

Appendix A:

RCRA Permit Modification Press Release,  
September 2, 2011





## **NEWS RELEASE**

### **News Media Contacts**

Gayle Fisher, NNSA, 816-997-5476

Angela Brees, GSA, 816-823-2931

### **Government agencies seek site-wide environmental program at Bannister Federal Complex**

**Kansas City, Mo. (September 2, 2011)** - Government agencies at the Bannister Federal Complex filed a permit modification request today with the Missouri Department of Natural Resources (MDNR) and the U.S. Environmental Protection Agency (EPA) Region 7 to consolidate efforts and address in a comprehensive manner the environmental assessment and cleanup of the Complex. The request seeks to modify the Missouri Hazardous Waste Management Facility Part I permit and Environmental Protection Agency Hazardous and Solid Waste Amendments Part II Permit.

The facilities at the complex, owned by the U.S. Department of Energy's National Nuclear Security Administration (NNSA) and the U.S. General Services Administration (GSA), currently operate under separate environmental programs. If approved, the NNSA and GSA would work together on environmental monitoring and cleanup.

"This expansion provides a more comprehensive, complex-wide approach to addressing environmental issues at the 300-acre Bannister Federal Complex and makes good sense from a planning perspective," said Mark Holecek, site manager for NNSA's Kansas City Site Office. "We want to move forward and get all necessary environmental work done sooner rather than later as we prepare for eventual reuse of the area owned by the NNSA. Including the entire Bannister Federal Complex under the same permits allows us to work together with GSA to manage our environmental responsibilities in a more integrated manner."

The NNSA's Kansas City Plant (KCP) is building a new facility about eight miles south of the Bannister Federal Complex. The move is expected to begin in January 2013. KCP produces non-nuclear parts for nuclear weapons; the manufacturing facility is managed and operated by Honeywell FM&T.

The proposed permit modifications are one outcome of discussions held during the past year with members of the Interagency Environmental Leadership Council (IELC). Members include local and regional leaders from five governmental entities: NNSA, GSA, MDNR, EPA and the Army Corps of Engineers (responsible for the old landfill at the Bannister Federal Complex). The IELC was formed in 2010 to review past and current environmental actions at the Bannister Federal Complex, establish a Community Advisory Panel for public input, and pave a safe path for the reuse of the site.

"Working together as a council and seeking public input has helped all of us to better understand past, current and future environmental issues facing the entire Bannister Federal Complex," said Jason Klumb, GSA regional administrator and an IELC member.

The permit modification application requires a review of previous complex-wide environmental investigations, assessment of current environmental issues, a risk screening based on current and potential property uses and an evaluation of new opportunities for cleanup.

MORE

As an EPA-authorized program, MDNR issues permits to hazardous waste facilities under RCRA-equivalent state laws and regulations, and oversees corrective action activities at those facilities such as those proposed in the permit modification for the Bannister Federal Complex.

Under this framework, EPA and MDNR have developed a Memorandum of Agreement to document the agencies' continued coordination and joint regulation of environmental issues through the Missouri Hazardous Waste Management Facility Permit.

Currently, both the GSA and NNSA continue to implement required environmental programs at the Bannister Federal Complex. The NNSA has invested about \$70 million to date on corrective actions required under RCRA to protect human health and the environment.

Under the EPA/GSA Environmental Work Agreement, GSA has performed site investigations, removal assessment and response actions under EPA oversight for the past year. The assessments have included indoor air quality, drinking water testing and groundwater sampling.

**A public information session is scheduled from 5-7 p.m. on Monday, Sept. 19 at the Evangel Church, 1414 E. 103<sup>rd</sup> Street Kansas City, MO.** This session will have information, exhibits and agency representatives available to explain the process. In addition, there will be information available about how to make written comments on this proposed permit modification during the 60-day comment period.

The NNSA plans to transition to a new facility by 2014.

Both NNSA's Holecek and GSA's Klumb agreed that this permit modification request demonstrates the federal government's continuing commitment to environmental protection at the Bannister Complex.

#####

#### National Nuclear Security Administration (NNSA)

Established by Congress in 2000, NNSA is a semi-autonomous agency within the U.S. Department of Energy responsible for enhancing national security through the military application of nuclear science in the nation's national security enterprise. NNSA maintains and enhances the safety, security, reliability, and performance of the U.S. nuclear weapons stockpile without nuclear testing; reduces the global danger from weapons of mass destruction; provides the U.S. Navy with safe and effective nuclear propulsion; and responds to nuclear and radiological emergencies in the U.S. and abroad.

#### General Services Administration (GSA)

As the federal government's workplace solutions provider, the U.S. General Services Administration works to foster an effective, sustainable and transparent government for the American people. GSA's expertise in government workplace solutions include:

- Effective management of government assets including more than 9,600 government-owned or leased buildings and 250,000 vehicles in the federal fleet, and preservation of historic federal properties;
- Leveraging the government's buying power through responsible acquisition of products and services making up approximately 14 percent of the government's total procurement dollars;
- Providing innovative technology solutions to enhance government efficiency and increase citizen engagement; and,
- Promoting responsible use of federal resources through development of government wide policies ranging from federal travel to property and management practices.



Appendix B:

KCP Environmental Timeline



- 1942-1945** The site known as the Bannister Federal Complex was originally built for the U.S. Navy to produce aircraft engines until the end of WWII. The plant was operated by Pratt & Whitney.
- 1943-1964** The U.S. Department of Defense operated a landfill to dispose of manufacturing waste, including solvents, metals and petroleum, which lead to contamination of soil and groundwater at the complex.
- 1945-1949** After the war ended, the site was used as a storage facility for tires, raw rubber, sugar and lumber.
- 1949** Atomic Energy Commission (AEC) contracted with Bendix Corp. to begin Kansas City Plant (KCP) operations at the Bannister Federal Complex location. The primary mission at the KCP is to manufacture nonnuclear components that ensure the safety and security of nuclear weapons. The types of industrial materials found at the KCP are the same found in commercial manufacturing facilities with common machining, plating, and cleaning operations.
- 1963** General Services Administration (GSA) acquired ownership of the Bannister Federal Complex from the U.S. Navy. Excluded from this property acquisition were 8 buildings which were transferred directly to the AEC.
- 1970** Environmental Protection Agency was established to protect human health and the environment.
- 1976** The GSA transferred ownership of the remaining parcel, known as the Kansas City Plant, to the AEC. The KCP occupies approximately 136 acres of the entire 300-acre Bannister Federal Complex.
- The Resource Conservation and Recovery Act (RCRA) was passed to protect human health and the environment from potential hazards of waste disposal, to conserve energy and natural resources, to reduce the amount of waste generated and to ensure that wastes are managed in an environmentally friendly way.
- 1974** Energy Research and Development Administration (ERDA) was established replacing the AEC.
- 1977** The U.S. Department of Energy (DOE) was formed, replacing the ERDA.
- 1980** The Comprehensive Environment Response, Compensation and Liability Act (CERCLA) was passed, creating a federal Superfund to locate, investigate and clean up hazardous wastes sites in the nation.
- 1983** A complex cleanup of the Bannister Federal Complex began with an assessment of previous use of the site and remediation.
- 1984** RCRA was amended, which gave EPA new responsibilities in regulating hazardous wastes.
- 1984-1987** The DOE Albuquerque Operations Office initiated the Comprehensive Environmental Assessment and Response Program (CEARP) to identify, evaluate, and conduct remedial actions at sites including the Kansas City Plant.
- 1987-2011** The DOE began the Pumping and Treatment of groundwater from pumping wells designed to halt the spread of groundwater contamination to Blue River and Indian Creek. Legacy contamination in soils and groundwater is from accidental releases of solvents and fuel oil primarily from prior to 1974.

- 1989** DOE and EPA entered into a Corrective Action Administrative Order on Consent, (VII-89-H-0026) under the authority of Section 3008(h) of the Resource Conservation and Recovery Act (RCRA). The Consent Order requires the evaluation of releases of hazardous wastes and their constituents and remedial measures (corrective actions) to be implemented to protect human health and the environment at the DOE Kansas City Plant.
- The Consent Order initially listed 35 solid waste management units (SWMUs) which were defined as possible release sites. Eight more were added after the Consent Order for a total of 43.
- 1989-present** Sampling and analysis of soil, groundwater and air quality continue to ensure the effectiveness of remediation activities.
- 1997-present** The Kansas City Plant's environmental management systems, including air emissions, water discharges, land releases, waste disposal or resource and energy use, are audited using international standards called ISO 14001. Certification is achieved and maintained through tri-annual inspections.
- 1999** A Missouri Hazardous Waste Management Facility Permit (HWMF) is issued by Missouri Department of Natural Resources (MDNR), superseding the EPA Consent Order. It serves as the new regulatory document for continued clean up and affirms that 42 of 43 clean up sites under the Consent order had completed the RCRA corrective action process. It also requires ongoing monitoring, reporting, and use of institutional and engineering controls to protect human health and the environment.
- 2006** The Kansas City Plant completed RCRA Corrective Action Process for the last site, completing the process for all 43 areas. The HWMF permit requires that DOE continue to operate and maintain those remedies and minimize the potential for human exposure to contamination.
- 2008** The Kansas City Plant announced plans to relocate to a new location in south Kansas City beginning in 2013. A new flexible and modern facility is a major component in the plant's mission to save the government nearly \$100 million each year and support a smaller stockpile.
- 2010** Department of Energy Office of Inspector General conducted a six-month investigation of KCP's environmental and safety controls. The final report, "Audit Report on Environment and Worker Safety Control Systems" found the KCP had established and implemented controls to adequately protect the environment and workers.
- 2010-2011** The Kansas City Plant released Request for Information for Disposition/Revitalization alternatives and a Notice of Availability for the purpose of allowing the community as a whole to comment and submit ideas for the use, development, or transformation of the Kansas City Plant upon termination of occupancy of the BFC by the current occupants.
- 2012** NNSA selected industrial real estate firm CenterPoint Properties as a preferred partner to further develop approaches for potential reuse opportunities for the Bannister Federal Complex. Through discussions with CenterPoint Properties, NNSA has determined that only land uses consistent with current zoning constraints are feasible.
- 2012** EPA Region 7 and the Missouri Department of Natural Resources issued final hazardous waste permit modifications that allow better coordination of environmental investigations between BFC's property owners U.S. Department of Energy and U.S. General Services Administration. The permit modification brings the entire BFC under one agency and promotes a consistent, comprehensive approach to further environmental investigation.
- 2012** NNSA began an Environmental Assessment (EA) to analyze the environmental impacts associated with transferring excess Kansas City Plant property to a new owner who would use the property in a manner consistent with current zoning.
- 2013** NNSA publishes Final Environmental Assessment (EA) and determines that a property transfer of the NNSA-owned property to a new owner would have no significant impact on the environment.



Appendix C:

GSA's BFC Legacy Contamination  
Clarification



# Bannister Federal Complex

## Legacy Contamination

### April 2010



Environmental issues associated with the Bannister Federal Complex are best understood when grouped into three periods of time; a pre-regulatory era, a period of transition, and present day.

#### **Pre-Regulatory Era (1942 to Mid-1970s)**

During this time, the site was primarily used for manufacturing airplane engines and non-nuclear components for nuclear weapons. It was also used for warehousing, Internal Revenue Service operations, and commercial storage.

Ownership and control of the complex was shared between GSA and the Atomic Energy Commission (now the Department of Energy's National Nuclear Security Administration), which oversees the Kansas City Plant. The Kansas City Plant is currently operated by Honeywell Federal Manufacturing & Technologies, LLC. Chemicals used in manufacturing and solid waste disposal were not subject to today's standards for managing toxic and hazardous materials in the workplace or environment.

**1942:** Senator Harry S. Truman breaks ground on the Bannister Federal Complex, which serves as the manufacturing site for Navy aircraft during World War II.

**1943 to 1964:** The U.S. Department of Defense (DOD) operates a landfill to dispose of manufacturing waste, including solvents, metals and petroleum, which leads to contamination of soil and groundwater at the complex.

**1943 to 1945:** U.S. Navy occupies space at the Bannister Federal Complex.

**1945 to 1948:** War Assets Administration occupies space at the Bannister Federal Complex.

**1947:** The Internal Revenue Service (IRS) moves its operations to the complex.

**1949:** Federal Government leases a large portion of the complex to Westinghouse Electric Corporation for the production of aircraft engines for naval fighter jets used in the Korean conflict. Westinghouse subleases part of its space to Bendix (later Allied Signal) to produce nonnuclear components for nuclear weapons on behalf of the Atomic Energy Commission. Bendix's portion of the complex becomes known as the Kansas City Plant.

**1961:** Westinghouse discontinues its operation at the plant.

**1983:** A complex cleanup of the Bannister Federal Complex begins.

**1984:** RCRA is amended, which gives EPA new responsibilities in regulating hazardous wastes.

#### **A period of transition (early 1970s to 1989)**

These years saw the establishment of the Environmental Protection Agency (1970) and the Safe Drinking Water Act (1974), the Resource Conservation and Recovery Act ((1976) and the Comprehensive Environmental Response, Compensation and Liability Act, which established the federal Superfund (1980). During this period, the previous use of the site was evaluated and remediation begun.

**1970:** The EPA is established to protect human health and the environment. The Clean Air Act is passed.

**1974:** The Safe Drinking Water Act is passed.

**1976:** Ownership of the Bannister Federal Complex is divided between the Department of Energy (Bendix) and GSA.

The Resource Conservation and Recovery Act (RCRA) is passed to protect human health and the environment from potential hazards of waste disposal, to conserve energy and natural resources, to reduce the amount of waste generated and to ensure that wastes are managed in an environmentally friendly way.

**1977:** The Department of Energy (DOE) is formed and the Atomic Energy Commission (AEC) discontinues its operation at the Bannister Federal Complex.

**1980:** The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) was passed, creating a federal Superfund to locate, investigate and clean up the worst hazardous waste sites in the nation.

