 2: TCE Still Location (1), (2)
- SWMU 3: Waste Transfer Spill Area (2)
- SWMU 4: Classified Waste Trenches (2)
- RCRA 5: North Lagoon (RCRA Regulated Unit) (~~4P/E~~)
- SWMU 6: Old Pond (CMI approved)

- SWMU 7: North Lagoon Trench Area (CMI approved)
- SWMU 8: Outfall 001 Raceway (CMI approved)
- SWMU 9: Building 57 Acid & Alkaline Tanks (2)
- SWMU 10: Waste Oil Tank under Plating Building (2)
- SWMU 11: Substation 18 North of Plating Building (2)
- SWMU 12: Department 26 outside (2)
- SWMU 16: Sales Building (1), (2)
- SWMU 17: Building 54 (1), (2)
- SWMU 20: Abandoned Fuel Lines (Institutional Control, corrective measures implementation (CMI) approved)
- SWMU 21: Fuel oil tank unloading area (Institutional Control, CMI approved)
- SWMU 29: Southeast Parking Lot
- SWMU 31: Department 26 Inside (1), (2)
- SWMU 32: Department 27 Inside (1), (2)
- SWMU 33: Oil House (1), (2)
- SWMU 35: East Boiler House
- SWMU 36: Maintenance Vehicle Repair Shop (1), (2)
- SWMU 37: Abandoned Sump (2)
- SWMU 39: Department 95 (1), (2)
- SWMU 40: Former Chip Handling Building (1), (2)
- SWMU 41: Department 20 Degreaser Pit (1), (2)
- SWMU 42: 95th Terrace (1), (3)
- SWMU 43: Test Cells (1)
- SWMU 44: Former Landfill currently being ~~characterized~~ [addressed by USACE under the FUDS program](#)
- SWMU 45: Building 50, ~~additional investigation ongoing~~

- (1) Buildings, pavement, or asphalt, overlying contamination serving as engineering controls shall not be removed or altered unless alternative measures to protect human health and environment have been provided to and approved by the Department.
- (2) Soil contamination above the saturated zone shall be addressed by institutional controls and land use restrictions, as per the Final Decision on the Multiple Sites CMS, finalized in July 1998, by EPA.

- (3) The remedy requires engineering and institutional controls for maintaining the box culvert under Bannister Road, including semi-annual inspections, possible sediment removal, and effluent monitoring as per the approved SAP. ~~The Permittee will work with MoDOT to place access and deed restrictions on property not owned by the Permittee.~~ Inspection and maintenance of signs and the protective cage installed over the raceway is required. Indian Creek sediment will be sampled as per the approved SAP. The surface water monitoring plan (includes surface water, sediment, and fish tissue sampling) at Outfall 002 shall follow Appendix B, Sampling and Analysis Plan (SAP) for Long Term Monitoring of Indian Creek, Corrective Measures Study for the 95th Terrace Site, July 26, 2004. Fish tissue sampling for PCBs was done in 2005, 2007, [2013](#), and will be done again in [2017](#)~~3~~. The concentration of PCBs in fish tissue is expected to supplement the surface water and sediment sampling data as a means to gauge environmental improvements over time resulting from implementation of the 95th Terrace remedy.

(4) ~~(P/C)~~ [Post-Closure Care Requirements](#)

[G. Based upon the Department’s review of historical information and recent preliminary investigation results, the Department has determined that further investigation is needed at the following AOCs on the property to be retained by GSA to protect human health and the environment.](#)

[AOC 1: Chlorinated Solvent Groundwater Contamination to the east of the Marine Corps building](#)

[AOC 2: Petroleum Hydrocarbon Contamination to the west of the Marine Corps building](#)

In the event any new information becomes available indicating human health and the environment may be adversely impacted, the Permittees may be required to reevaluate any report previously approved by EPA or the Department to determine the need for further corrective actions for the aforementioned SWMUs and any newly identified SWMUs/AOCs and/or any release(s) from previously identified SWMUs/AOCs, including off-~~property~~[site](#) release(s), as specified in Special Permit Conditions IV. and V.

The Permittees, [with regard to their respective portions of the permitted property](#), shall notify the Department prior to any future construction or excavation activities that disturb existing contamination at any SWMUs or other areas subject to institutional controls. The objective of this requirement will ensure that any necessary precautions are taken when disturbing and/or exposing any contaminated environmental media at the facility. Future construction, excavation activities, or land use changes may necessitate further evaluation of ~~site~~-conditions at SWMUs [and/or AOCs](#) with residual levels of contamination above corresponding regulatory thresholds at that time.

V. Notification Requirements for and Assessment of Newly-Identified SWMU(s) and Areas of Concern (AOCs)

- A. The Permittees, [with regard to their respective portions of the permitted property](#), shall notify the Department and EPA in writing of any SWMU(s) or AOC(s), identified subsequent to the issuance of this Permit no later than 15 calendar days after discovery, or after discovery should have been made.
- B. The Department may require a SWMU/AOC Assessment Work Plan for conducting an investigation of the newly-identified SWMU(s) or AOC(s). Within 30 calendar days after receipt of the Department's request for a SWMU/AOC Assessment Work Plan, the Permittee shall submit a SWMU/AOC Assessment Work Plan which shall include a discussion of past waste management practices at the unit, as well as a sampling and analysis program for groundwater, land, surface and subsurface strata, surface water and/or air, as necessary to determine whether a release of hazardous waste, including hazardous constituents from such unit(s) has occurred, or is occurring. The sampling and analysis program shall be capable of yielding representative samples and shall include monitoring parameters sufficient to assess the release of hazardous waste and/or hazardous constituents from the newly-identified SWMU(s)/AOC(s) to the environment. The SWMU/AOC Assessment Work Plan shall specify any data to be collected to provide for a complete SWMU/AOC Assessment Report, as specified below.
- C. The SWMU/AOC Assessment Work Plan will be reviewed in accordance with the procedures set forth in Special Permit Condition XXI., Review and Approval Procedures. The Permittee shall complete implementation in accordance with the schedule contained in the approved plan.

- D. The Permittee shall submit a SWMU/AOC Assessment Report to the Department and EPA according to the schedule specified in the approved SWMU/AOC Assessment Work Plan. The SWMU/AOC Assessment Report shall present and discuss the information obtained from implementation of the approved SWMU/AOC Assessment Work Plan. At a minimum, the SWMU/AOC Assessment Report shall provide the following information for each newly-identified SWMU/AOC:
1. The location of the newly-identified SWMU/AOC in relation to other SWMU(s)/AOC(s);
  2. The type and function of the unit;
  3. The general dimensions, capacities, and structural description of the unit;
  4. The period during which the unit was operated;
  5. The physical and chemical properties of all wastes that have been or are being managed at the SWMU/AOC, to the extent available;
  6. The results of any sampling and analysis conducted;
  7. Past and present operating practices;
  8. Previous uses of area occupied by the SWMU/AOC;
  9. Amounts of waste handled; and
  10. Drainage areas and/or drainage patterns near the SWMU(s)/AOC(s).

The SWMU/AOC Assessment Report will be reviewed in accordance with the procedures set forth in the Review and Approval Procedures. Based on the findings of this report, the Department will determine the need for further investigations, including stabilization, a RCRA Facility Investigation (RFI) and/or a Corrective Measures Study (CMS), at specific unit(s) identified in the SWMU/AOC Assessment Report.

If the Department determines that additional investigations are needed, the Department may require the Permittee to prepare and submit for approval a Work

Plan for such investigations. This Work Plan for additional investigations will be reviewed in accordance with the procedures set forth in the Review and Approval Procedures, Special Permit Condition XXI. The Permittee shall complete implementation in accordance with the schedule contained in the approved plan.

VI. Notification Requirements for and Assessment of Newly-Identified Releases from Previously-Identified SWMUs and AOCs

- A. The Permittees, [with regard to their respective portions of the permitted property](#), shall notify the Department and EPA, in writing, of any newly-identified release(s) of hazardous waste, including hazardous constituents, from previously-identified SWMUs and AOCs discovered during the course of groundwater monitoring, field investigation, environmental auditing, or other activities undertaken after issuance of this Permit, no later than 15 days after discovery, or after discovery should have been made.
- B. The Department may require a Newly-Identified Release Work Plan for conducting an investigation of the new-identified release(s). Within 30 days after receipt of notice that the Department requires a Newly-Identified Release Work Plan, the Permittee shall submit a Newly-Identified Release Work Plan which shall include a discussion of the waste/chemical management practices related to the release; a sampling and analysis program for groundwater, land surface and subsurface strata, surface water or air, as necessary to determine whether the release poses a threat to human health or the environment; and a proposed Newly-Identified Release Work Plan. The SAP shall be capable of yielding representative samples and shall include monitoring parameters sufficient to assess the release of hazardous waste and/or hazardous constituents to the environment. The Newly-Identified Release Work Plan shall specify any data to be collected to provide for a complete Newly-Identified Release Report, as specified below.
- C. The Newly-Identified Release Work Plan will be reviewed in accordance with the procedures set forth in the Review and Approval Procedures, Special Permit Condition XXI. The Permittee shall complete implementation in accordance with the schedule contained in the approved plan.
- D. The Permittee shall submit a Newly-Identified Release Report to the Department and EPA according to the schedule specified in the approved Newly-Identified Release Work Plan. The Newly-Identified Release Report shall present and

discuss the information obtained during implementation of the approved Newly-Identified Release Work Plan. At a minimum, the report shall provide the following information for each newly-identified release:

1. The location of the newly-identified release in relation to any other SWMU(s)/AOC(s);
  2. The general dimensions of the release;
  3. The period during which the release is suspected to have occurred;
  4. The physical and chemical properties of all wastes that comprise the release;
  5. The results of any sampling and analyses conducted;
  6. Past and present operating practices near and at the location of the release;
  7. Previous uses of the area(s) occupied near and at the location of the release;
  8. Amounts of waste handled near and at the location of the release; and
  9. Drainage areas and/or discharge patterns near and at the location of the release.
- E. The Newly-Identified Release Report will be reviewed in accordance with the procedures set forth in Special Permit Condition XXI., Review and Approval Procedures. Based on the findings of the report and any other available information, the Department will determine the need for further investigation, including stabilization, an RFI, and/or a CMS.