**1989:** EPA Consent Order VII-89-H-0026 is signed, resulting in significant corrective action and cleanup at the Kansas City Plant.

A treatment system is installed to control the movement of contaminated groundwater. The treatment system eliminates 99.7 percent of ground water contamination. (source: <http://www.em.doe.gov/bemr/bemrsites/kscp.aspx>)

### **Present Day (years since 1989)**

Site issues have been continuously addressed through containment and other remediation, including regular monitoring. GSA, relying on the best available science, has been confident that the spaces GSA occupied and leased during these years have not posed human health risks. At the DOE Kansas City Plant, sampling and analysis of soil, groundwater and air quality continue to ensure the effectiveness of remediation activities.

Since 1989, GSA has operated a safety and environmental program that meets regulatory compliance. All structures on the property under GSA control have had health and safety inspections each year. Some of the tests have been in response to specific concerns and other tests have set a baseline to characterize conditions that are continually monitored.

**1989 +:** Sampling and analysis of soil, groundwater and air quality continues.

**2006:** The Kansas City Plant completes selection of remedies for all areas of the site and continues to operate and maintain those remedies.

**2010:** GSA asked the EPA to conduct new tests of air quality in two buildings. Per request from GSA, EPA conducts rigorous air quality tests in two buildings and finds no indications of health concerns related to volatile organic compounds. Additional soil sampling around these two buildings will continue.



Appendix D:

EPA Citizen Guide to Institutional Controls





## Institutional Controls:

# A Citizen’s Guide to Understanding Institutional Controls at Superfund, Brownfields, Federal Facilities, Underground Storage Tank, and Resource Conservation and Recovery Act Cleanups

### Table of Contents

PURPOSE .....	1
WHAT ARE INSTITUTIONAL CONTROLS? .....	2
WHEN ARE ICs USED? .....	2
WHY CAN’T ALL THE CONTAMINATION BE REMOVED? .....	3
ARE ICs RELIABLE? .....	3
HOW MANY ICs ARE REQUIRED? .....	3
WHO IS RESPONSIBLE FOR MAKING SURE ICs WORK AS INTENDED? .....	4
WILL ICs HINDER THE USE OF THE SITE? .....	4
HOW AND WHEN CAN THE COMMUNITY GET INVOLVED? .....	5
CONCLUSION .....	5
GLOSSARY.....	6

### PURPOSE

The purpose of this guide is to provide community members with general information about the role of *institutional controls* (ICs) in Superfund, Brownfields, Federal Facilities, Underground Storage Tanks (UST) and Resource Conservation and Recovery Act (RCRA) cleanups occurring in their neighborhoods. This guide will also discuss the community’s role in providing input for the selection of ICs and helping to monitor them to ensure that human health and the environment remain protected in the future.

---

### Key Points

- ICs are legal and administrative tools used to maintain protection of human health and the environment at sites.
  - ICs are often an important part of the overall cleanup at a site.
  - ICs can be used for many reasons and come in different types. These include restricting site use, modifying behavior, and providing information to people.
  - There are 4 general types of ICs: *governmental, proprietary, enforcement, and informational.*
- 

Terms that appear in **bold** can be found in a glossary at the end of the document. Many of these terms describe some types of ICs.

- 
- ICs are designed to lower the potential for people and the environment to be exposed to contamination.
  - ICs are usually most effective when layered and used in series to improve protectiveness.
  - ICs should fit the needs of the specific site and community.
  - The community can play an important role in identifying potential future uses of the site.
  - A cooperative relationship should be established early between government, the entity doing the cleanup and the community.
  - Seeking community input and involvement can maximize the effectiveness of ICs.
  - Communities can play a vital role as “eyes and ears” for monitoring ICs.
  - Federal, state, tribal, and local governments and parties responsible for the cleanup should keep the public informed of cleanup decisions that may affect them.
- 

### **What Are Institutional Controls?**

ICs are generally administrative and legal tools that do not involve construction or physically changing the site. ICs are generally divided into four categories:

1) **Government Controls**- include local laws or permits (e.g., county zoning, building permits, and Base Master Plans at military facilities);

2) **Proprietary Controls**- include property use restrictions based on private property law (e.g., *easements* and covenants);

3) **Enforcement Tools**- include documents that require individuals or companies to conduct or prohibit specific actions (e.g., environmental cleanup *consent decrees*, *unilateral orders*, or permits); and,

4) **Informational Devices**- include *deed notices* or public advisories that alert and educate people about a site.

In many site cleanups, ICs help reduce the possibility that people will come in contact with contamination and may also protect expensive cleanup equipment from damage. The use of ICs is not a way “around” treatment, but rather part of a balanced, practical approach to site cleanup that relies on both engineered and non-engineered remedies.

### **When Are ICs Used?**

ICs are normally used when waste is left onsite and when there is a limit to the activities that can safely take place at the site (i.e., the site cannot support unlimited use and unrestricted exposure) and/or when cleanup equipment remains onsite. ICs are often used throughout a site cleanup, including when:

- contamination is first discovered (i.e., to protect people from coming in contact with potentially harmful materials while the contamination is being investigated)
- cleanup work is ongoing (in some cases it may take many years to complete cleanup)
- some amount of contamination remains on-site as part of a cleanup remedy.

ICs can play an important role when a cleanup is conducted and when it is too difficult or too costly to remove all contamination from a site. ICs are rarely used alone to deal with contamination at a site. Typically, ICs are part

of a larger cleanup solution and serve as a non-engineered layer of protection. ICs are designed to keep people from using the site in a way that is not safe and/or from doing things that could damage the cleanup equipment, thus, potentially jeopardizing protection of people and the environment. For example, an IC may be necessary at a former landfill to notify the community and guard against excavators digging through a clay barrier that is meant to stop rain water from entering the landfill.

It is also important to remember that ICs are frequently used to protect cleanup equipment while the cleanup is being conducted. For example, sites may require complex technologies that remove, treat, and discharge groundwater. Operation of these systems may be needed for a long time in order to reach the cleanup goals.

Most cleanups will need to use a combination of engineered remedies and ICs. ICs provide an additional level of safety and help to make sure the remedy remains securely in place. Also, it is important to understand that a cleanup is not finished until all necessary action has been taken to protect people and the environment from contamination at the site.

### **Why Can't All The Contamination Be Removed?**

Removing all traces of contamination from a site is often not possible or practicable because of the types and location of contamination. However, the presence of some residual contamination does not mean that a site can't be used safely.

Use of a site with residual contamination is considered safe if exposure to contamination is prevented. ICs can help a site be reused. A common example of a site reuse is when a

surface barrier layer is installed over contaminated soil and the area is used for athletic fields, a golf course, or a park because ICs are in place to prevent disturbance of the barrier layer.

### **Are ICs Reliable?**

All ICs have strengths and weaknesses. With this understanding, it is important to choose the best combination of ICs that will be protective of human health and the environment. One key challenge is that ICs are often implemented, monitored, and enforced by various levels of federal, state, tribal, or local governments. Therefore, it is critical to make sure there are enough IC safeguards and overlaps so no significant risk to human health or the environment or damage to the remedy occur.

EPA guidance encourages the use of ICs in "layers" and/or in "series" to enhance overall protectiveness. Layering ICs means using more than one IC at the same time, all with the same goal (e.g., a consent decree, deed notice, and covenant stopping the use of drinking water wells). Using ICs in series uses different ICs over time when site circumstances or IC processes change. For example, restrictions can gradually be reduced as progress is made toward cleanup goals. Used in such overlapping ways ICs can be more securely relied upon to provide an important measure of safety. Thus, usually more than one kind of IC is put in place at a single site.

### **How Many ICs Are Required?**

The decisions about how many and what types of ICs are needed are usually very site-specific. There are many important factors to consider when deciding how many ICs are required at a site. A few common considerations include:

- the level of experience and resource capacities of the party doing the cleanup
- who the intended ICs will affect and how
- the type of enforcement mechanism used (consent decree, order, permit, ordinance)
- who will enforce the mechanism (i.e., EPA, another federal agency at sites it owns, the State, a local agency)
- the likelihood of future redevelopment and/or reuse of the site
- the degree of cooperation exhibited by the different levels of government and community involved in the cleanup.

### **Who Is Responsible For Making Sure ICs Work As Intended?**

The responsibility for making sure that ICs work depends largely on the type of IC and who is conducting the cleanup. Overlapping responsibilities sometimes make it difficult to identify the person or entity responsible for the IC. For example, zoning is often the responsibility of a local zoning board, easements are based on state law, and permits or orders can occur at the federal, state, tribal and local level. It is also common for several entities to have some overlapping responsibility for an IC. For example, an agency that approves a cleanup frequently has some responsibility for making sure that the ICs work. However, the actual implementation steps may be completed by the cleanup party and/or another agency (i.e., local zoning board). Exceptions are active military facilities; the authority for regulating and enforcing ICs typically lies with the commanding officer.

Regardless of who is responsible, ICs should be regularly monitored to make sure all the requirements are still in place and the ICs continue to work effectively. Because federal, state, and tribal government officials are not

always located in the neighborhood of the site, local governments and community members can contribute to ensure that ICs work properly. One way to improve the use of ICs is to make sure that roles and responsibilities are clearly stated early in the process of choosing the ICs.

### **Will ICs Hinder The Reuse of the Site?**

In many ways, ICs can help return a site to a safe and productive reuse. ICs can identify possible uses for a site and communicate use limitations to present and future users. For example, a site may be fit for industrial reuse, but not for residential development. To determine the appropriate types of ICs, it is important to make sure that the preferred future use of the land is taken into account. It is important to recognize that ICs can affect future development at a site. For this reason, the appropriate mix of ICs is key. The objective is not to have as many ICs as possible, but to strike a balance that gives reasonable assurance that the site remedy will remain protective over time while being consistent with the site's future use. In most cases, the ICs can help shape the reuse of the site to one that is suitable, safe, and positive for the community.

Communities should be proactive in communicating with appropriate decision-makers about the types of land use they think will be best for their community. Because each community has a different history and different development needs, it is critical that these needs are effectively communicated to elected officials and the cleanup agency so they can be taken into consideration during selection of the cleanup method and reuse plan for the site. Opportunities for involvement include attending public meetings, commenting on

documents which state potential cleanup methods, and participating in local groups.

### **How And When Can The Community Get Involved?**

Community input can be essential to selecting, using, and monitoring ICs that are the best fit for the community and the protectiveness of the remedy. The cleanup agency or private party and other stakeholders should develop a working relationship with the community early in the cleanup process. Mutual respect, trust, and open and timely communication can greatly enhance the ability of all involved to ensure that the most effective ICs are used at the site.

The first time the community can get involved is during master planning meetings, zoning hearings, land use planning meetings to name a few. The community can also be involved in the site investigation and remedy selection process. Federal, state, tribal, and local authorities should make information available to the public so community members can provide informed input into the remedy selection process. EPA, States, Tribes, local governments and cleanup parties should evaluate ICs as thoroughly and rigorously as all remedy components. This analysis will help to identify potential strengths and weaknesses and to develop the appropriate balance of ICs and ultimately increase the long-term viability of the remedy. Because ICs are remedy components, they should be presented to the community in documents and at meetings. This is especially important for ICs that may impose land use restrictions on property(ies) next to the site. The potential impacts of the ICs should be presented in a manner that can be understood by the local community.

The second way in which the community can be of great benefit is in assisting with monitoring ICs. Individual residents and business owners are the eyes and ears of a community. They are often the first to notice uses or excavation that appear inconsistent with the site's future use or remedy restrictions. By contacting the appropriate party, an important series of checks and balances can be developed. Cleanup parties should work with the community to establish an effective and user-friendly system for reporting and monitoring information about the site and ICs.

### **CONCLUSION**

The institutional controls discussed in this guide can be essential components of environmental cleanups. It is important for citizens to understand ICs and have the opportunity to take an active role in their selection, use, and monitoring. Because institutional controls are often in place long after physical cleanup is finished, community knowledge and input can be important in assuring that the ICs remain protective of human health and the environment. Working relationships between governments, stakeholders and communities are vital ingredients in the successful application of cleanups, especially the IC components.

For additional information about ICs, refer to the EPA web page at: [www.epa.gov/superfund/action/ic/index.htm](http://www.epa.gov/superfund/action/ic/index.htm). For site specific information contact the Office of Superfund Remediation and Technology Innovation (OSRTI), the Federal Facilities Restoration and Reuse Office (FFRRO), the Office of Solid Waste (OSW or RCRA), the Office of Brownfields Cleanup and Redevelopment (OBCR), or the Office of Underground Storage Tanks (OUST) and/or the respective state or local agency. Information about EPA program offices can be found online at <http://www.epa.gov/oswer/>.

This document provides guidance to EPA Regions and States involved in Superfund, Brownfields, Federal Facilities, Underground Storage Tanks, and RCRA corrective action cleanups. It also provides guidance to the public and the regulated community on how EPA intends to evaluate and implement ICs as part of a cleanup decision. The guidance is designed to implement national policy on these issues. The document does not, however, substitute for CERCLA, RCRA or EPA's regulations, nor is it a regulation itself. Thus, it does not impose legally-binding requirements on EPA, States, or the regulated community, and may not apply to a particular situation based upon the circumstances. EPA and State decision-makers retain the discretion to adopt approaches on a case-by-case basis that differ from this guidance where appropriate. Any decisions regarding a particular facility will be made based on the applicable statutes and regulations. Therefore, interested parties are free to raise questions and objections about the appropriateness of the application of this guidance to a particular situation, and EPA will consider whether or not the recommendations or interpretations in the guidance are appropriate in that situation. EPA may change this guidance in the future.

## GLOSSARY

**Consent Decree:** Legal document approved by a judge that formalizes an agreement reached between EPA and companies, governments, or individuals associated with contamination at the sites (potentially responsible parties (PRPs)) through which PRPs will take certain actions to resolve the contamination at a Superfund site.

**Deed Notice:** Non-enforceable, informational document filed in land records to alert the public to important information pertaining to a land parcel.

**Easement:** Property right conveyed by the land owner to another party, giving the second party certain rights to the land.

**Enforcement Tools:** Types of institutional controls that include orders compelling a party to limit certain site activities as well as ensure the performance of affirmative obligations (e.g., consent decree, RCRA permit, unilateral administrative order).

**Governmental Controls:** Types of institutional controls that impose land or resource restrictions using the authority of an existing unit of government (e.g., state legislation, local ordinance, well drilling permit, etc.).

**Informational Devices:** Type of institutional controls that provide information or notification to the public of contamination remaining in place.

**Institutional Controls:** Non-engineered instruments, such as administrative and/or legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of a remedy by limiting land and/or resource use (e.g., easement, fish advisory, local permit).

**Proprietary Control:** Type of legal instrument that has its basis in real property law and is unique in that it generally creates legal property interests placed in the chain of title of a site property (e.g., easement, restrictive covenant).

**Unilateral Administrative Order:** Legal document signed by EPA directing a responsible party to take corrective action or refrain from an activity; it may describe the violations and actions to be taken, and can be enforced in court.

Office of Solid Waste and Emergency  
Response

OSWER 9355.0-98  
EPA-540-R-04-004  
February 2005



Appendix E:

2010 DOE Inspector General Audit Report  
on Environment and Worker Safety Control  
Systems





U.S. Department of Energy  
Office of Inspector General  
Office of Audit Services

# Audit Report

---

Environment and Worker Safety  
Control Systems at the National  
Nuclear Security Administration's  
Kansas City Plant

DOE/IG-0839

September 2010



**Department of Energy**  
Washington, DC 20585

September 20, 2010

MEMORANDUM FOR THE SECRETARY

FROM:   
Gregory H. Friedman  
Inspector General

SUBJECT: INFORMATION: Audit Report on "Environment and Worker Safety Control Systems at the National Nuclear Security Administration's Kansas City Plant"

SUMMARY

The Department of Energy's National Nuclear Security Administration's Kansas City Plant is located within the Bannister Federal Complex in Kansas City, Missouri, which also houses the General Services Administration and other agencies. Current and former employees and families of former employees of the Bannister Complex have recently raised concerns about serious illnesses, in some cases leading to death, resulting from exposure to toxins at the Complex. Due to the seriousness of the health issues that were raised, the Office of Inspector General initiated an audit to determine whether the Kansas City Plant had controls in place to protect the environment, and, the health and safety of its employees.

In summary, we found that the Department, at the time of our review, had established and implemented controls designed to provide reasonable assurance that the environment and workers at the Kansas City Plant were adequately protected. Further, while we cannot provide absolute assurance, the results of our work indicated that the systems were working as intended.

BACKGROUND

The National Nuclear Security Administration's (NNSA) Kansas City Plant (Plant), a government-owned, contractor-operated facility, manufactures nonnuclear components for the nuclear weapons stockpile. The Plant was built in 1942 to manufacture airplane engines and began producing electrical and mechanical weapon components for the nuclear weapons stockpile in 1949.

The Bannister Federal Complex has experienced a number of environmental incidents resulting in soil and groundwater contamination, some of which continue to exist. From the 1940s to the 1960s, parts of the Complex were used as an industrial and sanitary dumping ground, actions that resulted in significant groundwater and soil contamination. Polychlorinated biphenyl compound (PCB) releases occurred on the site from the 1940s to the early 1970s.

In particular, the Plant had significant PCB spills in 1969 and 1971. Partial remediation of the spills was performed in 2000. The Plant also collected industrial wastewater in lagoons onsite from 1962 to 1988. Closure of the lagoons occurred in 1988 and final remediation activities, components of formal corrective action plans, were completed in 1996. The Department reported that it had removed accessible areas of PCB contaminated soils; however, the contamination under the building is inaccessible. We found that, to address this condition, the Department continues to monitor PCB levels.

As previously noted, given the nature and seriousness of the concerns that have been raised, we initiated an audit to determine whether the Plant had controls in place to protect the environment, and the health and safety of its employees. Toward this end, we:

- Interviewed senior NNSA and contractor managers at the Plant;
- Discussed the Plant's compliance with environmental regulations with State of Missouri officials;
- Reviewed environmental, and worker health and safety procedures at the Plant;
- Examined environmental and worker safety monitoring results for the years 2000, 2005, and 2009 to evaluate the consistency of results over a ten-year period; and,
- Coordinated the performance and results of our audit with the General Services Administration's (GSA) Office of Inspector General which has a separate ongoing review of that agency's health and safety conditions at the Complex.

The last of three attachments to this report includes a description of the scope and methodology of our audit in more detail.

## OBSERVATIONS

We found that the Department had controls in place at the Plant to appropriately protect the environment, and health and safety of employees. Specifically, the Department had established:

- Environmental and monitoring controls to ensure compliance with operating permits granted by the State of Missouri and its environmental regulators; and,
- Worker safety, health and monitoring programs to protect workers from the potentially harmful effects of exposure to radiation, metals and chemicals.

The Plant operated under permits granted by the Missouri Department of Natural Resources (MDNR) which limit the amount of hazardous discharges into the environment. The permits also require the Plant to periodically provide monitoring reports to relevant regulatory agencies, including the MDNR and the U.S. Environmental Protection Agency (EPA). The Plant, among other things, used 215 groundwater wells, including 9 wells owned by the GSA, to monitor pollutants that are transferred by water to the environment. As the primary regulator, MDNR

informed us that the Plant is largely in compliance with its permit conditions. They told us, as well, that the Department had taken prompt action to address events that violated permit conditions.

Our review of environmental monitoring reports provided by the Department to the regulators confirmed that essentially all significant issues had been addressed by the Department. Between 2000 and 2007, the Department reported 42 events of stormwater runoff into a stream leading offsite that exceeded permit discharge limits for PCBs. MDNR issued four Notices of Violations to the Plant related to these events. Available documentation disclosed that the Department had taken immediate action on each occasion to mitigate future discharging to the stream.

In addition to addressing environmental concerns, the Department had established a worker safety and health program to reduce or prevent occupational injuries, illnesses and accidental losses. The program incorporated the Department's Worker Safety and Health Program requirements. The Plant had 14 operating activities involving beryllium, which is a hazardous material. Accordingly, the Plant had implemented a Chronic Beryllium Disease Prevention Program to reduce the number of workers exposed to beryllium in the course of their work, and to minimize the levels of and potential for exposure to beryllium. The Plant's program included routine surface and air sampling in beryllium processing areas; work authorization permits that establish specific controls for beryllium processing for a specified timeframe; beryllium characterization and cleanup; and, medical surveillance to ensure early detection of a precursor condition, beryllium sensitization.

As part of the worker safety and health program, we found that the Department assessed worker exposure to hazards by performing monitoring tests of its employees. We reviewed the results of over 500 worker monitoring tests performed for exposure to radiation that were conducted in 2000, 2005, and 2009. Nothing came to our attention to indicate that any of the test results exceeded Departmental standards. We did identify one test result that exceeded Plant radiation standards. Interestingly, we found that the Plant's standards were actually more stringent than Department requirements. In this case, the levels of radiation measured by dosimeter were five times the Plant standards, but only one-tenth of the Departmental standard. The Plant verified the functionality of the dosimeter as well as the radiation emitter and determined that the equipment was working properly. According to a Plant official, this isolated incident was considered an unexplained anomaly.

In addition, we noted that the Plant monitored and tested employees for chemical exposures, such as arsenic and hexavalent chromium. A Plant official told us that during 2000, 2005, and 2009, 8 of the 1,087 tests performed for chemical and beryllium exposures exceeded Department standards. According to Plant officials, all test results were addressed by exposure assessments to determine the source of the exposure, and that as a consequence, supplemental controls were established over the source of exposure and that these circumstances were fully reported to the Department.

As noted, the Department shares the Bannister Complex with the GSA. According to Plant officials, there are no hazards within the Plant that can be transferred to the GSA portion of the Complex. Plant officials also told us, and we confirmed, that the Department and GSA areas of

the Complex are separated by a wall. Further, we were told that the two areas do not share any air handling units. Plant officials also pointed out that there are only 11 systems for support functions such as chilled water and natural gas that are shared by the 2 areas. Eight of these systems, including the chilled water and natural gas systems, are closed loop or enclosed piping systems that are designed to prevent any cross contamination. The three systems that are not closed loop, the emergency notification, electrical conduit, and fire alarm systems are not pathways for cross-contamination, according to Plant officials. Attachments 1 and 2 describe the Plant's environmental and worker safety controls. This information, gathered during the audit, was highly relevant to the purpose of our review and was an important consideration in the conclusions we reached.

## CONCLUSION

We found that the Kansas City Plant had what appeared to be appropriate environmental and worker health and safety systems in place at the given points in time covered by our review, reflecting nearly a decade of operations. The evidence developed during our review, while not providing absolute assurance, indicated that the systems were working as intended.

Exposure to hazardous materials is a serious issue with potentially devastating health effects. Throughout our review we were sensitive to these matters. Nonetheless, our review was not and should not be viewed as an epidemiological study of the health consequences or long-term effects of exposure to contaminants at the Plant.

Since we are not making any recommendations, a formal response is not required. We appreciate the cooperation of the Department and contractor officials who provided information and assistance.

cc: Deputy Secretary  
Administrator, National Nuclear Security Administration  
Chief of Staff

Attachments

## ENVIRONMENTAL CONTROLS & MONITORING

The National Nuclear Security Administration's (NNSA) Kansas City Plant (Plant), established an Environmental Management System (EMS) designed to ensure compliance with operating permits that limit hazardous discharges into the environment. These permits cover air emissions and industrial wastewater discharges issued under delegated authority by the U.S. Environmental Protection Agency (EPA) to the city of Kansas City, Missouri. Also, stormwater discharges are regulated by a permit issued by the Missouri Department of Natural Resources (MDNR) under its delegated authority from the U.S. EPA.

According to the Plant's policies and procedures, the Plant maintains its EMS in accordance with the International Organization for Standardization (ISO) 14001-2004, Environmental Management System Standard. The ISO standards establish core elements for managing processes and activities to identify and control environmental effects. The EMS ensures ongoing compliance with applicable environmental regulations and requires the implementation of environmental improvement initiatives such as pollution prevention efforts.

As part of the EMS, the Plant has:

- Established an environmental oversight organization;
- Performed risk and performance assessments;
- Constructed and operated groundwater and industrial waste water treatment facilities;
- Maintained and operated groundwater monitoring and pumping wells;
- Established a data quality assurance program;
- Used a system of physical controls such as air handlers, filters and barriers to prevent the release of contaminants to the environment; and,
- Arranged for periodic external audits and reviews.

A management official told us that, to monitor most of the pollutants that are transferred by water, the Plant uses 215 groundwater wells, including nine wells owned by the General Services Administration (GSA). The Plant submits a semi-annual groundwater report to MDNR, which includes a comprehensive evaluation of the facility-wide groundwater monitoring program that (a) discusses any groundwater protection standards that are exceeded and applicable limits in the permit, (b) provides a description of the facility-wide groundwater monitoring program, and (c) includes conclusions concerning the overall adequacy and effectiveness of the program.

Additionally, as a result of its groundwater and stormwater monitoring, the Department of Energy (Department) reported 42 events, between 2000 and 2007, of stormwater runoff into a stream leading off-site that exceeded permit discharge limits for polychlorinated biphenyl compounds (PCBs). MDNR issued four Notices of Violations to the Plant related to these

events. Available documentation disclosed that the Department had taken immediate action on each occasion to mitigate future discharges to the stream.

A MDNR official stated that the Plant is largely in compliance with its permit conditions. Except for the previously noted discharges of stormwater runoff, our review of the Plant's semi-annual groundwater and air emissions reports submitted to MDNR during 2000, 2005, and 2009 did not disclose any instances where operating permit limits were exceeded.

### Controls over Legacy Contaminants

According to Plant documents, there have been several notable environmental contamination incidents at the Bannister Federal Complex (Complex) since the main building was constructed in 1942. Our review of Plant documents revealed that, while actions have been taken to remediate legacy contaminants to the extent practical, the Plant continues to monitor the environment to detect and prevent the migration of these contaminants off-site, in accordance with operating permits.

Areas within the Complex were used as industrial and sanitary dumping grounds during the 1940s through 1960s, a practice that resulted in contaminated groundwater and soil. In the 1980s, the Plant installed groundwater monitoring and pumping wells and a treatment system to prevent the off-site migration of the groundwater because of residual contamination problems. Management officials stated that corrective action was completed in 2006, and the Plant continues to monitor the groundwater wells for potential contaminant releases.

According to the Plant's Annual Site Environmental Summary, PCB releases occurred from the 1940s to the early 1970s. PCBs were used at the Plant as a heat transfer fluid in plastic injection molding operations. Notable spills from this fluid occurred in 1969 and 1971. The spills were cleaned up according to industry practice at the time of release; however, the soils beneath the main building were contaminated. As a result, PCB contaminated soils remain beneath the main manufacturing building. Plant documents reported that PCBs are no longer used at the Plant; however, a storm sewer runs through or very near the area of the contaminated soils. According to Plant documents, the Plant has removed accessible areas of PCB contaminated soils as required under the applicable regulatory permits that address legacy releases, but the contamination under the building is inaccessible. In addition, the Plant continues to perform PCB sampling on a weekly basis as required by the operating permit.

Management officials told us that the Plant also collected industrial wastewater in lagoons onsite from 1962 to 1988. The lagoons were closed in 1988 and 40,000 tons of contaminated soil was removed. A pretreatment facility was constructed to collect and treat industrial wastewater. Closure of the lagoons occurred in 1988 and final remediation activities, components of formal corrective action plans, were completed in 1996. Since 1988, the Plant has monitored the release of treated industrial wastewater to prevent environmental discharges that exceed permit limits. According to a Plant document, the Plant performs approximately 70 industrial wastewater samples a year. The same Plant document records that there has only been one instance since 1988 in which the permit limits were exceeded.