## VII. Interim/Stabilization Measures

- A. If the Permittees, [with regard to their respective portions of the permitted property](#), becomes aware of a situation that may require interim/stabilization measures (ISMs) to protect human health and the environment, the Permittee shall notify the Department and EPA within 24 hours of the time the Permittee becomes aware, or should have become aware of the situation.

- B. If during the course of any activities initiated under this Permit, ~~the~~ Permittee or the Department determines that a release or potential release of hazardous waste, including hazardous constituents, poses a threat to human health or the environment, the Department may require ISMs to slow or stop the further spread of contamination until final corrective action measures can be implemented. The Department will determine the specific action(s) that shall be taken to implement ISMs, including potential Permit modifications, and the schedule for implementing the stabilization requirements and will inform the [affected](#) Permittee of decisions regarding the action(s) in writing. This requirement shall not preclude the [affected](#) Permittee from responding to an emergency situation without direction of the Department.
- C. If, at any time, ~~the~~ Permittee determines or should have known that the stabilization program is not effectively limiting or stopping the further spread of contamination, the [affected](#) Permittee shall notify the Department and EPA in writing no later than ten days after such a determination is made. The Department may require that the stabilization program be revised to make it effective in limiting or stopping the spread of contamination, or that final corrective action measures are required to remediate the contaminated media.
- D. In cases where releases present minimal exposure concerns and/or the remedial solution is straightforward, ~~the~~ Permittee may propose ISMs for review and approval by the Department. These ISMs shall be consistent with and may supplement and/or satisfy the requirements for a remedy(s) in specific areas.

#### VIII. RCRA Facility Investigation (RFI) Work Plan

- A. Pursuant to the requirements of the [now terminated EPA 3008\(h\)](#) Consent Order, several RFI Work Plans ~~were have been~~ submitted and approved by EPA, as described in Special Permit Condition IV.C.

~~The Department recognizes that SWMU 29 is listed as no further action, and that the source of the groundwater contamination under the Main Manufacturing Building is currently under control, due to interceptor wells 235 and 236. Ongoing monitoring shall continue as per the approved SAP.~~

- B. If the Department determines that further investigations are needed for newly and/or previously identified SWMUs/AOCs pursuant to Special Permit Conditions IV. and V., the [affected](#) Permittee shall be notified of this

determination in writing. The Department may require the Permittee to prepare and submit an RFI Work Plan for such investigations. If an RFI Work Plan is required, the Permittee shall submit it within 60 days of receipt of the notice. The RFI Work Plan shall contain provisions which are designed to meet the following objectives:

1. Full characterization of the nature, vertical and horizontal extent, and rate of migration of releases of hazardous waste and/or hazardous constituents from a newly identified SWMU/AOC or groups of SWMUs/AOCs or newly identified release(s) at the facility and the actual or potential receptors of such releases; and
  2. Collection of any other pertinent data that may be utilized to substantiate future corrective action decisions.
- C. The content of the RFI Work Plan shall be appropriate for site-specific conditions and shall be consistent with and address all applicable investigation elements described in the most recent version of the RCRA Facility Investigation Guidance; EPA 530/SW-89-031. At a minimum, the RFI Work Plan shall detail all proposed activities and procedures to be conducted at the facility, a description of current conditions, the schedule for implementing and completing such investigations, and for submission of reports (including the final RFI Report), the qualifications of personnel performing or directing the investigations, including contractor personnel, and the overall management of the RFI.
- D. The RFI Work Plan shall include a Quality Assurance Project Plan (QAPP). The QAPP shall present the policies, organization, objectives, functional activities, and specific quality assurance and quality control activities designed to achieve the data quality goals of the RFI. It shall include the RFI objectives, sampling procedures, analytical methods, field and laboratory quality control samples, chain-of-custody procedures and data review, validation, and reporting procedures.
- E. The Permittee shall prepare and maintain a health and safety plan during the project that assures the RFI activities are conducted in a manner that is protective of human health and the environment.

- F. Due to the complexity of defining the extent of contamination, the Permittee may be required to use a phased approach, which requires the submittal of supplemental RFI Work Plans.
- G. The RFI Work Plan(s) will be reviewed in accordance with the procedures set forth in Special Permit Condition XXI., Review and Approval Procedures. The Permittee shall complete implementation in accordance with the schedules contained in the approved plan(s).

IX. RCRA Facility Investigation (RFI) Report

- A. The Permittee shall submit any RFI Report required by this Permit to the Department and EPA in accordance with the schedule contained in the corresponding approved RFI Work Plan. The RFI Report shall present all information gathered under the approved RFI Work Plan along with a brief facility description and map showing the property boundary and all SWMUs/AOCs. The information presented in the RFI Report shall be presented in a form that is consistent with Section 5 of the most recent version of the EPA publication entitled, RCRA Facility Investigation Guidance; EPA 530/SW-89-031.
- B. The RFI Report shall provide an interpretation of the RFI information gathered, supported with adequate documentation, to enable the Department to determine whether additional stabilization and/or corrective measures may be necessary. The RFI Report shall describe the procedures, methods, and results of all investigations of SWMUs/AOCs and associated releases, including, but not limited to, the following, as appropriate:
  - 1. Characterization of the nature, concentration(s), horizontal and vertical extent, and direction/rate of movement of releases from SWMUs/AOCs at the facility;
  - 2. Characterization of the environmental setting of the facility, including:
    - a. Hydrogeological conditions;
    - b. Climatological conditions;
    - c. Soil and bedrock characteristics;

- d. Surface water and sediment quality; and
  - e. Air quality and meteorological conditions.
3. Characterization of SWMUs/AOCs from which releases have been or may be occurring, including detailed review of past operations at the facility and unit and waste characteristics;
  4. Descriptions of human and environmental receptors and associated risks to the receptors, which are, may have been, or based on site-specific circumstances, could be exposed to release(s) from SWMUs/AOCs;
  5. Assessment of potential risks to the human and environmental receptors (e.g., Baseline Risk Assessment) exposed to release(s) from SWMUs/AOCs;
  6. Extrapolations of future contaminant movement including description of contaminant fate and transport mechanisms and pathways for human and environmental exposure;
  7. Laboratory, bench-scale, pilot-scale and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies or other technologies that may be appropriate in implementing remedies at the facility;
  8. Statistical analyses to aid in the interpretation of data;
  9. Results of any stabilization measures previously implemented;
  10. A plan for groundwater monitoring from the time of RFI approval until such time as this Permit is modified to implement a remedy. This plan shall specify the wells to be monitored, the frequency of monitoring, and the analytical parameters. Groundwater monitoring shall be conducted in accordance with Special Permit Condition II.E., and
  11. Evaluation of data quality which may affect the nature and scope of a Corrective Measures Study Work Plan as well as the evaluation of corrective measure alternatives thereunder (e.g., identification of any

potential bias in the RFI data, and documentation of its precision, accuracy, representativeness, completeness, comparability, validation, etc.).

C. The RFI Report will be reviewed in accordance with the procedures set forth in Special Permit Condition XXI., Review and Approval Procedures.

D. After review of the RFI Report, if the Department determines that the objectives of the RFI have not been met, the Department may require additional investigation. Upon approval of the RFI Report by the Department, the Department shall advise the Permittee as to the next step in the corrective action process which may include submittal of a CMS Work Plan pursuant to Special Permit Condition X.

E. [In addition to the investigatory work previously conducted under the EPA 3008\(h\) Consent Order and this Permit, CenterPoint Properties Trust \(the preferred redevelopment partner\) conducted multiple phases of “due diligence” investigations to confirm the environmental conditions on the portions of the BFC that may be transferred to BT&D LLC. While CenterPoint Properties Trust was not a Permittee at the time of these investigations, these investigations were performed with the review, oversight, and approval of the Department, in coordination with EPA. This was done to ensure that the information and data collected by CenterPoint Properties Trust and its consultants would be sufficient, when considered in conjunction with additional studies and information collected under this Permit, to support the contingent revised remedy proposal contained in the Corrective Measures Report referenced below in Special Permit Condition XI.](#)

X. Corrective Measures Study (CMS) Work Plan

A. If [in the future](#) the Department determines that a release(s) of hazardous waste and/or hazardous constituents from newly and/or previously-identified SWMUs/AOCs pursuant to Special Permit Conditions V. and VI., may present a threat to human health or the environment, the Department may require the Permittee to prepare and submit a CMS Work Plan and will notify the [affected](#) Permittee in writing of this decision. This notice will identify the hazardous constituent(s) of concern and may specify remedial alternatives to be evaluated by the Permittee during the CMS.