## **WORKER SAFETY AND MONITORING**

The Kansas City Plant (Plant) is required by Federal regulations to protect its workers from numerous hazards inherent in its manufacture of nonnuclear weapons components. The Plant has a worker safety and health program that is designed to reduce or prevent occupational injuries, illnesses and accidental losses. The program is based on the Department of Energy's (Department) Worker Safety and Health Program requirements.

According to the Plant's policies and procedures, as part of the worker safety and health program, the Plant has processes and controls to identify and evaluate health, safety, and environmental hazards, risks and impacts. These processes and programs include:

- Health, safety and environmental annual risk assessments to identify its higher risk activities;
- Preliminary hazard analysis (PHA) programs which analyze hazards and develop controls to mitigate those hazards;
- Trend analyses of safety and health performance data to identify statistically significant changes in performance measures;
- Safety and health focus areas which target issues identified based on the trend analyses in determining specific plans and actions to minimize and/or eliminate hazards;
- An employee concerns program enabling employees to raise concerns or ask questions regarding health, safety, and environmental issues;
- Exposure assessments which define the risk levels, and develop and implement industrial hygiene controls based on potential occupational exposures; and,
- A Chronic Beryllium Disease Prevention Program that includes air and surface sampling of the facility and equipment and medical surveillance of employees.

Our review of a National Nuclear Security Administration Site Office document showed that, as part of its efforts to implement these controls, the Plant performed a risk ranking of all major environment, safety, and health functional areas using Fiscal Year (FY) 2006 as a baseline for creating a three-year schedule for monitoring its employees for FY 2008 through FY 2010. According to management officials and/or Plant documents, as part of its worker safety and health program, the Plant assesses employee exposure to hazards by using dosimeters to monitor exposure to radiation, and air and surface sampling, as well as, biological monitoring for chemical exposures. The Plant provides employees with monitoring results on a regular basis, including yearly reports on radiation exposures.

Plant work instructions require the performance of exposure assessments to evaluate occupational health hazards. The Plant uses the results of the assessments to establish controls, such as the use of protective clothing and specific training for handling certain hazardous

materials, to ensure employees performing work remain protected from unnecessary risks. According to available documents, the Plant has a qualification training program to document qualification training needs, the records of training taken, assessment of individual qualifications for specific job functions, and documentation of training for personnel.

Regarding the employee concerns program, our review disclosed that employees reported numerous concerns about various health, safety, and environmental issues, including beryllium, asbestos and other chemical exposures. Specifically, we identified 53 concerns related to beryllium, asbestos, and other chemical exposures in 2000, 16 in 2005 and 29 in 2009. According to Plant officials and our review of documentation, employee concerns were addressed by the operating contractor. We found that the Plant responded to concerns about potential employee exposures to beryllium and chemicals by performing additional surveillance tests and by providing additional information to employees about potential exposures.

The Plant's policies and procedures require a records management process to meet regulatory, legal and employee health needs that was certified by independent third parties. The records associated with health, safety and environment programs include monitoring data; compliance inspection and self-assessment results; internal/external complaints; hazards, risk and impacts; legal and other requirements such as regulations and permits; incident analyses; and, employee medical data.

Finally, we noted that the Plant has received the Department's Voluntary Protection Program (VPP) STAR designation from the Office of Health, Safety, and Security. This program requires annual self-assessments and triennial Departmental re-certification assessments to ensure that performance and program requirements are sustained. According to the Department, contractors who meet the requirements for outstanding safety and health programs receive STAR recognition, the highest achievement level. The Plant received its initial VPP STAR designation in 1996 and has been recertified triennially, including 2008.

## SCOPE AND METHODOLOGY

This review was performed between March 2010 and September 2010, at the Department of Energy's (Department), National Nuclear Security Administration's (NNSA) Kansas City Plant (Plant), located in Kansas City, Missouri. The scope of our audit included a review of the Plant's environmental control systems as well as its worker safety program. We did not review individual health claims associated with the Plant. To accomplish the objective of this audit, we:

- Reviewed Department directives and guidance concerning environmental and worker safety control systems;
- Reviewed Kansas City Plant Annual Site Environmental Summaries;
- Reviewed the Plant's Health, Safety and Environment Management System Description and Worker Safety & Health Program documents;

Held discussions with Department, NNSA, Plant, Missouri Department of Natural Resources, and U.S. General Services Administration's Office of Inspector General officials; and,

- Reviewed environmental and worker safety monitoring reports for 2000, 2005, and 2009.

We conducted this performance audit in accordance with generally accepted Government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our conclusions based on our audit objective. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our audit. We also assessed performance measures in accordance with the Government Performance and Results Act of 1993. We found that the Department had established a performance measure for the Plant to manage its environmental programs as well as its worker safety program. We did not assess the reliability of computer-processed data, since we did not rely on it to accomplish our audit objective.

Management waived an exit conference.

## CUSTOMER RESPONSE FORM

The Office of Inspector General has a continuing interest in improving the usefulness of its products. We wish to make our reports as responsive as possible to our customers' requirements, and, therefore, ask that you consider sharing your thoughts with us. On the back of this form, you may suggest improvements to enhance the effectiveness of future reports. Please include answers to the following questions if they are applicable to you:

1. What additional background information about the selection, scheduling, scope, or procedures of the inspection would have been helpful to the reader in understanding this report?
2. What additional information related to findings and recommendations could have been included in the report to assist management in implementing corrective actions?
3. What format, stylistic, or organizational changes might have made this report's overall message more clear to the reader?
4. What additional actions could the Office of Inspector General have taken on the issues discussed in this report which would have been helpful?
5. Please include your name and telephone number so that we may contact you should we have any questions about your comments.

Name \_\_\_\_\_ Date \_\_\_\_\_

Telephone \_\_\_\_\_ Organization \_\_\_\_\_

When you have completed this form, you may telefax it to the Office of Inspector General at (202) 586-0948, or you may mail it to:

Office of Inspector General (IG-1)  
Department of Energy  
Washington, DC 20585

ATTN: Customer Relations

If you wish to discuss this report or your comments with a staff member of the Office of Inspector General, please contact Felicia Jones (202) 586-7013.

This page intentionally left blank.

The Office of Inspector General wants to make the distribution of its reports as customer friendly and cost effective as possible. Therefore, this report will be available electronically through the Internet at the following address:

U.S. Department of Energy Office of Inspector General Home Page  
<http://www.ig.energy.gov>

Your comments would be appreciated and can be provided on the Customer Response Form attached to the report.



Appendix F:

USACE Fact Sheet on Bannister Former  
Landfill





# FACT SHEET

## Federal Center Complex (Bannister) Former Landfill

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

July 2012

### Background

- The Bannister Federal Complex was initially used by the US Navy in support of WWII as an aircraft engine plant from 1942 – 1945. In 1947, the facility became the Naval Weapons Industrial Reserve Plan. This mission, operated by Westinghouse Electric Company, continued until 1961.
- In 1949, the Atomic Energy Commission (AEC), what later became known as the Department of Energy, began concurrent facility operations by Bendix Corporation for the purpose of manufacturing electrical and mechanical components supporting the nuclear weapons program.
- A landfill existed in the southeast portion of the Bannister Federal Complex from as early as 1943 – 1964. There is no official record documenting specific activities, as was the practice at that time; however, aerial photographs confirm its existence. The landfill was used by both the US Navy and the AEC (currently the DOE) during this timeframe.

### Past Landfill Remediation

- In 1993, a Memorandum of Agreement was reached by the Department of Energy, the US Army Corps of Engineers (USACE), and the General Services Administration, dividing cleanup responsibility at the Bannister Federal Center Complex. Under the agreement, USACE is responsible for the investigation and remediation of the landfill.
- In 1988, the DOE, acting under the RCRA program, completed an RI which included soil borings, groundwater sampling and trenching within the landfill area. The purpose of this report was to collect background information necessary to construct a partial cap on the landfill prior to constructing 95<sup>th</sup> Terrace.
- In 1993, a Supplemental Investigation was conducted by USACE in preparation of the levee upgrade. Groundwater and soil data was collected.
- In 1997, USACE completed a RI.
- Groundwater monitoring at the former landfill was conducted from 2001 – 2011. The current groundwater monitoring network is comprised of twelve monitoring wells.

### Future Landfill Remediation

The collection of additional soil, sediment, surface water, and groundwater data is proposed for the purpose of updating the 1997 RI. The regulatory requirements for conducting baseline human health and ecological risk assessments have changed significantly since 1997; therefore, updated data collection is needed. The new RI will incorporate all existing and newly collected data. Upon completion of the RI Report, the following CERCLA-required documents will be completed to address future landfill remediation: Feasibility Study, Proposed Plan, and Decision Document. All reports will be available for the public to view or copy at the Blue Ridge Branch, Mid-Continent Public Library, 9253 Blue Ridge Boulevard, Kansas City, Missouri 64138.



Appendix G:

RCRA Permit Modification Flowcharts



# Hazardous Waste Permit Modification Flowchart

Permit holder sends permit modification request to regulator

August 2011



Public meeting hearing and public comment period on proposed permit changes

Fall 2011



EPA/MDNR develop draft permit modification requirements

Winter 2011/Early Spring 2012



EPA/MDNR holds **public hearing and comment period** on proposed permit requirements

April /May 2012



Agencies sign final permit modification

Summer 2012

# RCRA Investigation and Cleanup Flowchart

MDNR/EPA issues final RCRA permit modification

Summer 2012

Permit holders submit Description of Current Conditions Report

Investigation Work Plan(s) submitted and approved: Investigation begins

Permit holders submit results of investigation and proposed additional cleanup options

MDNR/EPA make proposed cleanup plan(s) available for public comment

MDNR/EPA selects additional cleanup plan – work begins

Interim measures  
Cleanup actions can be required at any time

Community involvement emphasized throughout process



## Appendix H:

# NIOSH Health Hazard Evaluation, April 13, 2011

Note: Page 3 of this report incorrectly references a 0.2  $\mu\text{g}/100\text{ cm}^2$  beryllium contamination guideline for release of buildings to the general public. No such building release criterion exists for release to the general public or for beryllium processing.





National Institute for Occupational  
Safety and Health  
Robert A. Taft Laboratories  
4676 Columbia Parkway  
Cincinnati OH 45226-1998

April 13, 2011  
HETA 2010-0061

Kevin Santee, CIH  
U.S. General Services Administration  
1500 East Bannister Road  
Kansas City, Missouri 64131

Dear Mr. Santee:

This letter is in response to a health hazard evaluation (HHE) request received by the National Institute for Occupational Safety and Health (NIOSH) from the management of the U.S. General Services Administration (GSA) Bannister Federal Complex in Kansas City, Missouri. The request concerned adverse health effects (cancer, gallbladder problems, and chronic obstructive pulmonary disease, among others) thought by some to be associated with contamination of soil and groundwater by the National Nuclear Security Administration (NNSA) at the Kansas City Plant (KCP) on 1500 East Bannister Road. The Bannister Federal Complex houses the GSA and other tenant agencies, and is also the location of the KCP that is co-located with the GSA in the largest building comprising the Bannister Federal Complex. Our evaluation did not include the KCP of the NNSA which currently employs more than 2300 people. When we refer to Bannister Federal Complex employees in this letter we are referring to those who worked at GSA or a tenant agency other than the KCP. The purpose of this letter is to update you on the progress of our evaluation.

Upon receipt of the HHE request, GSA provided us with documentation of prior industrial hygiene sampling at the site. We reviewed this information prior to visiting the site from June 1-4, 2010. We held confidential medical interviews with current and former employees and/or their relatives during this visit and also via phone. We returned to Kansas City to offer medical tests to current and former employees diagnosed with sarcoidosis and attended public meetings to address employee and community concerns. This letter summarizes our activities and the HHE status to date.

On June 1-4, 2010, we visited the Bannister Federal Complex. We held opening and closing meetings with labor, management, and tenant agency representatives. We participated in two town hall meetings arranged by GSA. At each meeting we gave a brief presentation and answered questions. The first town hall was held at the Bannister Federal Complex and was attended by approximately 225 current GSA and tenant agency employees. The second town hall was held at a local International Brotherhood of Electrical Workers union hall and was attended by approximately 250 current and former employees from GSA, their tenant agencies, and the NNSA. Kansas City television, radio, and print media attended both town halls. We were interviewed by the media following the first town hall meeting.

## **Page 2 – General Services Administration**

We conducted a walk-through survey of GSA offices and tenant-leased space in 13 buildings. The walk-through survey included visual inspection of ventilation systems (including rooftop inspection of air intakes and exhausts, and ventilation mechanical rooms of Building 1 and Building 2), ventilation system designs, sub-slab mitigation systems installed in Buildings 50 and 52, and areas of concern identified by tenants during the opening meeting and subsequent town hall meetings. We also participated in a short, guided tour of the NNSA building space.

On June 2–3, 2010, we held small group meetings (approximately 65 participants) and individual medical interviews (approximately 35 participants) with current and former employees at the Federal Bannister Complex and their family members. Our intent was to listen to employee health concerns and provide information about the NIOSH evaluation. The individual medical interviews afforded each employee a private avenue to express their medical concerns.

During the closing meeting, we summarized our visit and discussed the next steps in the evaluation. Based upon the information we reviewed and our visual inspection of the GSA facilities, we identified the following five potential pathways of exposure for GSA and tenant agency employees to substances used in the KCP:

1. Legacy contamination in current GSA-managed property that was previously managed by NNSA (or previous tenants).
2. Employees from NNSA entering GSA-managed property to patronize the credit union, cafeteria, and other common and/or commercial areas.
3. Current (or past) ventilation systems shared between NNSA and GSA facilities.
4. Re-entrainment of exhausted air from NNSA ventilation systems into the outdoor air intake(s) of the GSA ventilation systems.
5. Openings in the firewall separating the NNSA and GSA facilities (i.e., utility lines, fire doors).

On June 8, 2010 we received a letter from GSA asking us to extend the scope of the HHE to potential cross contamination issues from the NNSA side of the complex. The original request initially was concerned with potential exposures from groundwater and soil contamination.

## **Exposure Assessment**

On March 1, 2010, we received records from GSA that contained exposure monitoring at the Bannister Federal Complex. The records dated from the 1980s to the present and concerned exposures to metals, volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), radiation, and drinking water. These monitoring records included chemical and physical hazards, air and surface wipe samples collected across the complex, indoor environmental quality (IEQ) assessments, environmental soil and groundwater monitoring, and environmental site assessments. The documents were prepared by GSA and their consultants and the Environmental Protection Agency (EPA). We are also enclosing an electronic summary (Microsoft Excel® spreadsheet) of the exposure assessment documents that GSA provided NIOSH for review. A summary of our records review is provided below.

## **Metals**

### **Beryllium**

Beryllium is a lightweight metal used in nuclear applications such as weapons, energy, and research. It is also used in dental prosthetics and is found in tobacco. Although exposures to high levels of beryllium can cause acute pneumonitis (lung inflammation), these cases are no longer seen because of reduced occupational exposures. Exposure to beryllium can lead to sensitization, or allergy, which in turn can lead to chronic beryllium disease (CBD). CBD is a granulomatous lung condition, and can affect other organs. A granuloma is a small area of inflammation due to tissue injury. Clinically, CBD is almost identical to sarcoidosis, another granulomatous disease. A history of exposure to beryllium is the key to distinguishing between the two. If an individual with sarcoidosis has a history of even minimal contact with beryllium, including living with a person who works with beryllium, they should be tested with the beryllium lymphocyte proliferation test (BeLPT). The BeLPT is a blood test that measures sensitivity to beryllium, and is very specific to determine if a person has an allergic reaction to beryllium. Exposure to beryllium also slightly increases the risk for lung cancer [Kreiss 2005, Schubauer-Berigan 2010].

In January 2002 GSA hired a consultant to collect ten surface wipe samples for beryllium in Building 41 which, at that time, was occupied by the Internal Revenue Service. Two samples (described as “Basement Wall” and “Outside, beneath north side of air intake”) reported values at the lowest quantification limit of the analytical method, 0.13 micrograms per square centimeter ( $\mu\text{g}/\text{cm}^2$ ). The other eight samples were below the limit of detection ( $0.038 \mu\text{g}/\text{cm}^2$ ). In May 2002 an additional ten surface wipe samples were collected near the January sampling locations; all results were below the limit of detection. The location description for the May samples corresponding to the previous two samples at the lowest quantification limit were “Basement, 1<sup>st</sup> shower room, wall across from basement entrance (near original sample)” and “roof-top, underside of air intake, south side (previously collected on north side).”

These beryllium levels are below the U.S. Department of Energy guideline for surface contamination of  $0.2 \mu\text{g}/100 \text{ cm}^2$  for release to general public ( $3 \mu\text{g}/100 \text{ cm}^2$  for release to other beryllium facilities) [DOE 1999]. There are no exposure guidelines for beryllium surface concentrations in an office environment.

### **Uranium**

Depleted uranium (DU), a byproduct of uranium enrichment for nuclear fuel, was used at the NNSA for many years. DU contains less than 0.711% uranium 235 ( $^{235}\text{U}$ ). Although DU emits alpha particles (blocked by skin), beta particles (blocked by most clothing), and gamma rays, the amount of gamma radiation emitted by DU is very low. Therefore the primary toxicity concern of DU is due to its chemical and not radiological properties. In fact, the total alpha radioactivity of DU is about 40% less than that of natural uranium [Hooper et al. 1999; McDiarmid et al. 2000]. Cancer has not been documented in humans as a result of exposure to either natural uranium or DU [ATSDR 1999; Institute of Medicine 2008]. Data indicate that uranium compounds (including DU) are not highly toxic in humans [ATSDR 1999]. Although the kidney is the main target organ, a study of Gulf War veterans with retained fragments of DU shrapnel did not show any significant evidence of renal dysfunction 16 years after first exposure, despite persistently elevated urine levels of uranium [McDiarmid et al. 2011]. In this study, there was no evidence of other health effects, including hematological, bone, neurocognitive, reproductive, or

genotoxic. Epidemiological studies of uranium miners and millers have not shown elevated rates of kidney disease [ATSDR 1999].

In February 2010, air and surface wipe samples were collected by a private contractor hired by GSA for uranium oxide, beryllium, lead, zinc, antimony, manganese, copper, and iron. Air samples were collected at nine locations and surface wipe samples at 29 locations within Building 1. Only sample 201043-SW-36 was above the limit of detection for uranium oxide at  $0.63 \mu\text{g}/\text{cm}^2$ . The location for this sample was on the “1<sup>st</sup> Floor-Hallway Mezz at Column E-16” with the description “Floor Surface – top of stairwell.” All subsequent uranium oxide data reviewed did not report detectable levels.

### ***Volatile Organic Compounds***

Soil and groundwater sampling by GSA and their consultants for VOCs at the Bannister Federal Complex found levels above the Missouri Department of Natural Resources cleanup levels for vinyl chloride; trans-1,2-dichloroethene; cis-1,2-dichloroethene; and tetrachloroethene. All drinking water supplies at the GSA-managed portion of the complex were tested in 2010, and no trichloroethylene (TCE) or PCBs were detected in any samples. Using a private contractor, GSA tested drinking water fountains in Buildings 1, 2, 4, 6, 41, 50, 52, and 2306 for TCE, iron, copper, lead, and PCBs. All samples were either below their respective detection limits or below the EPA Maximum Contaminant Levels.

Because the Bannister Federal Complex receives drinking water from the City of Kansas City, Missouri, Water Services Department, routine GSA and tenant activities should not bring employees into contact with potentially contaminated soil and groundwater. However, underground water distribution lines running through potentially contaminated soil should be routinely monitored to ensure the drinking water is free of PCBs and VOCs as a part of the environmental health and safety surveillance program.

### **Formaldehyde**

Two air samples collected at the “Plaza Level Field Accounting Office” measured formaldehyde concentrations of 0.018 parts per million (ppm) and 0.021 ppm. These formaldehyde concentrations were below a recommended exposure guideline of 0.10 ppm for office spaces adopted by several organizations [EPA 1991; NIOSH 1991]. Although this guideline is intended to provide reasonable protection against irritation (i.e., irritation of the eyes, nose, or throat) in the general population, hypersensitivity reactions may occur at lower levels of exposure. A NIOSH researcher has recommended that a 0.05 ppm concentration of formaldehyde be used as a pre-occupancy guideline for NIOSH facilities [Wallingford 2009]. This recommendation is based in part on IEQ specifications developed for new office buildings by the State of Washington [State of Washington 1989].

### **Chlorinated Hydrocarbons**

Over 100 samples were collected for chlorinated hydrocarbons in locations within Buildings 1, 41, 50, and 52. None of the documents we reviewed indicated exposures to chlorinated hydrocarbons that would be related to adverse health effects. Although there are no accepted guidelines specific to office environments these documents indicate exposures well below applicable occupational exposure limits (OELs) for occupational environments. Chlorinated

hydrocarbon solvents such as TCE; vinyl chloride; trans-1,2-dichloroethene; cis-1,2-dichloroethene; and tetrachloroethene were widely used in industry because of their degreasing capabilities and low flammability [Armstrong and Green 2004]. These solvents were not used on an industrial scale outside of the NNSA portion of the Bannister Federal Complex but concerns about exposures were raised due to potential ground and soil contamination.

Concerns about long-term toxicity and stricter environmental regulations have limited the use of chlorinated hydrocarbon solvents in more recent years. Almost all organic solvents cause irritation of the skin because they remove fat from the skin when they contact it. Organic solvents may cause irritation of the respiratory system. This irritation is usually restricted to the upper airways, mucous membranes, and eyes, and it generally resolves quickly without long-term effects. In addition, almost all volatile, fat-soluble organic solvents can acutely cause nonspecific central nervous system depression. The symptoms of high level, acute solvent exposure are similar to those from drinking too many alcoholic beverages, including headache, nausea and vomiting, dizziness, slurred speech, impaired balance, disorientation, and confusion. These symptoms go away quickly upon cessation of exposure.

TCE has been widely used as a general solvent, degreaser, dry cleaning agent, and general anesthetic and was used as a solvent at the KCP. TCE has been identified as a constituent of the soil and groundwater contamination plume at the Bannister Federal Complex, which was indicated early in our investigation as a source of potential exposure to occupants.

TCE was found in over 42% of 1188 National Priority List waste sites surveyed in 1996, making it the most common substance found [Fay and Mumtaz 1996]. In 1995, the International Agency for Research on Cancer (IARC) classified TCE as a probable human carcinogen [IARC 1995]. IARC noted elevated risk for liver and hepatobiliary cancer and a modestly increased risk of non-Hodgkin lymphoma among workers who used TCE. IARC also noted a marginal association between groundwater contamination and non-Hodgkin lymphoma. Since that time, kidney cancer has also emerged as a potential risk from occupational exposure to TCE [Scott and Chiu 2006].

## **PCBs**

PCBs have been widely used in insulating fluids for transformers, hydraulic fluids, and many other products and were used at the KCP. PCBs have been identified as a constituent of the soil and groundwater contamination plume at the Bannister Federal Complex. No exposure assessment documents reviewed indicated employee exposures to PCBs. Bulk samples were collected in restricted spaces that are unoccupied such as from groundwater/sludge in an elevator pit.

High exposures to PCBs have been associated with chloracne [ATSDR 2000]. Chloracne is a specific skin condition (different from a skin rash) that is characterized by blackheads, cysts, and pustules. There are many different types of skin rashes with causes that are not related to PCBs. Liver abnormalities and high cholesterol among humans and animals exposed to PCBs have not been consistently reported [ATSDR 2000]. Liver abnormalities may be related to other types of exposures (such as hepatitis viruses, alcohol, certain medicines, and certain industrial chemicals). High cholesterol may be related to diet, lack of physical exercise, medical conditions, or family history.

In animal studies, exposure to PCBs has been associated with an increase in the rate of certain types of cancer, such as liver cancer. Some studies of medically diagnosed causes of death among workers exposed to PCBs have shown higher than expected rates for certain types of cancer. But longer-term follow-up studies have not shown a clear link between exposure to PCBs and human cancer [ATSDR 2000; Shields 2006].

### ***Radiation***

The term "radiation" is commonly used to refer to ionizing radiation, which is energy that is able to ionize atoms or molecules of the substance in which the energy is absorbed. This causes chemical changes which damage tissues and the body's biological structural materials. Ionizing radiation can cause many types of cancer. The thyroid gland and the bone marrow are the most sensitive to radiation, and the bladder, kidney, and ovary are the least sensitive [American Cancer Society 2006]. Humans can be exposed to three kinds of ionizing radiation, (1) natural background radiation from cosmic rays and the soil; (2) nonmedical synthetic radiation from weapons testing and workplaces; and (3) medical radiation from x-rays and other medical tests [American Cancer Society 2006].

Radiation exposure was reported as a concern from cross contamination of materials used at the KCP. However, KCP manufactures non-nuclear products, and has never manufactured nuclear products. Review of NIOSH exposure reconstruction documents developed for the Energy Employees Occupational Illness Compensation Program Act (EEOICPA) for KCP do not indicate ionizing radiation exposures other than analytical laboratory technologies and non-destructive testing equipment [NIOSH 2006]. Therefore the potential for cross contamination of ionizing radiation generating materials would be low.

### **Beryllium Lymphocyte Proliferation Tests**

We offered to perform the BeLPT on current or former Bannister Federal Complex employees who had been diagnosed with sarcoidosis for the following reasons. First, beryllium-copper alloy was and still is machined at the KCP, and small amounts were found on wipe samples collected in Building 41. Second, beryllium can persist in the environment until cleaned up, unlike VOCs which evaporate over time. Third, because beryllium is a sensitizer it can cause health effects at very low levels of exposure. There are reports in the medical literature of those who have developed CBD following exposure to beryllium as a result of living with someone who worked with it and brought beryllium dust into the home from work. This makes it unique among most metals and the rest of the 785 substances documented as having been used at some time in the KCP. A number of current and former KCP employees are either sensitized to beryllium or have CBD, some of whom did not actually work with beryllium, suggesting that exposure to beryllium may not always have been well controlled at the KCP. In addition, a lumber delivery employee and a roofer at the KCP, neither of whom actually entered the KCP work areas, were documented to be sensitized to beryllium.

Since sarcoidosis is clinically almost identical to CBD, we were concerned that Bannister Federal Complex employees with sarcoidosis who were unaware of the potential for exposure to beryllium, may have been misdiagnosed with sarcoidosis when they actually had CBD.

## **Page 7 – General Services Administration**

Therefore, we asked current and former employees with sarcoidosis to contact us. We asked the press to communicate our desire to speak to individuals with sarcoidosis. In addition, GSA and the IRS alerted employees to call us if they had sarcoidosis. We confirmed their diagnosis by medical records review and offered BeLPT testing to these individuals, as well as those with other lung conditions that could be mistaken for CBD.

We made three return visits to test 22 individuals who used to work at the Bannister Federal Complex. Each employee, with the exception of three individuals from whom we could not obtain enough blood, had the BeLPT performed by two laboratories (National Jewish Health and Oak Ridge Institute for Science and Education). An individual must have two abnormal BeLPTs to be considered sensitized to beryllium. None of the individuals we tested had an abnormal BeLPT, meaning that they were not sensitized to beryllium. This is important because only sensitized individuals can develop CBD. However not all sensitized individuals will develop CBD. Additionally, the BeLPT does not determine if an individual was ever exposed to beryllium and there are no tests than can determine if exposure has ever occurred.

## **Telephone and E-mail Interviews with Current and Former Employees**

We interviewed 214 former GSA and tenant agency employees, 72 current GSA and tenant agency employees, and 76 current and former KCP employees onsite, by telephone, and through e-mail.