- B. The Department may require the Permittee to identify and evaluate, as part of the CMS, one or more specific potential remedies for removal, containment, and treatment of hazardous waste, including hazardous constituents in contaminated media based on the objectives established for the corrective action. These remedies may include a specific technology or combination of technologies that, in the Department’s judgment, may be capable of achieving standards for protection of human health and the environment.
- C. The Permittee shall submit a CMS Work Plan to the Department and EPA within 45 days of notification of the requirement to conduct a CMS. The CMS Work Plan shall be consistent with guidance contained in the EPA document entitled: RCRA Corrective Action Plan (Final), May 1994, OSWER Directive 9902.3-2A. At a minimum, the CMS Work Plan and any other CMS Work Plan required by this Permit shall provide the following information as appropriate:
1. A description of the general approach to investigating and evaluating potential remedies;
  2. A definition of the specific objectives of the study;
  3. A description of the remedies which will be studied;
  4. A description of those potential remedies which were preliminarily considered, but were dropped from further consideration, including the rationale for elimination;
  5. The specific plans for evaluating remedies to ensure compliance with remedy standards;
  6. The schedules for conducting the study and submitting a CMS Report;
  7. The proposed format for the presentation of information; and
  8. Laboratory, bench-scale, pilot-scale, and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies or other technologies that may be appropriate in implementing remedies at the facility.

- D. The Department will review any CMS Work Plan required by this Permit in accordance with the procedures set forth in Special Permit Condition XXI., Review and Approval Procedures. The Permittee shall complete implementation in accordance with the schedule contained in the approved plan.

XI. Corrective Measures Study (CMS) Report

A. In anticipation of a transfer of a portion of the permitted BFC property from NNSA/DOE/Honeywell to BT&D LLC for redevelopment purposes, the potential future Permittee (BT&D LLC) has submitted a Draft Final Corrective Measures Report (CMR) dated April 2017. The CMR proposes several revised remedy elements beyond those previously implemented at the BFC that would be conducted in coordination with the various building demolition and ground surface regrading activities. The proposed revised remedy elements are primarily premised on:

- The Indian Creek/Blue River PCB Fate and Transport Study dated February 2016 prepared by NNSA/DOE pursuant to a previous modification of this Permit. This Study was approved by the Department, in coordination with EPA, on March 14, 2016.
- The Final Baseline Risk Assessment dated June 2016 prepared by the NNSA/DOE pursuant to a previous modification of this Permit. This Assessment was approved by the Department, in coordination with EPA, on July 26, 2016.
- The Final Due Diligence Site Investigation Summary submitted by S.S. Papadopoulos & Associates (SSPA) on behalf of CenterPoint Properties Trust that was approved by the Department, in coordination with EPA, on March 14, 2017.
- The Draft Final Technical Memorandum: Proposed Clean-up Levels for On-site Areas of the Bannister Federal Complex dated April 2017 submitted by ToxStrategies on behalf of CenterPoint Properties Trust.

~~A.B.~~ The actions proposed in the Draft Final CMR are “contingent” in that they will not occur unless and until the property and the obligations under this Permit are

[actually transferred to BT&D LLC via a future Class 1 permit modification with prior Director's approval pursuant to 10 CSR 25-7.270\(1\) incorporating 40 CFR 270.40.](#)

~~B.C.~~ [If required in the future,](#) ~~t~~The Permittee shall submit [any additional](#) CMS Report to the Department and the EPA according to the schedule contained in the approved CMS Work Plan. The CMS Report shall present all information gathered under the approved CMS Work Plan and shall be consistent with guidance contained in the EPA document entitled: [RCRA Corrective Action Plan \(Final\), May 1994, OSWER Directive 9902.3-2A](#). The CMS Report shall summarize the results of the investigations for each remedy studied and of any bench-scale or pilot tests conducted. The CMS Report shall include, but not be limited to, the following information:

1. Evaluation of performance, reliability, ease of implementation, and potential impacts of each remedy studied, including safety impacts, cross media impacts, and control of exposure to any residual contamination;
2. Assessment of the effectiveness of each remedy in achieving adequate control of sources and cleanup of the hazardous waste or hazardous constituents released from the SWMU(s)/AOC(s);
3. Assessment of the time required to begin and complete each remedy;
4. Estimation of the costs of implementing each remedy;
5. Recommendation of remedy and rationale for selection; and
6. Assessment of institutional requirements, such as state or local Permit requirements, or other environmental or public health requirements which may substantially affect implementation of the remedy.

~~C.D.~~ The CMS Report shall contain adequate information to support the Department in the remedy approval decision-making process.

~~D.E.~~ The CMS Report will be reviewed in accordance with the procedures set forth in Special Permit Condition XXI., Review and Approval Procedures. Upon approval thereof by the Department, the Department will approve a remedy as specified in Special Permit Condition XII.

## XII. Remedy Approval

The Department, in coordination with EPA, has prepared a Statement of Basis (SB) for public review and comment that summarizes the basis of support for the revised contingent remedy proposed in the Draft Final CMR. The primary documents supporting the proposal contained in the Draft Final CMR are outlined above. These and other relevant supporting documents are available for public review and comment during the public comment period at the locations noted in the Statement of Basis.

At the end of the public comment period, the Department will review all written comments and any comments given at the public hearing that is scheduled for Wednesday May 17, 2017. Based on technical and/or legal issues brought up by the comments, the Department can change or deny the proposed contingent permit modifications and/or the revised contingent remedy proposed in the Draft Final CMR. Written comments and oral public hearing testimony are treated with equal consideration. The Department will prepare a summary and response to all public comments and explain how each was addressed as part of the final decision-making process for the proposed contingent permit modifications and CMR revised contingent remedy. The Department's final decision regarding the remedy will consider those factors listed below.

If the contingent permit modifications herein and the actions proposed in the Draft Final CMR are approved (with or without further changes in response to public comments) AND the obligations under this Permit are transferred to BT&D LLC via a future Class 1 permit modification with prior Director's approval pursuant to 10 CSR 25-7.270(1), incorporating 40 CFR 270.40, then BT&D LLC will be required to submit an initial Corrective Measures Implementation Work Plan as specified in Special Permit Condition XIII below.

Following the approval of any future ~~the~~ CMS Final Report or equivalent beyond the Draft Final CMR described above, the Department will prepare a ~~Statement of Basis (SB)~~ summarizing the corrective measures alternatives that were evaluated by the Permittee, including justification for the proposed remedy supported by the Department.

Following preparation of the SB by the Department, a Permit modification will be initiated pursuant to 40 CFR 270.41 or 270.42(c), as applicable, to implement the remedy.

Upon completion of the public participation activities associated with the permit modification to implement the proposed remedy, the Department will approve a remedy

that will: 1) be protective of human health and the environment; 2) control and/or eliminate the source(s) of contaminants so as to reduce or eliminate, to the maximum extent practicable, further contaminant releases, exposures or migration that might pose a threat to human health and the environment; and 3) meet all applicable federal, state, and local laws and regulations.

Any remedies previously approved/implemented under the EPA 3008(h) Corrective Action Order on Consent and this Permit shall continue until such time as these remedies are modified as a result of the activities required by this permit modification. All ~~historical and modified~~ remedies required by the Permit shall continue until such time as the Permittee can demonstrate to the satisfaction of the Department that all applicable historical and revised clean-up goals and performance standards in the areas affected by those remedies have been achieved.

### XIII. Corrective Measures Implementation (CMI) Work Plan

- A. ~~Within 90 calendar days of~~ Upon final approval of ~~a remedy covering specific SWMUs/ AOCs, the Permittee~~ the CMR and within 90 calendar days of approval of the Class 1 permit modification with prior Director approval to transfer portions of the BFC property and related obligations under this Permit to BT&D LLC, BT&D LLC shall submit an initial Corrective Measures Implementation (CMI) Work Plan to the Department and EPA to provide the framework for ~~information pertaining to the~~ design and implementation of the corrective measure(s) in the approved revised remedy and a schedule for subsequent submission of iterative CMI Work Plans and related, iterative Corrective Measures Completion Reports that focus on the specific elements of the overarching revised remedy. ~~The Permittee may propose a schedule for submitting the CMI Work Plan in their CMS Report, basing it upon the remedy approval.~~ The CMI Work Plan shall cover ~~the SWMUs addressed by each approved CMS Report so embodied in each approved remedy~~ all activities proposed in the approved Final CMR.

The iterative CMI Work Plan(s) shall outline the objectives of each element of the corrective measures and shall contain a description of the design, construction, operation, monitoring, quality assurance, and maintenance requirements; an amended cost estimate to more accurately define costs for design, construction, and monitoring; a detailed schedule for design, construction, and monitoring; and management procedures for hazardous wastes and/or hazardous constituents addressed ~~recovered~~ as a result of implementing the corrective measures. The

CMI Work Plan shall provide plans for remedy implementation consistent with all applicable components of the CMI as specified in the document entitled: RCRA Corrective Action Plan (Final), May 1994, OSWER Directive 9902.3-2A, and consistent with the clean-up goals and remedy objectives specified in the approved Final Technical Memorandum: Proposed Clean-up Levels for On-site Areas of the Bannister Federal Complex and Final CMR-95th Terrace Site CMS Report. ~~Following is a summary of the approved remedy for the Multiple Sites and the 95th Terrace:~~

- ~~1. TCE Still Area, which consists of: TCE Still Location, SWMU 2; Waste Transfer Spill Area, SWMU 3; Classified Waste Trenches, SWMU 4; Sales Building, SWMU 16; Oil House, SWMU 33; Department 95, SWMU 39; Abandoned Sump, SWMU 37; Former Chip Handling Building, SWMU 40; and Department 20 Degreaser Pit, SWMU 41.~~

~~These SWMUs require further corrective action for soil contamination below buildings or paved areas. The approved corrective measures consist of institutional controls and containment to limit access to contaminated soil, and land use restrictions. Any future construction or maintenance activities that involve excavation of contaminated soils, or removal or alteration of buildings or paved areas covering these areas, shall come under the Excavated Soil Management Procedures discussed in Special Permit Condition XXI.B., or if not related to maintenance of utilities, shall require a work plan to be submitted to and approved by the Department.~~