No unusual patterns of disease were observed. Individuals reported common diseases such as diabetes, hypertension, gall bladder disease, heart disease, depression, chronic obstructive pulmonary disease, asthma, and uterine fibroids. They also reported common symptoms such as cough, fatigue, memory problems, rashes, abdominal pain, and joint pain. In addition, some individuals had less common diagnoses such as Charcot Marie Tooth disease, histiocytosis X, and systemic mastocytosis. Some individuals just wanted their names documented but did not have any health issues. One current and one former GSA employee reported asbestosis, and that they had received hazardous duty pay for work removing asbestos.

Cancer was commonly reported, and was the focus of our initial meetings because of concern about a possible pancreatic cancer cluster. Sixty-nine current or former non-KCP employees reported having cancer. The most common type reported was breast (26 individuals), followed by pancreas (11 individuals), bladder (11 individuals), lung (10 individuals), and prostate (8 individuals). Four individuals reported nonmelanoma skin cancer, three head and neck cancer, two melanoma, two colon cancer, two non-Hodgkin lymphoma, and two thyroid cancer; there were single cases of a variety of cancers, including hepatocellular, ovarian, stomach, testicle, and peritoneal mesothelioma. Thirty-five current or former KCP employees reported cancer. The most commonly reported types were lung and pancreas (5 individuals each), prostate (4 individuals), chronic leukemia (4 individuals), breast (3 individuals), kidney (3 individuals), and melanoma (2 individuals). There were single cases of a variety of cancers, including bladder, thyroid, synoviosarcoma, and Wilm's tumor. A discussion of the risk factors for the most commonly reported cancers is below.

## ***Breast Cancer***

An estimated 192,370 cases of invasive breast cancer were diagnosed in women in the United States in 2009, making it the most common cancer in women in the United States [American Cancer Society 2010a]. Although epidemiologic studies have identified some factors that appear to be related to increased risk for breast cancer, much remains unknown about the causes of breast cancer. Well-established risk factors include family history of breast cancer, biopsy-confirmed atypical hyperplasia, early menarche (first menstrual period), late menopause, post-menopausal hormone replacement therapy, not having children or having the first child after 30, alcohol consumption, overweight or obesity (especially after menopause), never breastfeeding a child, low physical activity levels, and higher levels of education and socioeconomic status [American Cancer Society 2010a]. The International Agency for Research on Cancer has concluded there is limited evidence that cigarette smoking is associated with breast cancer [Secretan et al. 2009].

Breast cancer is not known to be associated with environmental or occupational exposures other than high doses of ionizing radiation [Goldberg and Labrèche 1996; Weiderpass et al. 1999; Carmichael et al. 2003]. The risk is highest if exposure occurs during childhood and is negligible after age 40. Several studies have found teachers and other professional and managerial employees to have an increased risk for developing breast cancer [Rubin et al. 1993; King et al. 1994; Pollán and Gustavsson 1999; Bernstein et al. 2002; Snedeker 2006; MacArthur et al. 2007] but others have not [Coogan et al. 1996; Calle et al. 1998; Petralia et al. 1998]. No causative workplace exposures have been identified for these occupations, and it is postulated that the possible increase in risk is a result of non-occupational risk factors such as parity (number of times a woman has given birth), maternal age at first birth, contraceptive use, diet, and physical activity [Threlfall et al. 1985; Snedeker 2006; MacArthur et al. 2007]. Women with higher educational status are also more likely to have mammograms, thus increasing detection of breast cancer. A recent study compared the incidence of invasive breast cancer among women who were screened once between ages 50 and 64 to women screened three times between ages 50 and 64. Distribution of known risk factors was similar between the two groups, but the rate of invasive breast cancer was 22% lower in the group screened only once, suggesting that some breast cancers regress without treatment [Zahl et al. 2008]. Another study examined the incidence of breast cancer among women for 7 years before and 7 years after the full implementation of a mammography screening program [Jørgensen and Gøtzsche 2009]. The researchers determined that one third of cancers were overdiagnosed, meaning that they would not have caused symptoms or death.

## ***Prostate Cancer***

Prostate cancer is the most commonly diagnosed cancer among men in the United States, with 217,730 cases diagnosed in 2010 [American Cancer Society 2010b]. One in six men in the United States will be diagnosed with prostate cancer in their lifetime. The main risk factor is increasing age; blacks are at higher risk. No occupational or environmental risk factors for prostate cancer are known. Exposure to certain substances, such as polycyclic aromatic hydrocarbons, pesticides, and cadmium have been suspected to increase the risk for prostate

cancer, but study results conflict [Verougstraete et al. 2003; Boers et al. 2005; Sahnoun et al. 2005; Van Maele-Fabry et al. 2006; Huff et al. 2007; Mink et al. 2008].

### ***Bladder Cancer***

There were an estimated 70,530 new cases and 14,680 deaths due to bladder cancer in 2010 [American Cancer Society 2010b]. Smoking is the greatest risk factor for bladder cancer; the risk of developing bladder cancer is 2 to 4 times higher in smokers than in nonsmokers [Pelucchi et al. 2006]. Known occupational causes of bladder cancer include some aromatic amines, historically found in the dye, rubber, leather, metals, and mining industries [Kogevinas et al. 2003].

### ***Lung Cancer***

Lung cancer is the most common cause of cancer death in both men and women. An estimated 222,540 new cases of lung cancer were diagnosed in 2010 [American Cancer Society 2010b]. The most significant risk factor for lung cancer is cigarette smoking, which accounts for 90% of cases in men and 80% in women [Ettinger 2008]. A lifelong nonsmoker has a relative risk ratio of 1 of getting lung cancer. Cigarette smokers of less than 0.5 packs per day, between 0.5 and 1 pack per day, 1 to 2 packs per day, and more than 2 packs per day have relative risk ratios of 15, 17, 42, and 64, respectively [Ettinger 2008]. The risk for former smokers depends on how long ago they quit smoking. It takes about 30 years to bring the risk ratio down to 1.5 to 2.0 [Ettinger 2008]. Radon is the most common cause of lung cancer in nonsmokers, and second most common cause of lung cancer overall, accounting for over 20,000 cases of lung cancer annually in the United States. Almost 3,000 of these cases occur in people who have never smoked [EPA 2010]. Secondhand smoke is the third most common cause of lung cancer in the United States, with more than 3,000 cases annually [EPA 2010; American Cancer Society 2010d]. Known occupational causes of lung cancer include asbestos, arsenic, chromium, nickel, cadmium, coke oven emissions, tars, and soot [American Cancer Society 2007].

### ***Pancreatic Cancer***

The lifetime risk of having pancreatic cancer is about 1 in 76. An estimated 43,140 new cases of pancreatic cancer were diagnosed in 2010, and about 36,800 died of the disease [American Cancer Society 2010b]. The most significant risk factor for pancreatic cancer is cigarette smoking. Twenty to 30% of cases are likely due to smoking. Chewing tobacco also increases risk. Other risk factors include being African-American, obesity, sedentary lifestyle, diabetes, chronic pancreatitis, and cirrhosis of the liver. No occupational causes of pancreatic cancer are proven, but heavy exposure to pesticides and dyes are suspected [American Cancer Society 2010b].

## ***Cancer Clusters***

Because of the concerns among the employees and their families about cancer, it is helpful to review some general information about cancer, and the approach we take in determining whether cancers have any relationship to the workplace.

Cancer is a group of different diseases that have the same feature, the uncontrolled growth and spread of abnormal cells. Each different type of cancer may have its own set of causes. Cancer is common in the United States. One of every four deaths in the United States is from cancer. Among adults, cancer is more frequent among men than women, and is more frequent with increasing age. Many factors play a role in the development of cancer. The importance of these factors is different for different types of cancer. Most cancers are caused by a combination of several factors. Some of the factors include: (a) personal characteristics such as age, sex, and race, (b) family history of cancer, (c) diet, (d) personal habits such as cigarette smoking and alcohol consumption, (e) the presence of certain medical conditions, (f) exposure to cancer-causing agents in the environment, and (g) exposure to cancer-causing agents in the workplace. In many cases, these factors may act together or in sequence to cause cancer. Although some causes of some types of cancer are known, we don't know everything about the causes of cancer. One important point to note is that the absence of a risk factor does not mean there is no risk for developing cancer. For example, employees often say to us that they got breast cancer and they have no family history of it, so it must be due to their work. The truth is, while having a first degree relative with breast cancer increases the risk, most people who get breast cancer do not have a family history of it.

Cancers often appear to occur in clusters, which scientists define as an unusual concentration of cancer cases in a defined area or time [CDC 1990]. A cluster also occurs when the cancers are found among workers of a different age or sex group than is usual. The cases of cancer may have a common cause or may be the coincidental occurrence of unrelated causes. The number of cases may seem high, particularly among the small group of people who have something in common with the cases, such as working in the same building. Although the occurrence of a disease may be random, diseases often are not distributed randomly in the population, and clusters of disease may arise by chance alone [Metz and McGuinness 1997]. In many workplaces the number of cases is small. This makes it difficult for us to detect whether the cases have a common cause, especially when there are no apparent cancer-causing exposures. It is common for the borders of the perceived cluster to be drawn around where the cases of cancer are located, instead of defining the population and geographic area first. This often leads to the inaccurate belief that the rate of cancer is high.

When cancer in a workplace is described, it is important to learn whether the type of cancer is a primary cancer or a metastasis (spread of the primary cancer into other organs). Only primary cancers are used to investigate a cancer cluster. To assess whether the cancers among employees could be related to occupational exposures, we consider the number of cancer cases, the types of cancer, the likelihood of exposures to potential cancer-causing agents, and the timing of the diagnosis of cancer in relation to the exposure. These issues are discussed below.

*Do Bannister Federal Complex employees have more cancer than people who did not work at the complex?*

Because cancer is a common disease, cancer may be found among people at any workplace. In the United States, one in two men and one in three women will develop cancer over the course of their lifetimes. These numbers do not include basal or squamous cell skin cancers, which are very common (over 1 million diagnosed annually), or any in-situ carcinomas other than bladder. (In-situ refers to cancer that has not yet spread beyond where it began; it is considered a precursor form of cancer.) If these were included, rates would be even higher. When several cases of cancer occur in a workplace they may be part of a true cluster when the number is greater than we expect compared to other groups of people similar with regard to age, sex, and race. Disease or tumor rates, however, are variable in smaller populations (like a workplace or a small city) and rarely match the overall rate for a larger area, such as the state, so that for any given time period some populations have rates above the overall rate and others have rates below the overall rate. So, even when there is an excess, this may be completely consistent with the expected random variability. In addition, calculations like this make many assumptions, which may not be appropriate for every workplace. Comparing rates without adjusting for age, sex, or other population characteristics assumes that such characteristics are the same in the workplace as in the larger population, which may not be true. However, general information on cancer rates can be useful for providing perspective on the cancers in your population. The Bannister Federal Complex has employed thousands of people since the 1940's. At the 50<sup>th</sup> anniversary of the complex there were more than 10,000 individuals employed there. Because thousands of individuals have worked here over the last 70 years, we would expect several thousand current or former employees to be diagnosed with cancer in their lifetimes. For example, out of 10,000 employees, depending on the gender distribution, we expect between 3,000 and 5,000 cases of cancer, of which about 139 would be pancreatic cancer. Obviously, there are many more current and former Bannister Federal Complex employees who have been diagnosed with cancer than those who were reported to us, but the numbers and types of the reported cancers do not suggest a need for further case finding. Therefore, even though comparing the cancer rate among Bannister Federal Complex employees to a standard population is difficult, the numbers of cancers reported among current and former employees does not appear excessive.

*Is there an unusual distribution of types of cancer?*

Cancer clusters thought to be related to a workplace exposure usually consist of the same types of cancer. When several cases of the same type of cancer occur and that type is not common in the general population, it is more likely that an occupational exposure is involved. When the cluster consists of multiple types of cancer, without one type predominating, then an occupational cause of the cluster is less likely. The distribution of cancers reported among Bannister Federal Complex employees was not unusual. A variety of cancers were reported among Bannister Federal Complex employees, and the most commonly reported ones were among the most common types diagnosed in the United States. The most common cancers diagnosed in the United States are prostate, lung, colorectal, bladder, melanoma, non-Hodgkin lymphoma, kidney and renal pelvis, mouth and pharynx, leukemia, and pancreas in men, and breast, lung, colorectal, uterine, thyroid, non-Hodgkin lymphoma, melanoma, kidney and renal

pelvis, ovary, and pancreas in women. There were also single cases of rarer types of cancer reported, for example, Wilm's tumor in an adult, and peritoneal mesothelioma.

*Is there exposure to a specific chemical or physical agent known or suspected of causing cancer occurring?*

While exposure to a number of carcinogens has been documented at the KCP, our assessment thus far reveals minimal potential for exposure to these agents at the Bannister Federal Complex. The relationship between some agents and certain cancers has been well established. For other agents and cancers, there is a suspicion but the evidence is not definitive. When a known or suspected cancer-causing agent is present and the types of cancer occurring have been linked with these exposures in other settings, we are more likely to make the connection between cancer and a workplace exposure. Based upon the age of many of the buildings and reports from interviewed employees, asbestos has been present in buildings on the complex. It was reported that maintenance employees were in an asbestos surveillance program. Exposures to occupants of buildings containing asbestos would typically be minimal. Asbestos exposure most commonly causes lung cancer and mesothelioma, but is suspected to cause other respiratory tract and gastrointestinal tract cancers such as stomach cancer. It is important to note that, with the exception of mesothelioma, these cancers occur in workers with heavy asbestos exposure, such as insulation work or shipyard repairs, not in office occupants.

*Has enough time passed since exposure began?*

Because the numbers and types of cancers do not appear unusual, latency is not an issue in this investigation. The time between first exposure to a cancer-causing agent and clinical recognition of the disease is called the latency period. Latency periods vary by cancer type, but usually are a minimum of 10-12 years [Rugo 2004]. For example, it can take up to 30 years after exposure to asbestos for mesothelioma to develop. Because of this, past exposures are more relevant than current exposures as potential causes of cancers occurring in workers today.