~~SWMU 37 had waste removed from the sump under Interim Measures in FY 1998. The sump is covered with a concrete slab, and the selected remedy is institutional controls for soils with groundwater pump and treat. The CMI Plan was approved by the Department on November 6, 2000.~~

- ~~2. Plating Building Area, which consists of: Building 57 Acid and Alkaline Tanks, SWMU 9; Waste Oil Tank Under North End of Plating Building, SWMU 10; Substation 18 North of Plating Building, SWMU 11; and Department 26 Outside, SWMU 12. SWMUs 9, 10, 11, and 12 have polychlorinated biphenyls (PCBs), total petroleum hydrocarbons (TPH), and volatile organic compounds (VOCs) contamination. Institutional controls and containment, and land use restrictions also apply to these SWMUs to limit access to contaminated soil. Any future construction or maintenance activities that involve excavation of contaminated soils, or~~

~~removal of paved areas covering these areas, shall come under the Excavated Soil Management Procedures discussed in Special Permit Condition XXI.B. Those situations not related to maintenance of utilities shall require a work plan to be submitted to and approved by the Department.~~

- ~~3. Department 26 Inside, SWMU 31. Analysis of samples indicate the presence of PCBs and TPH in the soil beneath the various structures and pavement in this area. The requirements under Special Permit Condition XIII.A.2. regarding institutional controls and land use restrictions also apply.~~
- ~~4. Department 27 Inside, SWMU 32. This area contains several pits, where PCB fluid was reported to have leaked. Sampling data from 1991, 1992, and the RFI conducted at the SWMU in 1994 and 1995 showed that chemicals of concern did not exceed the proposed soil cleanup levels based on industrial exposures. The requirements under Special Permit Condition XIII.A.2. regarding institutional controls and land use restrictions apply.~~
- ~~5. Maintenance Vehicle Repair Shop, which consists of: Building 54, SWMU 17; Maintenance Vehicle Repair Shop Sump, SWMU 36; and the Test Cell Area, SWMU 43.~~

~~SWMU 17 has VOCs in the groundwater and SVOCs in the soils. SWMU 36 has VOCs, petroleum hydrocarbons, and PCBs in the surrounding soils. The requirements under Special Permit Condition XIII.A.2. regarding institutional controls and land use restrictions also apply.~~

~~SWMU 43 was addressed by closing the tanks in FY 1998. Residual amounts of petroleum hydrocarbons remain in the soil. The CMI Plan was approved by the Department November 6, 2000, and includes institutional controls and land use restrictions.~~

- ~~6. The 95th Terrace Site, SWMU 42, contains soil contaminated with PCBs, most of which is covered by 20 to 50 feet of clean soil and beneath a box culvert under Bannister Road and 95th Terrace Street. DOE will work with MoDOT to place access and deed restrictions on property not owned by DOE. Some low levels of PCBs exist near the culvert outlet and in the~~

~~sediment near the 002 Outfall. Monitoring and investigations have shown that low level PCBs are in the effluent; however, they are not coming from the deep soil at the 95th Terrace Site, but from commingled water coming from footing drains, parking lots, and joint sealant. Corrective measures have reduced the annual mass actually entering Indian Creek, and institutional and engineering (warning signs and a cage preventing access to the raceway) controls prevent any unacceptable risk to human health or the environment. Ongoing monitoring of the effluent and Indian Creek sediment and water; maintenance of the culvert, signs, and cage; and additional fish tissue analysis are remedy elements for the 95th Terrace Site.~~

~~7. The Former Landfill, SWMU 44, is currently undergoing a CERCLA Remedial Investigation by the USACE. This work is being done under the FUDS program with the USACE as the lead agency under CERCLA. Any remedy proposed under the FUDS program for implementation at the Former Landfill is expected to meet the substantive requirements of RCRA. The Permittee shall request information, data, and documents produced by the USACE as a result of their investigation and remediation activities, to facilitate implementation of an integrated BFC wide approach to remediation. If the Department determines that additional corrective action activities are needed beyond those performed by the FUDS program at the Former Landfill, the Permittee shall be responsible for the additional work pursuant to this Permit.~~

- B. The Permittee shall [continue to](#) implement [relevant elements](#) ~~the requirements~~ of the [previous](#) remedy for the 95th Terrace Site as per Special Permit Condition XIII.A. above and as specified in the approved 95th Terrace CMS Report. This includes continued use of institutional controls for the 95th Terrace Site and other parcels of the [KCP portion of the BFC transferred to BT&D LLC facility](#) covered by this Permit, as noted in Special Permit Condition XVII. [Elements of the 95th Terrace remedy related to inspection and maintenance of the Outfall 002 structure, including the raceway structure, and sampling of sediment and water at the flap gate shall be eliminated from permit requirements after abandonment of the Outfall.](#)
- C. The [initial and iterative](#) CMI Work Plan(s) will be reviewed in accordance with the procedures set forth in Special Permit Condition XXI., Review and Approval

Procedures. ~~The~~ BT&D LLC ~~Permittee~~ shall complete implementation in accordance with the schedules contained in the approved plan(s).

~~D. The recovery wells for the groundwater pump and treat system in the Northeast Area (Blue River Groundwater Flow System) shall continue to operate in order to meet the GPS.~~

~~E.D. The Permittee shall utilize the current groundwater pump and treat system to contain the contamination and remove the hot spots within the plume. The Permittee~~ BT&D LLC shall ~~continue to~~ investigate on an ongoing basis innovative treatment technologies with respect to their application to areas of high contaminant concentrations in groundwater that remain following completion of the remedial actions specified in the approved Final CMR and CMI Work Plan(s), with the objective of meeting the GPS and/or other regulations on cleanup. These efforts shall be reported every three years as part of the Annual Groundwater Corrective Action Report, required in Special Permit Condition II.F. ~~In the event that the buildings are removed from over the Indian Creek Groundwater Flow System, the Permittee shall meet the requirements of Special Permit Condition XVII.D.3.~~

XIV. ~~Corrective Measures~~ Construction Completion Reports (CCR)

A. This Permit and the Special Permit Conditions contained herein that are applicable to the portions of the permitted property that are transferred to BT&D LLC are based on the approved Final ~~CMS Reports~~ CMR and CMI Work Plan(s) and the remedies specified in this Permit. If the Department determines that a new or revised remedy is necessary for any area at the facility, all Special Permit Conditions shall continue to be in force, unless and until appropriate permit modifications are reviewed and approved.

B. ~~The Permittee previously submitted a CCR to the Department and EPA upon completion of all construction activities associated with implementation of the approved remedy at the 95th Terrace site.~~ BT&D LLC shall submit to the Department and EPA as specified in the reporting schedule(s) contained in the approved CMI Work Plan(s), Construction Completion Report (The CCRs) containing ~~ed~~ a summary of all ~~corrective measure~~ construction activities implemented as part of the revised remedy for that portion of remedy implementation covered by each approved CMI Work Plan including at the 95th Terrace site, the location(s) and design of any new groundwater monitoring

or product recovery wells, copies of any other state or local permits or approvals that were necessary to implement the remedy and discussion of any deviations from the approved CMI Work Plan(s). The CCR ~~shall also address~~ the information described in Chapter V., Section VI. of the RCRA Corrective Action Plan (Final), May 1994, OSWER Directive 9902.3-2A. ~~Documentation of interim/stabilization measure activities conducted at the 95th Terrace site were included in the CCR. The CCR for the 95<sup>th</sup> Terrace Site was approved by the Department on September 29, 2006.~~

XV. Long-Term Operation, Maintenance, and Monitoring (LTOM&M) Plan

A. BT&D LLC shall submit to the Department within 90 calendar days of completion of physical construction of individual elements specified in the approved Final CMR and CMI Work Plan(s), an ~~The Permittee shall update~~ the LTOM&M Plan ~~within 60 calendar days of the effective date of this permit modification~~ to include any changes resulting from this modification and implementation of the revised remedy. The updated LTOM&M Plan shall specify operation, maintenance, and monitoring procedures for all remedies ~~(sitewide)~~ implemented ~~at the facility including, a~~ on that portion of the BFC transferred to BT&D LLC including activities conducted to address releases that have migrated from that property onto the GSA-retained portions of the BFC. At a minimum, the LTOM&M Plan shall include the information described in Chapter V., Section II of the RCRA Corrective Action Plan (Final), May 1994, OSWER Directive 9902.3-2A, and the following. ~~The LTOM&M Plan shall include applicable parts or updates of the former Long Term Soil and Groundwater Plan, dated November 2006. Components of this plan should include:~~

1. Any current or revised Optimization Plan regarding the effectiveness of the groundwater pumping wells.
2. The O&M plan for the groundwater treatment system.
3. Reference to the most current ~~The~~ Excavated Soil Management Plan/Procedures.
4. Reference to the most current approved stand-alone SAP.

5. ~~The revised Sitewide Institutional Controls Plan.~~ A copy of the executed environmental covenant for the property containing the property specific activity and use limitations.
6. Procedures regarding future transfer or conveyance of custody or control of any ~~real property at the KCP~~ portion of the BFC belonging to BT&D LLC.
7. Any additional information relating to ~~sitewide~~ property-wide care and long-term stewardship including any retained future obligations of other parties as contained in an Administrative Order on Consent for a Portion of the Bannister Federal Complex between the State Of Missouri/Department of Natural Resources, BT&D LLC, and NNSA/DOE.

The LTOM&M Plan shall meet ~~all the~~ approved standard operating procedures (SOPs), and institutional controls ~~described in~~ established as part of the approved revised remedy. Sections of the LTOM&M Plan may reference this Permit.

- B. The LTOM&M Plan will be reviewed in accordance with the procedures set forth in Special Permit Condition XXI., Review and Approval Procedures. Upon approval by the Department, the Permittee shall initiate or continue, as applicable, implementation of all activities detailed therein and comply with the schedule(s) related to the following activities as contained in the approved plan.
1. Long-term groundwater monitoring shall be conducted ~~for the SWMUs as~~ specified in Special Permit Condition II. and, as per the most recent approved SAP.
  2. Long-term analytical groundwater sampling data shall be included in the Groundwater Corrective Action Reports in accordance with Special Permit Condition II.F.
  3. BT&D LLC ~~The Permittee~~ shall evaluate, on an ongoing basis, the availability and viability of innovative treatment technologies and their potential application to areas of high contaminant concentrations in groundwater with the objective of meeting the GPS. These evaluations shall be reported every third year as part of the Annual Groundwater Corrective Action Report, required by Special Permit Condition II.F.

4. The operation and maintenance procedures for all elements/components of the revised remedy, including the replacement schedule for equipment and installed components. All monitoring to be performed to determine effectiveness of the revised remedy in meeting the GPS in Tables I and IA.

XVI. Corrective Measures Completion (CMC) Report

- A. The Permittee shall submit a CMC Report to the Department and the EPA within 60 calendar days of completion of all corrective measures (i.e., all media protection/clean-up standards are met and all related corrective action activities are complete). The CMC Report shall contain a summary of corrective measures activities performed at the facility including any LTOM&M program associated with the corrective measures. The completion of any short-term corrective action activities need not be included in the CMC Report but shall be summarized in the CMCCCR Report and ~~or shall also be reported in~~ the Annual Groundwater Corrective Action Reports required by Special Permit Condition II.F., as appropriate.
- B. The Permittee's groundwater corrective action program shall continue until such time as the risk-based clean-up goals are achieved, unless otherwise specified by the Department. The Permittee's groundwater corrective action program may cease upon written notification from the Department that the risk-based clean-up goals have been met. The CMC Report shall include this demonstration, to verify completion of corrective measures at the facility or at a portion of the facility.  
  
The Permittee may request discontinuation of groundwater corrective action in specific areas of the facility if it can be demonstrated that the risk-based clean-up goals have been met in those specific areas.
- C. The CMC Report will be reviewed and approved in accordance with the procedures set forth in Special Permit Condition XXI.
- D. Within 60 calendar days of receipt of ~~the Department's~~ approval of the CMC Report documenting completion of all corrective action, the Permittee shall submit to the Department and the EPA, by registered mail, a written certification. The certification shall reference the Department's CMC Report approval and state that the approved remedy has been completed according to the approved CMR,

CMS Report(s), CMI Work Plan(s) and/or other plans or specifications approved by the Department. The Permittee and an ~~independent~~ professional engineer registered in the state of Missouri shall sign the certification. ~~Certification shall always be tied to Department approval of the CMC Report.~~

XVII. Property Activity and Use Limitations ~~Deed Notation and/or Deed Restriction Requirements~~

- A. On the former KCP portion of the BFC, tThe former Permittee (NNSA/DOE) ~~previously has~~ filed a land use restriction notice and a survey plat with the Recorder of Deeds for Jackson County, Missouri, for all regulated units for which levels of contamination in the subsurface soils and/or groundwater exceeded background concentrations and/or other applicable regulatory thresholds at the time of closure of the units. The survey plats indicate the location and dimensions of each regulated unit with respect to permanently surveyed benchmarks. The Underground Tank Farm Land Use Restriction Notice is Document No. K-864040 in Book K-1883 at page 141. The North Lagoon Land Use Restriction Notice is Document No. K-888283 in Book K-1938 at Page 759. The South Lagoon Land Use Restriction Notice is Document No. K-888284 in Book K-1938 at Page 761.
- B. On the former KCP portion of the BFC, the former Permittee (NNSA/DOE) also previously ~~The Permittee also has~~ filed a land use restriction notice (Document No. 2000K0065988) and two figures/~~or~~ maps drawn to scale with the Recorder of Deeds for Jackson County, Missouri, illustrating the approximate boundaries of each SWMU for which levels of contamination in the subsurface soils and/or groundwater exceed background concentrations and/or other regulatory thresholds at that time. One figure illustrates the soil contamination, and the other illustrates the groundwater contamination. Type, location, and concentrations of hazardous waste and/or hazardous constituents present at the time of recording are noted on the figures.

These figures/~~or~~ maps shall be updated by GSA, if necessary, in accordance with the requirements and time lines specified in writing by the Department, and shall be filed with the Recorder of Deeds if levels of contamination in the subsurface soils and/or groundwater ~~applicable exceed background concentrations and/or other~~ regulatory thresholds on the GSA-retained portion of the BFC property as related to at the Former Landfill or any newly-identified SWMU(s) or AOC(s) on the property retained by GSA-at the facility.

- C. The above land use restriction notices will notify any potential purchaser of the property that:
1. The land has been used to manage hazardous waste and/or hazardous constituents; and
  2. The record of type, location, and concentration of hazardous wastes and/or hazardous constituents remaining in the subsurface soils and/or groundwater has ~~ve~~ been recorded filed with the Jackson County Recorder's office ~~local zoning authority, or the authority with jurisdiction over local land use,~~ and a copy with the recorded documents has been provided to the Department.
- D. Upon successful transfer of the NNSA/DOE owned portion of the BFC to BT&D LLC as described elsewhere in this Permit, BT&D LLC shall submit within 60 calendar days of the transfer, a draft Environmental Covenant to the Department pursuant to the Missouri Environmental Covenants Act containing activity and use limitations for the transferred portion of the property as outlined in Section 5.3.1 and other Sections of the approved Final CMR. The Environmental Covenant shall include:
1. A legal description of the property boundaries and ownership;
  2. A brief description of permitted facility conditions and history, including maps of contaminated areas including SWMUs and/or AOCs;
  3. Requirements to comply with the restrictions in this Permit;
  4. Property Activity Use Limitations including:
    - a. Prohibition on residential land use and a list of allowable commercial/industrial uses
    - b. Requirements for a soil management plan to address disturbance of potentially contaminated soils, their management if excavated, and construction worker health and safety in these areas
    - c. Requirements for future buildings to be constructed with engineered foundation systems to mitigate vapor intrusion, unless

it can be demonstrated to the Department, with the Department's written approval, that such a system is not needed for specific buildings

5. Language that all Environmental Covenant requirements shall be binding upon successor and/or transferee parties that own the land;

6. Other requirements, including descriptions of:

a. The physical location of the administrative record for BFC

b. The environmental response project

c. Applicable covenant enforcement mechanisms;

d. Rights of property access to regulatory agencies;

e. Covenant compliance reporting requirements;

f. Methods for covenant amendment or termination with the consent of the Department;

g. The obligations of the Department and other holders of interest in the covenant, and

h. How the covenant will be recorded and who will receive a copy

E. The Draft Environmental Covenant language will be reviewed and approved by the Department in accordance with the procedures set forth in Special Permit Condition XXI. Within 60 calendar days of final execution (all signatures obtained) of the Environmental Covenant, BT&D LLC shall record the approved Environmental Covenant with the Jackson County Recorder's Office and within 30 calendar days of such recording provide an official copy of the recorded Environmental Covenant to the Department and EPA.

~~D. Institutional controls, access restrictions, and stringent security measures are currently in use as part of the remedies on the KCP portion of the BFC. The institutional controls provide that any real property on the KCP portion of the BFC facility shall not be used in any manner that would interfere with or~~

~~adversely affect the integrity or protectiveness of the corrective action measures to be implemented. The institutional controls include, but are not limited to, the following land use restrictions:~~

- ~~1. Public access to all contaminated soil shall be prevented by appropriate means such as fences and other security measures.~~
  - ~~2. Any future construction or maintenance activities involving excavation of contaminated soil shall include internal Permittee controls consistent with Occupational Safety and Health Administration (OSHA) requirements regarding appropriate worker exposure protection and shall provide for the management of the soil according to federal, state, and local regulations.~~
  - ~~3. Buildings, structures, and pavement that currently cover contaminated soil shall not be removed or altered unless the Permittee has provided for alternative corrective measures to protect human health and the environment, and has the prior approval of the Department. An exception to this is repair and maintenance of utilities provided for by the Excavated Soil Management Procedures found in Special Permit Condition XXI.B. Alterations that are subject to this provision are limited to those that result in exposing presently covered contaminated soils.~~
  - ~~4. Groundwater on the KCP portion of the BFC shall not be used as a water supply for any purpose.~~
  - ~~5. Unless previously approved by the Department, the areas with institutional controls may not be used for any purpose other than industrial use. Industrial uses are those that result only in exposure of adult workers in industrial, construction, and maintenance activities consistent with the exposure assumptions in DOE's approved Multiple Sites CMS (Administrative Record No. 93), and the exposure assumptions in the 95th Terrace Site CMS.~~
- ~~E. The Sitewide Institutional Controls Plan provides for the continuation of appropriate institutional controls in the event of a permit transfer, a transfer of custody or control between Federal Agencies, or the conveyance of any interest in real property that is currently part of the KCP portion of the BFC, including but not limited to, fee interests, leasehold interests, and mortgage interests. The plan also provides for an access easement, land use restriction easement, and~~