## Summary

1. Based upon the information we have obtained to this point, we believe that Bannister Federal Complex employees have no significant exposure from substances in use now or in the past at the KCP. Our careful and thorough review of documents, monitoring and exposure records, our assessment of the work areas, and our interviews with multiple employees, managers, and supervisors all found minimal potential for exposure.
2. We determined there was no cancer cluster among current and former Bannister Federal Complex employees based on our use of scientific criteria for determining whether a cluster of occupational cancer exists.
3. We determined that no employee we tested was sensitized to beryllium. After extensive evaluation of employees to determine who met the criteria to receive testing, we tested 22 individuals with sarcoidosis or other lung conditions that could be mistaken for CBD for beryllium sensitivity, and found no one was sensitized.

4. We plan to review both the EPA's updated hazard ranking and GSA's planned environmental sampling prior to preparing our final report. These reports may further assist us in determining if there are occupational exposures of concern to workers on the Bannister Federal Complex.
5. Finally, employees may have concerns about their own risks for cancer. Therefore, we recommend that you take this opportunity to encourage employees to learn about the following:
  - Known cancer risk factors
  - Measures they can take to reduce their risk for preventable cancers
  - Availability of cancer screening programs for certain types of cancer

The American Cancer Society posts information about cancer on its website at [www.cancer.org](http://www.cancer.org). For general information, click on "Learn about cancer". For information about a specific type of cancer, click on "Choose a cancer topic," select a type of cancer, then click "Go." Additionally, NIOSH posts information about occupational cancer and cancer cluster evaluations on its website at <http://www.cdc.gov/niosh/topics/cancer/>.

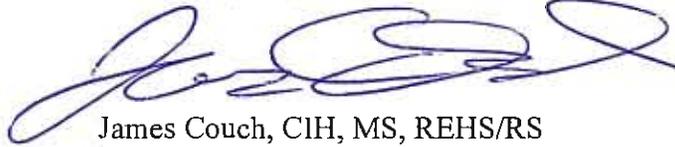
Employees can take an active role in changing personal risk factors that are associated with certain types of cancer. In fact, the American Cancer Society estimates about 2/3 of cancer deaths in the United States in 2010 were preventable [American Cancer Society 2010c]. In 2010, tobacco use alone caused an estimated 171,000 cancer deaths. It is well known that tobacco use is the single largest preventable cause of disease and increases the risk of 13 cancers: lung, mouth, nasal cavities, larynx, pharynx, esophagus, stomach, liver, pancreas, kidney, bladder, uterine cervix, and myeloid leukemia. High alcohol consumption, a diet low in fruits and vegetables, physical inactivity, overweight, and obesity are other modifiable personal risk factors that increase the risk of certain cancers. In fact, approximately one third of all cancer deaths in 2010 were related to poor nutrition, physical inactivity, and a high body mass index (BMI, a relationship between weight and height associated with body fat and health risk). Abundant scientific evidence shows that higher levels of BMI are associated with an increased risk of 15 types of cancer: esophagus, stomach, colorectal, liver, gallbladder, pancreas, prostate, kidney, non-Hodgkin lymphoma, multiple myeloma, leukemia, breast, uterus, cervix, and ovary.

Another significant way for employees to prevent morbidity and mortality from cancer is to get cancer screening tests recommended for persons of their age and/or gender (i.e., colonoscopies for colon cancer screening). Employees need to discuss available cancer screening programs with their primary care physicians. This can lead to earlier detection of cancers and earlier treatment, which may increase the chances of curing the disease.

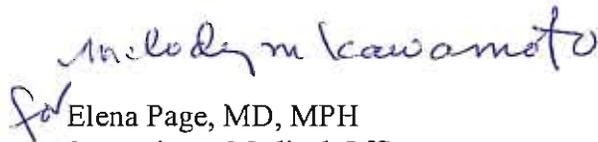
**Page 14 – General Services Administration**

We encourage you to share this letter with your employees. If you have any questions, please do not hesitate to contact us at 513-841-4318 (James Couch) or 513-458-7144 (Dr. Elena Page).

Sincerely yours,



James Couch, CIH, MS, REHS/RS  
Industrial Hygienist



for Elena Page, MD, MPH  
Supervisory Medical Officer  
Hazard Evaluations and Technical  
Assistance Branch  
Division of Surveillance, Hazard  
Evaluations and Field Studies

cc:

Sarah Patrick, MPH, PhD, Missouri Department of Health and Senior Services  
Cherri Baysinger, Missouri Department of Health and Senior Services  
Rex Archer, MD, MPH, Kansas City Health Department  
Bert Malone, Kansas City Health Department  
Rochelle Parker-Scroggins, American Federation of Government Employees  
David Saale, NLSC  
Jim Cox, AFGE Local 2663  
Mark Russo, National Weather Service Employee's Organization

References:

American Cancer Society [2006]. Radiation exposure and cancer. Atlanta GA: American Cancer Society. [[www.cancer.org/docroot/ped/content/ped\\_1\\_3x\\_radiation\\_exposure\\_and\\_cancer.asp](http://www.cancer.org/docroot/ped/content/ped_1_3x_radiation_exposure_and_cancer.asp)]. Date accessed March 22, 2011.

American Cancer Society [2007]. Occupation and cancer. Atlanta GA: American Cancer Society. [<http://www.cancer.org/acs/groups/content/@nho/documents/document/occupationandcancerpdf.pdf>]. Date accessed: January 31, 2011.

American Cancer Society [2010a]. Breast cancer facts and figures 2009–2010. Atlanta GA: American Cancer Society. [<http://www.cancer.org/acs/groups/content/@nho/documents/document/f861009final90809pdf.pdf>]. Date accessed: March 8, 2011.

American Cancer Society [2010b]. Cancer facts and figures 2010. Atlanta GA: American Cancer Society. [<http://www.cancer.org/Research/CancerFactsFigures/CancerFactsFigures/cancer-facts-and-figures-2010>]. Date accessed March 8, 2011.

American Cancer Society [2010c]. Cancer Prevention and Early Detection. Facts and Figures 2010. Atlanta GA: American Cancer Society. [<http://www.cancer.org/acs/groups/content/@epidemiologysurveillance/documents/webcontent/acspc-025759.pdf>]. Date accessed January 31, 2011.

American Cancer Society [2010d]. Secondhand smoke. Atlanta GA: American Cancer Society. [[www.cancer.org/docroot/PED/content/PED\\_10\\_2X\\_Secondhand\\_Smoke-Clean\\_Indoor\\_Air.asp](http://www.cancer.org/docroot/PED/content/PED_10_2X_Secondhand_Smoke-Clean_Indoor_Air.asp)]. Date accessed: January 31, 2011.

Armstrong SR, Green LC [2004]. Chlorinated hydrocarbon solvents. *Clin Occup Environ Med* 4(3); 481-496.

ATSDR [1999]. Toxicological Profile for Uranium (update). U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry. [<http://www.atsdr.cdc.gov/toxprofiles/tp.asp?id=440&tid=77>]. Date accessed February 1, 2011

ATSDR [2000]. Toxicological profile for polychlorinated biphenyls (PCBs). U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry. [<http://www.atsdr.cdc.gov/ToxProfiles/TP.asp?id=142&tid=26>]. Date accessed: February 1, 2011.

Bernstein L, Allen M, Anton-Culver H, Deapen D, Horn-Ross PL, Peel D, Pinder R, Reynolds P, Sullivan-Halley J, West D, Wright W, Ziogas A, Ross RK [2002]. High breast cancer incidence rates among California teachers: results from the California Teachers Study (United States). *Cancer Causes Control* 13(7):625-635.

Boers D, Zeegers MPA, Swaen GM, Kant I, van den Brandt PA [2005]. The influence of occupational exposure to pesticides, polycyclic aromatic hydrocarbons, diesel exhaust, metal

## Page 16 – General Services Administration

dust, metal fumes, and mineral oil on prostate cancer: a prospective cohort study. *Occup Environ Med* 62(8):531–537.

Calle EE, Murphy TK, Rodriguez C, Thun MJ, Heath CW [1998]. Occupation and breast cancer mortality in a prospective cohort of US women. *Am J Epidemiol* 148(2):191-197.

Carmichael A, Sami AS, Dixon JM [2003]. Breast cancer risk among the survivors of atomic bomb and patients exposed to therapeutic ionising radiation. *Eur J Surg Oncol* 29(5):475-479.

CDC (Centers for Disease Control and Prevention) [1990]. Guidelines for investigating clusters of health events. *MMWR* 39(11).

Coogan PF, Clapp RW, Newcomb PA, Mittendorf R, Bogdan G, Baron JA, Longnecker MP [1996]. Variation in female breast cancer risk by occupation. *Am J Ind Med* 30(4):430-437.

DOE [1999]. Chronic beryllium disease prevention program. 10 CFR Part 850 [Docket No. EH-RM-98-BRYLM] RIN 1901-AA75. Office of Environment, Safety, and Health, Department of Energy. Final Rule. *Federal Register*, Vol. 64, No. 235, Wednesday, December 8, 1999, Rules and Regulations, pp. 69954-68914 accessible at <http://www.eh.doe.gov/be/>. Date accessed March 2011.

EPA [1991]. Building air quality – a guide for building owners and facility managers. Washington, DC: U.S. Environmental Protection Agency, Office of Air and Radiation, Office of Atmospheric and Indoor Air Programs, Indoor Air Division, EPA Publication No. 400/1-91/033, accessible at <http://ww.epa.gov/iaq/largebldgs/index.html>.

EPA [2011]. Radon health risks. [[www.epa.gov/radon/healthrisks.html](http://www.epa.gov/radon/healthrisks.html)]. Date accessed: March 22, 2011.

Ettinger DS [2008]. Lung cancer and other pulmonary neoplasms. Chapter 201. In: Goldman L, Ausiello D, eds. Cecil textbook of medicine. 23rd rev. ed. Philadelphia, PA: Saunders Elsevier, pp. 1456-1464.

Fay RM, Mumtaz MM [1996]. Development of a priority list of chemical mixtures occurring at 1188 hazardous waste sites, using the HazDat database. *Food Chem Toxicol* 34(11-12):1163-5.

Goldberg MS, Labrèche F [1996]. Occupational risk factors for female breast cancer: a review. *Occup Environ Med* 53(3):145-156.

Hooper FJ, Squibb KS, Siegel EL, McPhaul, K, Keogh JP [1999]. Elevated urine uranium excretion by soldiers with retained uranium shrapnel. *Health Phys* 77(5):512-519.

Huff J, Lunn RM, Waalkes MP, Tomatis L, Infante PF [2007]. Cadmium-induced cancers in animals and in humans. *Int J Occup Environ Health* 13(2):202–212.

IARC [1995]. Dry cleaning, some industrial solvents and other industrial chemicals. IARC Monogr Eval Carcinog Risks Hum 63:33-477.

IOM [2008]. Gulf War and health: updated literature review of depleted uranium. Washington, DC: The National Academies Press.

Jørgensen KJ, Gøtzsche PC [2009]. Overdiagnosis in publicly organised mammography screening programmes: systematic review of incidence trends. *BMJ* 339:b2587.

King AS, Threlfall WJ, Band PR, Gallagher RP [1994]. Mortality among female registered nurses and school teachers in British Columbia. *Am J Ind Med* 26(1):125-132.

Kogevinas M, Mannetje A, Cordier S, Ranft U, González C, Vineis P, Chang-Claude J, Lynge E, Wahrendorf J, Tzonou A, Jöckel K, Serra C, Porru S, Hours M, Greiser E and Boffetta P [2003]. Occupation and bladder cancer among men in Western Europe. *Cancer Causes Control* 14(10):907-914.

Kreiss K [2005]. Beryllium and cobalt. Chapter 39.3. In: Rosenstock L, Cullen MR, Brodtkin CA, and Redlich CA, eds. *Textbook of clinical occupational and environmental medicine*. 2<sup>nd</sup> rev. ed. Philadelphia, PA: Elsevier Saunders, pp. 950-954.

MacArthur AC, Le ND, Abanto ZU, Gallagher RP [2007]. Occupational female breast and reproductive cancer mortality in British Columbia, Canada, 1950-94. *Occup Med* 57(4):246-253.

McDiarmid M, Keogh JP, Hooper FJ, McPhaul K, Squibb KS, Kane R, et al. [2000]. Health effects of depleted uranium on exposed Gulf War veterans. *Environ Res* 82(2):168-180.

McDiarmid MA, Engelhardt SM, Dorsey CD, Oliver M, Gucer P, Wilson PD, et al. [2011]. Surveillance results of depleted uranium-exposed Gulf War I veterans: sixteen years of follow-up. *J Toxicol Environ Health* 72(1):14-29

Metz LM, McGuinness S [1997]. Responding to reported clusters of common diseases: the case of multiple sclerosis. *Can J Public Health* 88(4):277-279.

Mink PJ, Adami H-O, Trichopoulos D, Britton NL, Mandel JS [2008]. Pesticides and prostate cancer: a review of epidemiologic studies with specific agricultural exposure information. *Europ J Cancer Prev* 17(2):97-110.

NIOSH [1991]. Building air quality – a guide for building owners and facility managers. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health. DHHS (NIOSH) Publication No. 91-114, accessible at <http://www.cdc.gov/niosh/baqtoc.html>.

NIOSH [2006]. Site profile for Kansas City Plant. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health. DHHS (NIOSH), accessible at <http://www.cdc.gov/niosh/ocas/kcplant.html>. Date accessed March 22, 2011.

Pelucchi C, Bosetti C, Negri E, Malvezzi M, La Vecchia C [2006]. Mechanisms of disease: the epidemiology of bladder cancer. *Nat Clin Pract Urol* 3(6):327-340.

Petralia SA, Vena JE, Freudenheim JL, Marshall JR, Michalek A, Brasure J, Swanson M, Graham S [1998]. Breast cancer risk and lifetime occupational history: employment in professional and managerial occupations. *Occup Environ Med* 55(1):43-48.