~~restrictive covenants to be filed and recorded in the Recorder's Office of Jackson County, state of Missouri, and to be written to run with the land and be enforceable under Missouri law. A land-use restriction notice has been recorded at the Jackson County Recorder's Office, indicating the land contains hazardous waste and hazardous constituents; the use of such land is restricted under this Permit; and corrective measures to these units are described in this Permit. This permit will transfer to and/or include the new owner/operators as a Permittee for the area they acquire, if that portion of the BFC is still subject to the jurisdiction of this Permit at the time of the transfer/sale. At such time as any and all unmodified historical remedies and new or modified remedies are implemented pursuant to this Permit, it may be necessary to execute a BFC wide environmental covenant in conformance with the Missouri Environmental Covenants Act to establish property activity and use limitations in consideration of the potential future reuse(s) of the property. The Department shall notify the Permittee in writing if an additional or updated environmental covenant is needed and specify the basis therefore and associated time frames in that notification.~~

~~This Permit will be renewed as long as there is a need for monitoring, long term stewardship, and institutional controls in order to provide protection of human health and the environment.~~

- ~~1. The Sitewide Institutional Controls Plan includes proposed drafts of the access easement, land-use restriction easement, and restrictive covenants.~~
- ~~2. The draft easements and restrictive covenants retain or grant the access easement rights and the right to enforce the land-use restriction to the United States, on behalf of DOE and its representatives and to the state of Missouri and its representatives.~~

~~The EPA is a third party beneficiary of the rights and benefits conveyed to the grantees in the easements and restrictive covenants, including the right to enforce the easements and restrictive covenants. The state of Missouri may opt to be a third party beneficiary or a grantee of the easements and restrictive covenants.~~

- ~~3. The easements shall be free and clear of all prior liens and encumbrances (except as approved by the Department), and be acceptable under the U.S. Attorney General's Title Regulations promulgated pursuant to 40 U.S.C. 255.~~

- ~~4. The land use restriction easement and restrictive covenant shall include, but not be limited to the restrictions and conditions stated in Special Permit Condition XVII.D. above, and any others necessary to implement, ensure non-interference with, or ensure the protectiveness of the corrective measures provided for in this Permit.~~
- ~~5. The access easement shall include a grant of a right of access to the real property for the purpose of conducting any activity related to the corrective measures provided for in this Permit. In order to comply with DOE's security requirements, the Department's representatives shall be U.S. citizens, be accompanied by a DOE or DOE contractor escort, and if entering any exclusion area, shall have a DOE Q access authorization. The U.S. citizen requirement and DOE Q access authorization for entering an exclusion area shall remain in effect until DOE completes their relocation to their new site and has ceased all manufacturing at the BFC. This shall include, but not be limited to the following activities:~~
  - ~~a. Monitoring the work.~~
  - ~~b. Verification of data or information submitted to DNR and EPA.~~
  - ~~c. Conducting investigations relating to contamination at, near, or migrating from the facility.~~
  - ~~d. Obtaining samples.~~
  - ~~e. Assessing the need for, planning, or implementing additional response actions at the facility.~~
  - ~~f. Implementing work pursuant to conditions set forth in a remedy or this Permit.~~
  - ~~g. Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by DOE and GSA or their agents.~~
  - ~~h. Assessing DOE's and GSA's compliance with this Permit.~~

~~i. Determining whether any property at the KCP is being used in a manner that is prohibited or restricted.~~

~~F. At least 60 days prior to conveyance, or transfer of custody or control, of any real property at the BFC subject to the jurisdiction of this Permit, the Permittee shall give any potential new owner/operator written notice via certified mail of BFC's MHWMF Part I and EPA Part II Permits; Statement of Basis for the applicable area; any access agreements, easements, restrictive covenants and financial assurance for the area; and acknowledgement of any regulatory requirements and Permit modifications necessary to complete transfer of the real property. The Permittee shall submit a copy of the foregoing written notice to the department and EPA at the same time that it is provided to any potential new owner/operator. Prior to any property transfer, the Permittee shall also record an access easement, and a land use restriction easement with the Recorder of Deeds for Jackson County, Missouri. Refer to Special Permit Condition XVII. E. above.~~

~~1. The land use restriction easement shall grant the right to enforce the land use restrictions listed in Special Permit Condition XVII.D., and those that are otherwise necessary to implement, ensure non-interference with, or ensure the protectiveness of the corrective action measures provided for in the CMI Work Plan, the remedy, or this Permit.~~

~~G. DOE and GSA shall continue to investigate innovative technologies on an ongoing basis to address the soil contamination and may be required to implement additional remedies. These evaluations shall be reported every third year as part of the Annual Groundwater Corrective Action Report, required by Special Permit Condition II.F. Prior to conveyance of any property at the BFC, or transfer of custody or control of any real property at the BFC, that is currently under control of the Permittee, the Department will require modification or revocation and reissuance of this Permit to change the name(s) of the Permittee(s) and/or add additional Permittees and incorporate such other requirements as necessary to continue the institutional controls and restrictions, as well as ongoing remediation and corrective action. Any new owner(s)/operator(s) shall manage the property in a manner that does not interfere with the remedy or the operation, monitoring and maintenance of institutional or engineering controls.~~

~~H. The Permittee may, as a result of ongoing remediation efforts or future innovative technologies, reduce the concentration of contaminants in groundwater and/or soil to levels acceptable for residential use. Should this occur, the Permittee may~~

~~propose that a new notation be recorded in the property chain of title stating that the use of the affected area may be residential, thus superseding any previous restrictions on land use that were more restrictive. Any land use changes proposed by the Permittee shall be handled as a Class 2 Permit modification.~~

XVIII. Funding and Financial Assurance for Post-Closure Care and Corrective Action

- A. The Department and the Permittees expect that all obligations and commitments established in this Permit will be fully funded by the Permittees. The Permittees shall take all necessary steps, and use ~~their~~ best efforts, to obtain timely funding to meet their respective obligations under this Permit, including but not limited to the submission of timely budget requests.

Funding and financial assurance related to the activities required by this Permit on that portion of the BFC that is transferred to BT&D LLC shall be sufficient to cover the remediation-related cost estimates contained in Table 7 and Appendix C of the Draft Final CMR. The capital costs for remediation are estimated at \$98,200,000 in 2016 dollars. This estimate includes \$11,700,000 for vapor intrusion protection that may need to be installed in any new buildings constructed on the transferred property following demolition of current buildings, implementation of the proposed remedy and regrading of the property. As such, the estimated cost for vapor intrusion protection is only a tentative cost that will not initially be placed in the Bannister Remedial Fund discussed below. In addition to the capital costs, the cost of 30 years' worth of operation, maintenance, monitoring and reporting for the transferred property is estimated at \$46,400,000 in 2016 dollars. Total capital and long-term costs are estimated at \$144,600,000 in 2016 dollars, potentially less the \$11,700,000 for vapor intrusion protection if it is later approved by the Department as unnecessary.

Upon successful transfer of a portion of the BFC property to BT&D LLC, federal funds covering the capital costs for short-term post-closure care and long-term corrective action on that portion of the property will be placed in the BFC Remedial Fund for later distribution as costs are incurred. Use of the BFC Remedial Fund as the regulatory instrument for financial assurance is substantially equivalent to the trust fund option contained in 10 CSR 25-7.264(1), incorporating 40 CFR 264 Subpart H – Financial Requirements. The BFC Remedial Fund will be administered pursuant to the terms established in the Administrative Order on Consent for a Portion of the Bannister Federal Complex between the State of Missouri/Department of Natural Resources, BT&D LLC, and

NNSA/DOE. In that document, NNSA/DOE and the State of Missouri/ Department are named as BFC Remedial Fund beneficiaries in the event of default by BT&D LLC.

LTOM&M and post-closure care costs from and after year 5 following the effective date of transfer of a portion of the BFC to BT&D LLC are a separate item that is not covered by the BFC Remedial Fund described above. The requirements and procedures for funding of these long-term costs are specified in the Administrative Order on Consent for a Portion of the Bannister Federal Complex.

~~However~~ As to the GSA-retained portion of the BFC, nothing herein shall affect GSA's ~~the Permittee's~~ authority over its budget and funding level submissions. Additionally, any requirement for the payment or obligation of funds by GSA ~~the Permittee~~ established by the terms of this Permit shall be subject to the availability of appropriated funds, and no provision herein shall be interpreted to require the obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. Section 1341, as amended. In instances where GSA ~~the Permittee~~ is precluded from meeting its commitments hereunder due solely to the restrictions of the Act and GSA ~~the Permittee~~ has otherwise taken all necessary steps and made diligent efforts to obtain the funds necessary to meet its commitments hereunder, any scheduled dates for activities that cannot be performed for such reason shall be appropriately adjusted.

- B. GSA ~~The Permittee~~ shall submit to the Department an annual funding report demonstrating requests for funding sufficient to fulfill GSA's ~~the Permittee's~~ obligations under this Permit. This funding report shall be submitted to the Department on an annual basis by April 1.
- C. Within 90 days after this Permit has been modified to include any new or additional remedies on the GSA-retained portion of the BFC, ~~the Permittee~~ GSA shall provide all necessary documentation to demonstrate a request for ~~an increase of~~ funds sufficient to support all corrective action activities required under this Permit. The funding request shall be based on ongoing remedies on the GSA-retained portion of the BFC ~~at the facility~~, and on the cost estimates contained in the approved final CMS Report(s) for the additional remedies. If, in order to implement an approved remedy, the GSA ~~Permittee~~ is required, through appropriate channels, to submit a funding request to the U.S. Congress, GSA ~~the~~

~~Permittee~~ shall notify the Department of such requirement within 30 days after this Permit has been modified to include such approved remedy.

- D. If the cost estimates contained in the approved final CMS Report(s), or ongoing implementation costs increase, GSA ~~the Permittee~~ shall, in the next annual funding report under Paragraph B. above, demonstrate that the cost increase has been reflected in the GSA's ~~Permittee's~~ budget requests.
- E. If sufficient funds are not available from GSA ~~the facility owner~~ to fulfill its ~~the Permittee's~~ obligations under this Permit, the Department reserves the right to initiate any action it deems necessary to enforce the terms of this Permit. ~~This may include requesting that the facility operator cover any funding shortfall since the facility owner and operator are jointly responsible for complying with the terms of this Permit (including those relating to financial assurance) as the "Permittee."~~
- F. GSA ~~The Permittee~~ shall document that any potential new owner/operator of all or portions of the GSA-retained portion of the BFC ~~facility~~ has been advised of the regulatory requirements, including financial assurance, specified in Special Permit Condition XVIII.E. that may be applicable to new owners/operators. This documentation may be in the form of a sworn affidavit completed by GSA ~~the Permittee~~ or a copy of the letter to the potential new owner/operator accompanied by a copy of the properly executed certified mail return receipt. This documentation shall be provided to the D ~~department~~ at least 45 days prior to conveyance, or transfer of custody or control, of the GSA-retained portion of the BFC ~~any real property at the BFC~~ subject to the jurisdiction of this Permit. If a State or Federal agency (other than DOE and ~~GSA~~), assumes ownership or operational control of all or portions of the GSA-retained portion of the BFC ~~facility~~, that agency shall identify the funds in their annual budget request that are dedicated to the performance of the requirements of this Permit. This information shall be provided in writing to the D ~~department~~ and EPA within 60 days of assuming ownership or operational control of all or portions of the GSA-retained portion of the BFC ~~permitted facility~~. Thereafter this budget information shall be provided annually in accordance with Special Permit Condition XVIII.B.
- G. Any non-governmental entity that assumes ownership or operational control of all or portions of the permitted facility, shall provide financial assurance that is consistent with and equivalent to that specified in 40 CFR Part 264 Subpart H, as

incorporated ~~by reference~~ in 10 CSR 25-7.264(1). The form, scope, and amount of financial assurance shall be approved by the Department prior to closing on the transfer of property and/or transition of operational control. The amount of financial assurance must be sufficient to assure the funding of all activities, including long-term stewardship, required by this Permit and the plans approved hereunder. ~~In lieu of the non-governmental entity providing financial assurance as described above, DOE and GSA may continue to perform the work required by this Permit including submission of the annual funding report required by this Permit. Any such intention on DOE's and GSA's part shall be conveyed in writing to the Department prior to closing on the transfer of property and/or transition of operational control.~~

XIX. Semi-annual Progress Reports

- A. ~~Each~~ The Permittee shall independently submit to the Department and EPA signed semi-annual progress reports summarizing all permitted corrective action activities undertaken on their respective portions of the BFC during each calendar half year. Each progress report shall be due within 60 days following the last day of each reporting period (i.e., March 1, and September 1). The March progress report may be combined with the Annual Groundwater Corrective Action Report required by Special Permit Condition II.F.

The progress reports shall continue to be submitted until such time as the Permittee's corrective action activities are complete. The progress reports shall include the following information for the time period being reported:

1. A description of the work completed;
2. Summaries of all findings, including summaries of laboratory data;
3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;
4. Projected work for the next reporting period; and
5. Any instances of noncompliance with the corrective action requirements of this Permit not required to be reported elsewhere in this Permit.

- B. Detailed technical information shall be submitted as part of the Annual Groundwater Corrective Action Reports required by Special Permit Condition II.F. and/or other reports (i.e., IM, RFI, CMS, etc.) required by this Permit. This detailed information need not be reproduced as part of the Permittee's progress reports.
- C. Copies of other reports (e.g., inspection reports), information, or data shall be made available to the Department and EPA upon request.

XX. Supplemental Data

All raw data, such as laboratory reports, drilling logs, bench-scale or pilot-scale data, and other supporting information gathered or generated during activities undertaken pursuant to this Permit shall be maintained by the Permittees during the term of this Permit, including the term of any reissued Permits.

XXI. Review and Approval Procedures

- A. Following submission of any plan or report pertaining to corrective action activities (excluding the Annual Groundwater Corrective Action Report, semi-annual progress reports, and ~~Corrective Measures~~ Construction Completion Report(s)), the Department will review and either approve or disapprove the plan or report in writing.

If the Department does not approve the plan or report, the Department will notify the Permittee in writing of the plan's or report's deficiencies and specify a due date for submittal of a revised plan or report.

If the Department does not approve the revised plan or report, the Department may modify the plan or report and notify the Permittee of the modifications. The plan or report as modified by the Department shall be the approved plan or report.

If the Permittee disagrees with any Department-initiated plan or report modifications, and a mutually acceptable resolution of such modifications cannot be informally reached, any appeal of the Department-initiated modifications shall be filed in accordance with Section 260.395.11, RSMo, 621.250, RSMo and 10 CSR 25-8.

- B. To facilitate ~~the Permittee's~~ GSA's current and BT&D LLC's future (i.e., post-building demolition, post-remedy implementation, and post-property regrading) repair and maintenance of utilities on the permitted property ~~site~~ that may be in a contaminated area, Excavated Soil Management Procedures shall be followed, subject to the following conditions:
1. Pre-excavation soil sampling/analysis shall be done along the area of repair/excavation prior to submitting the request to the Department for approval.
  2. A plan view map showing the location(s) and depth(s) of the necessary repair, location(s) and depth(s) of any pre-excavation samples, and the location(s) of any identified ~~known~~ hazardous waste units ~~site~~ (regulated units), ~~or~~ Solid Waste Management Units (SWMUs) or Areas of Concern and/or releases from such units/areas ~~that~~ which could be impacted by the proposed excavation/construction activities. This map shall be accompanied by ~~and~~ any additional information relevant to disturbance of areas with known contamination and; shall be submitted with the request to the Department. This map and the supporting information ~~sample results~~ shall be legible and clear.
  3. The Department's ~~sa~~ approval shall be required ~~followed~~ for each individual utility project; and shall is-not be construed as a blanket approval for management of excavated soils associated with other activities. The Permittee shall consult the Department if there is any an activity is-questionable as to whether the activity is covered by this Permit requirement.
  4. The Permittee's<sup>2</sup> pre-excavation soil sampling/analysis and subsequent excavation activities could lead to discovery of additional SWMUs/AOCs. Any SWMUs/AOCs and/or new releases from known SWMUs/AOCs discovered must be reported to the Department and EPA in accordance with Special Permit Conditions V. and VI., as applicable.
  5. When contaminated soil is approved for backfill into the excavation, the Permittee shall place a clean layer of soil at grade on top of the soil that is backfilled. The clean soil layer shall be a minimum of four inches thick and be free of contamination above background levels (i.e., below the method detection limits for VOCs). Any contaminated soil that is not

used as backfill must be managed and disposed of in accordance with all applicable local, state, and federal requirements. In the event any excavated material is shown to be hazardous waste, land disposal restrictions in 40 CFR Part 268 must be met prior to placing material back in/on the ground (unless placement is for stockpiling, prior to transportation off-~~property~~-site).

6. Excavated Soil Management requests shall be submitted to the Department at least 15 working days prior to performing the work. When possible, requests should be grouped together and consolidated.
  7. The Department shall notify the Permittee by phone if the request is approved. The Permittee shall then confirm the Department's verbal approval by letter or e-mail within seven working days.
- C. Should the Permittee require additional time to submit a scheduled document or perform other activities required by this Permit, the Permittee shall provide a written extension request to the Department at least 15 days prior to the scheduled due date of the document or activity. The Permittee's extension request shall specify the amount of additional time requested and shall be accompanied by justification for the extension. Review and approval of extension requests shall be in accordance with Special Permit Condition XXI.

## XXII. Planned Activities

- A. ~~As applicable,~~ the Permittees shall independently comply with the schedule for the planned activities (beyond those referenced in Special Permit Condition XXII.B. below) ~~other than groundwater monitoring, surface water monitoring, and corrective action~~ as specified in this Permit and as summarized on Table III attached hereto.
- B. ~~As applicable,~~ the Permittees shall independently comply with the schedule for planned groundwater monitoring, surface water body monitoring, and corrective action activities as specified in this Permit and as summarized on Table IV attached hereto.

XXIII. Contingent Activities

- A. The Permittees shall [independently](#) comply, as necessary, with the schedule(s) for contingent activities as specified in the Standard and General Permit Conditions of this Permit.
- B. The Permittee shall [independently](#) comply, as necessary, with the schedule(s) for contingent corrective action activities as specified in the Special Permit Conditions of this Permit as summarized on Table V attached hereto.

XXIV. Submittal of Required Information

- A. The Permittees shall submit three copies (~~or as an option of the Permittee,~~ two hard copies and ~~an~~[one searchable](#) electronic copy) of all reports, documents, or plans/specifications required under the terms of this Permit to:

Chief, Permits Section  
Missouri Department of Natural Resources  
Hazardous Waste Program  
P.O. Box 176  
Jefferson City, MO 65102-0176

- B. The Permittees shall submit two copies ([one hard copy and one searchable electronic copy](#)) of all reports, documents, or plans/specifications required under the terms of this Permit to:

Chief, Waste Remediation and Permitting Branch  
U.S. Environmental Protection Agency Region VII  
Air and Waste Management Division  
~~901 North 5th Street~~[11201 Renner Boulevard](#)  
~~Kansas City, KS 66101~~[Lenexa, KS 66219](#)

**FACILITY SUBMISSION SUMMARY**

**Table III – Summary of the Independent Submittal Requirements Pursuant to this Permit (other than those specified in Table IV below)**

Submittal Requirements	Due Date	Permit Condition
Certification that Permittees <del>has</del> <u>have</u> s read and understands this modified Permit	Within 60 calendar days of effective date of <u>permit transfer to BT&amp;D LLC</u> <del>this permit modification.</del>	<u>Schedule of Compliance</u> Page 12
<u>Submit a check or money order to the Department’s Hazardous Waste Program payable to the State of Missouri for any outstanding engineering review and corrective action costs. (BT&amp;D LLC and GSA)</u> <del>Provide progress report on agreement with MoDOT on access and deed restrictions on right of way covering contaminated soil.</del>	Within 60 calendar days of effective date of <u>permit transfer to BT&amp;D LLC</u> <del>Within 60 calendar days of effective date of permit modification.</del>	<u>Schedule of Compliance</u> Page 12
<u>Updated Spill Control Plan/Emergency Plan (BT&amp;D LLC and GSA)</u> <del>Submit a check or money order to the Department’s Hazardous Waste Program payable to the State of Missouri for any outstanding engineering review costs.</del>	Within 60 calendar days of the effective date of <u>permit transfer to BT&amp;D LLC</u> <del>Within 60 calendar days of effective date of permit modification.</del>	<u>Schedule of Compliance</u> Page 12
<u>Revised Community Involvement Plan (BT&amp;D LLC and GSA)</u>	Within 90 calendar days of the effective date of <u>permit transfer to BT&amp;D LLC</u>	<u>Schedule of Compliance</u>
<u>Revised Sampling and Analysis Plan (SAP) (BT&amp;D LLC and GSA)</u>	Within <del>60</del> 90 calendar days of the effective date of the <u>effective date of permit transfer to BT&amp;D LLC</u>	<u>Schedule of Compliance</u>

**Table IV – Summary of the Planned, Independent Groundwater Monitoring, Surface Water Body Monitoring, and Corrective Action Submittal Requirements Pursuant to the Special Conditions of this Permit.**

Submittal Requirements	Due Date	Special Permit Condition
<u>Annual</u> Groundwater Corrective Action Reports <u>(BT&amp;D LLC and GSA)</u>	By March 1 of each calendar year.	II.(F)
<u>Corrective Measures Implementation (CMI) Work Plan(s)</u> (BT&D LLC only)	<u>Initial plan within 90 calendar days of permit transfer to BT&amp;D LLC</u>	<u>XIII.</u>
<u>Construction Completion Reports (CCR)</u> (BT&D LLC only) <del>Corrective Measures Completion (CMC) Report</del>	<u>In accordance with the schedule contained in the approved CMI Work Plan(s)</u> <del>Within 60 calendar days of completion of all corrective measures.</del>	<u>XIV.</u> <del>XVI.</del>
<u>Long-Term Operation, Maintenance and Monitoring (LTOM&amp;M) Plan updates</u> (BT&D LLC only)	<u>Within 90 calendar days of completion of physical construction of all elements specified in the approved Final CMR and CMI Work Plan</u>	<u>XV.</u>
<u>Property Activity and Use Limitations</u> (BT&D LLC only) <del>Update Deed Notation and/or Deed Restriction Requirements to include the 95th Terrace Site</del>	Submit draft <u>environmental covenant notices</u> within 60 calendar days of the effective date of permit transfer to BT&D LLC, record covenant within 60 calendar days of execution (all signatures obtained) and <del>Department approval;</del> and provide <u>official copy of recorded covenant to Department and EPA</u> <del>notarized certification</del> within <del>30</del> 60 calendar days of recording.	XVII.
Annual Funding Report <u>(GSA only)</u>	On or before April 1st, each year.	XVIII.B.

Submittal Requirements	Due Date	Special Permit Condition
Semi-Annual Progress Reports ( <a href="#">BT&amp;D LLC</a> and <a href="#">GSA</a> )	By March 1 and September 1 of each calendar year (March 1 report can be combined with Annual Groundwater Corrective Action Report).	XIX.
<del>Long-Term Operation, Maintenance and Monitoring (LTOM&amp;M) Plan updates</del>	<del>Within 60 calendar days of the effective date of this modified permit.</del>	<del>Schedule of Compliance</del>
<del>Spill Control Plan/Emergency Plan updates to include applicable provisions for the GSA portion of the BFC.</del>	<del>Within 60 calendar days of the effective date of this modified permit.</del>	<del>Schedule of Compliance</del>
<del>Submit a Description of Current Conditions Report (DCCR)</del>	<del>Within 150 calendar days of the effective date of this modified permit.</del>	<del>Schedule of Compliance</del>
<del>Baseline Risk Assessment</del>	<del>As instructed by the department in its approval letter for the DCCR and any supplemental RFI Report(s), if required.</del>	<del>Schedule of Compliance</del>
<del>Implement certain groundwater monitoring program changes</del>	<del>Upon the effective date of this modified permit.</del>	<del>Schedule of Compliance</del>
<del>Submit updated SAP</del>	<del>Within 60 calendar days of the effective date of this modified permit.</del>	<del>Schedule of Compliance</del>
<del>Five year periodic re-evaluation of the groundwater pumping system</del>	<del>Five year intervals after the implementation of the optimized design</del>	<del>Schedule of Compliance</del>
<del>Submit a revised Community Involvement Plan</del>	<del>Within 60 calendar days of the effective date of this modified permit if not already submitted prior to permit modification.</del>	<del>Schedule of Compliance</del>

Submittal Requirements	Due Date	Special Permit Condition
<del>Submit a PCB Fate and Transport Work Plan</del>	<del>Within 90 calendar days of the effective date of this modified permit.</del>	<del>Schedule of Compliance</del>
<del>Submit a PCB Fate and Transport Report</del>	<del>According to the schedule contained in the approved PCB Fate and Transport Work Plan.</del>	<del>Schedule of Compliance</del>

**Table V – Summary of the Contingent, Independent Corrective Action Submittal Requirements Pursuant to the Special Conditions of this Permit.**

Submittal Requirements	Due Date	Special Permit Condition
Notification Requirements for and Assessment of Newly-Identified SWMU(s) and Areas of Concern (AOCs) <a href="#">(BT&amp;D LLC and GSA)</a>	Within 15 calendar days of discovery.	V.
SWMU/AOC Assessment Work Plan <a href="#">(BT&amp;D LLC and GSA)</a>	Within 30 calendar days of notification by the Department that a work plan is required.	V.
Notification Requirements for and Assessment of Newly-Identified Releases from Previously-Identified SWMUs and AOCs <a href="#">(BT&amp;D LLC and GSA)</a>	Within 15 calendar days of discovery.	VI.
Newly-Identified Release Work Plan <a href="#">(BT&amp;D LLC and GSA)</a>	Within 30 calendar days of notification by the Department that a work plan is required.	VI.
Interim/Stabilization Measures (ISMs) <a href="#">(BT&amp;D LLC and GSA)</a>	Upon notification by the Department that ISMs are required or as proposed by the Permittee.	VII.
RCRA Facility Investigation (RFI) Work Plan <a href="#">(BT&amp;D LLC and GSA)</a>	Within 60 calendar days of notification by the Department that a work plan is required.	VIII.
RCRA Facility Investigation (RFI) Report <a href="#">(BT&amp;D LLC and GSA)</a>	According to the schedule contained in the approved RFI Work Plan.	IX.
CMS Work Plan <a href="#">(BT&amp;D LLC and GSA)</a>	Within 45 calendar days of notification by the Department that a work plan is required.	X.
CMS Report <a href="#">(BT&amp;D LLC and GSA)</a>	According to the schedule contained in the approved CMS Work Plan.	XI.

Submittal Requirements	Due Date	Special Permit Condition
<a href="#">Corrective Measures Completion (CMC) Report (BT&amp;D LLC and GSA)</a> <del>Corrective Measures Implementation (CMI) Work Plan</del>	<a href="#">Within 60 calendar days of completion of all corrective measures.</a> <del>Within 90 calendar days of approval of any new or modified remedies.</del>	<a href="#">XVI.</a> <del>XIII.</del>
Funding Documentation for New or Additional Remedies( <a href="#">BT&amp;D LLC and GSA</a> )	Within 90 calendar days of a Permit modification for any new or modified remedies.	XVIII.C.

~~U.S. Department of Energy, Kansas City Plant~~[Bannister Transformation & Development LLC](#)  
and U.S. General Services Administration  
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**FIGURE 1. Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs)**

**Figure not available due to size.**

Please see ~~hard-copy,~~[separate electronic file online at  
dnr.mo.gov/env/hwp/permits/mo9890010524/20170503-figure1.pdf](http://dnr.mo.gov/env/hwp/permits/mo9890010524/20170503-figure1.pdf)

| ~~U.S. Department of Energy, Kansas City Plant~~[Bannister Transformation & Development LLC](#)  
and U.S. General Services Administration  
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**FIGURE 2. Point of Compliance Wells**

**Figure not available due to size.**

| Please see ~~hard-copy,~~[separate electronic file online at  
dnr.mo.gov/env/hwp/permits/mo9890010524/20170503-figure2.pdf](http://dnr.mo.gov/env/hwp/permits/mo9890010524/20170503-figure2.pdf)

~~U.S. Department of Energy, Kansas City Plant~~[Bannister Transformation & Development LLC](#)  
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**FIGURE 3. BFC Property Boundary**

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Please see ~~hard-copy~~[separate electronic file online at  
dnr.mo.gov/env/hwp/permits/mo9890010524/20170503-figure3.pdf](http://dnr.mo.gov/env/hwp/permits/mo9890010524/20170503-figure3.pdf)

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**FIGURE 4. BFC Groundwater Pumping Wells**

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| Please see ~~hard-copy,~~[separate electronic file online at  
dnr.mo.gov/env/hwp/permits/mo9890010524/20170503-figure4.pdf](http://dnr.mo.gov/env/hwp/permits/mo9890010524/20170503-figure4.pdf)