Pollán M, Gustavsson P [1999]. High-risk occupations for breast cancer in the Swedish female working population. *Am J Public Health* 89(6):875-881.

Rubin CH, Burnett CA, Halperin WE, Seligman PJ [1993]. Occupation as a risk identifier for breast cancer. *Am J Public Health* 83(9):1311-1315.

Rugo H [2004]. Occupational cancer. In: LaDou J, ed. *Current Occupational and Environmental Medicine*. New York, NY: McGraw Hill Companies, Inc., pp. 229-267.

Sahmoun AE, Case LD, Jackson SA, Schwartz GG [2005]. Cadmium and prostate cancer: a critical epidemiologic analysis. *Cancer Invest* 23(3):256-263.

Schubauer-Berigan MK, Deddens JA, Couch JR, Petersen MR [2010]. Risk of lung cancer associated with quantitative beryllium exposure metrics within an occupational cohort. *Occupational and Environmental Medicine* 68(5):354-360.

Scott CS, Chiu WA [2006]. Trichloroethylene cancer epidemiology: a consideration of select issues. *Environ Health Perspect* 114(9):1471-1478.

Secretan B, Straif K, Baan R, et al. [2009]. A review of human carcinogens – Part E: tobacco, areca nut, alcohol, coal smoke, and salted fish. *Lancet Oncol* 10(11):1033-1034.

Shields PG [2006]. Understanding population and individual risk assessments: the case of polychlorinated biphenyls (editorial). *Cancer Epidemiol Biomarkers Prev* 15:830-839.

Snedeker SM [2006]. Chemical exposures in the workplace: effect on breast cancer risk among women. *AAOHN J* 54(6):270-279.

State of Washington [1989]. *Indoor air quality specifications for Washington State Natural Resources Building and Labor and Industries Building*. Olympia, WA: State of Washington, Washington State Department of General Administration, East Campus Plus Program.

Threlfall WJ, Gallagher RP, Spinelli JJ, Band PR [1985]. Reproductive variables as possible confounders in occupational studies of breast and ovarian cancer in females. *J Occup Med* 27(6):448-450.

Van Maele-Fabry G, Libotte V, Willems J, Lison D [2006]. Review and meta-analysis of risk estimates for prostate cancer in pesticide manufacturing workers. *Cancer Causes Control* 17(4):353-373.

**Page 19 – General Services Administration**

Verougstraete V, Lison D, Hotz P [2003]. Cadmium, lung and prostate cancer: a systematic review of recent epidemiological data. *J Toxicol Environ Health* 6(3):227–255.

Wallingford KM [2009]. Official letter from K.M. Wallingford, Deputy Chief, Hazard Evaluations and Technical Assistance Branch, Division of Surveillance, Hazard Evaluations and Field Studies, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, Cincinnati, OH to U.S. Equal Employment Opportunity Commission, Washington, DC, dated August 12.

Weiderpass E, Pukkala E, Kauppinen T, Mutanen P, Paakkulainen H, Vasama-Neuvonen K, Boffetta P, Partanen T [1999]. Breast cancer and occupational exposures in women in Finland. *Am J Ind Med* 36(1):48-53.

Zahl PH, Maehlen J, Welch HG [2008]. The natural history of invasive breast cancers detected by screening mammography. *Arch Intern Med* 168(21):2311-2316.



Appendix I:

2006 KCP RCRA Community Involvement  
Plan



**United States Department of Energy  
Kansas City Plant**

**Community Relations Plan**

**October 2006**

## **Introduction**

The Department of Energy's Kansas City Plant (KCP), operated by Honeywell Federal Manufacturing & Technologies (FM&T), is an integral part of the Kansas City community. The DOE and the company, which have been responsible for the plant at 95th and Troost since 1949, are committed to ensuring that the facility is operated in a manner that is safe and healthy for associates, the community, and the environment.

On June 23, 1989, the Department of Energy (DOE) and the Environmental Protection Agency (EPA) entered into a Corrective Action Administrative Order on Consent under Section 3008(h) of the Resource Conservation and Recovery Act (RCRA). The RCRA Consent Order ensured that the environmental impacts associated with past and present activities at the Kansas City Plant were thoroughly investigated and that appropriate corrective action taken to protect human health and the environment. On October 6, 1999 the Consent Order was superceded by a Missouri Hazardous Waste Management Facility Permit (Number MO9890010524). This permit specifically addresses the care of three areas closed in the 1980's that formerly managed hazardous waste (the North Lagoon, South Lagoon and Underground Tank Farm). It also addresses the continuing implementation of RCRA corrective action requirements including sitewide groundwater monitoring and remediation to address past areas of waste management.

This Community Relations Plan is designed to facilitate an exchange of information with the community about environmental corrective action activities conducted at the KCP. Activities outlined in this plan ensure that residents are informed and provided opportunities to participate in environmental decisions regarding the plant. This plan also provides a description of public participation activities that are required by state and Federal regulations according to the RCRA.

The plan is divided into a number of topical sections. The first section provides a brief description and history of the site. A brief summary of environmental investigations is then provided. The next section provides a description of the Kansas City community and its media outlets. Environmental quality aspects are then discussed with a description of how the KCP is regulated under various state, federal and local authorities. The objectives of the community relations program are then provided listing locations where pertinent documents may be found and those methods the KCP uses to communicate issues and solicit feedback from the public.

## **Site Background**

### *Site Location and Description*

The Kansas City Plant is located on a 136-acre parcel of a 300-acre federal complex within the city limits of Kansas City, Missouri, about 20 kilometers (12 miles) south of the downtown area.

The Kansas City Plant shares the federal complex with the Internal Revenue Service (IRS), the General Services Administration (GSA), the Federal Aviation Administration (FAA), the Defense Finance and Accounting Service–Kansas City Center, the National Logistics Support Center, and the National Archives and Records Administration (NARA). In addition, there is an on-premise childcare center for the children of federal complex workers.

The federal complex is zoned for heavy industry, with the surrounding area characterized by single and multiple family dwellings, commercial establishments, industrial districts, and public use lands. The property adjoining the federal complex is zoned for residential use with isolated commercial tracts, except for areas along the east and north sides that have been designated for public recreational and agricultural uses.

Low hills nearly encircle the plant, which is situated in a small river valley about 800 feet above sea level. The complex is bordered on the west by Troost Avenue, a major north-south traffic artery. A heavily wooded bluff and the Legacy Park wildlife refuge border the north side of the complex. The Blue River flows northward along the east border, and the south side is bordered by Bannister Road and the eastward flowing Indian Creek.

### *Site History*

The Kansas City Plant site primarily was used for farming and grazing until the 1940s, although for a brief period during the 1920s, it was used as an automobile racetrack. In 1942 the United States Navy built an aircraft engine production plant on the site. Pratt & Whitney operated the engine plant from 1943 until the end of World War II in 1945. In 1948 that Main Manufacturing Building (MMB) was declared excess to defense requirements and was turned over to the War Assets Administration who used the facility as a warehouse and housing for several private and governmental operations. Shortly thereafter the facility was transferred to the department of the Navy which leased part of the MMB to Westinghouse Electric Company who built jet engines from 1948 until 1961.

In 1949 The Bendix Corporation, subleased part of the MMB from Westinghouse and began production of electrical and mechanical components for the Atomic Energy Commission (AEC). After the Westinghouse lease was cancelled in 1961 that portion of the facility was transferred to the General Services Administration (GSA). GSA acquired the remainder of the facility in 1961 with the understanding that the AEC would continue to use portions of it. In 1975 the Energy Research and Development Administration (ERDA) was created and in 1976 ERDA acquired custody and control of a portion of the facility. DOE was formed in 1977 and the KCP was included in the new department. In 2000 DOE created the National Nuclear Security Administration (NNSA), in part, to strengthen national security and reduce the global threat from weapons of mass destruction through applications of science and technology.

Over the years, the original plant has been expanded to meet new production needs. The Manufacturing Support Building, an addition to the east of the MMB, was completed in 1958. In 1985, the Electrical Products Manufacturing Building was completed as a building east of the Manufacturing Support Building.

With the end of the Cold War in the early 1990s, the emphasis of the U.S. nuclear weapons program shifted from developing and producing new design weapons to dismantlement and maintenance of a smaller, enduring stockpile. The Secretary of Energy's Complex 2010 study, completed in 1996, resulted in the selection of a downsized Kansas City Plant as the consolidated site for most nonnuclear manufacturing support for the weapons complex. In recent years, action has been taken under the Stockpile Management Restructuring Initiative (SMRI) to reduce the plant's floor space from approximately 3.2 million square feet to approximately 2.3 million square feet. This reduction is being accomplished primarily by

- Consolidating and combining functional areas and vacating the freed-up space;
- Changing the manufacturing methodology for most product lines from product-based to process-based;
- Outsourcing some product lines to commercial suppliers; and
- Eliminating and streamlining operating and administrative procedures.

To date, these actions have resulted in the reduction of approximately 375,000 square feet of floor space.

Today, the Kansas City Plant is used by the DOE to produce and procure non-nuclear electronic and electro-optical devices, plastic and machined parts, and for transportation safeguards manufacturing under a prime contract with the DOE.

### ***Summary of Environmental Investigations***

Throughout its history, the Kansas City Plant has been operated in a manner designed to meet or exceed all environmental, health, and safety standards and regulations in place at the time. A comprehensive environmental assessment was conducted by Kansas City Plant personnel and published in 1977.

In 1976, Congress passed the Resource Conservation and Recovery Act (RCRA). RCRA assigned to the generator of hazardous waste the responsibility for that waste, from its creation to its disposal, and established a nationwide system of disposal. Amendments to RCRA in 1984 set up disposal facility standards and regulated what can go into a landfill.

With the implementation of RCRA, the EPA began inspecting the Kansas City Plant to make sure hazardous wastes were properly handled, stored, and treated.

In 1983, the Kansas City Plant began a voluntary investigation to look at all past disposal practices and initiate remedial action where necessary. The DOE began its Comprehensive Environmental Assessment and Response Program (CEARP) in 1984.

Through CEARP, all DOE facilities, including the Kansas City Plant, conducted an investigation that included examination of records and interviews with current and former employees to identify every possible past disposal site that could potentially be contaminated by hazardous waste. The CEARP program also involved confirmation and sampling of the identified areas, and remedial action and monitoring plans.

The EPA became directly involved in approving these remediation and monitoring plans in 1989 when the DOE and EPA entered into the 3008(h) Order. The Kansas City Plant is also regulated under the Missouri Hazardous Waste Management Law and Regulations, as administered by the Missouri Department of Natural Resources (MDNR). The EPA coordinated with MDNR on review and approval of remediation activities and monitoring plans.

In October 1999 the MDNR issued DOE a Missouri Hazardous Waste Management Facility Permit (Number MO9890010524). The permit covered post closure care of three hazardous waste management units closed in the 1980's; the north lagoon, south lagoon and the underground tank farm. It also addressed the continued implementation of RCRA Corrective Action requirements including sitewide groundwater monitoring and remediation activities. The KCP has completed corrective action on all 43 sites identified from historical review of activities.

## **Community Relations Background**

### ***Community***

The Kansas City metropolitan community covers 6,114 square kilometers (3,800 square miles) in northeastern Kansas and northwestern Missouri. The metropolitan area, with a population of 1.5 million, includes eight counties and 111 cities. Five cities—Kansas City, Missouri; Kansas City, Kansas; Independence, Missouri; Overland Park, Kansas; and Olathe, Kansas—have populations of more than 50,000. The metropolitan area population is projected to be 1.7 million by the year 2010.

With approximately 3,000 employees, the Kansas City Plant is one of the largest employers in the metropolitan area.

Approximately 26 percent of the area's residents are under age 18. There are more than 500 public schools (K-12) and many private and parochial schools.

The Kansas City Plant is located within the Center Consolidated School District. Center Senior High School is 1.6 kilometers (one mile) northwest of the plant, and an elementary school is approximately 2 kilometers (1.25 miles) north of the plant.

### ***Media***

Kansas City's local media includes major newspapers, television stations and radio stations. Kansas City media serves as a communication link between the Kansas City Plant and the community. Kansas City's major daily newspaper, *The Kansas City Star*, has a daily circulation of 261,902 and a Sunday circulation of 361,880. In addition, the metropolitan area has numerous suburban daily and weekly newspapers. The four major television networks, ABC, CBS, FOX and NBC, each have an affiliate station in Kansas City. There are also four UHF stations, including KCPT public television. The majority of the population has access to cable television. The metropolitan area has 11 AM and 16 FM radio stations.

### ***Environmental Issues and Community Concerns***

As with any large manufacturing facility, many of the chemicals and materials used at the Kansas City Plant could pose a risk to the environment and public health if not safely handled and disposed of in compliance with federal, state and local requirements.

### ***Air Quality***

Like any large manufacturing facility, the Kansas City Plant uses common industrial chemicals, solvents and paints. The primary air emission sources are from boilers, which provide steam to the federal complex. In addition, the Kansas City Plant's ambient air quality meets standards stipulated under the Clean Air Act. Materials used in our operations may contain volatile organic compounds (VOCs). Thanks to its pollution prevention efforts, the Kansas City Plant is now only a minor source of VOCs in the metropolitan area.

Kansas City Plant air quality improvement efforts concentrate on the reduction of *ozone depleting substances*. An extensive pollution prevention and waste minimization program already in place at the plant has resulted in more than a 99.4% reduction in total VOC and halogenated solvent emissions to the air since 1986.

### ***Water Quality***

The Kansas City Plant operates under discharge permits required by the federal Clean Water Act, the Missouri Department of Natural Resources, and the City of Kansas City, Missouri.

Under a State of Missouri Operating Permit (Number MO004863) issued by the Missouri Department of Natural Resources, the Kansas City Plant discharges surface rainwater into four regulated storm sewers. Three of the four storm sewers empty into Indian Creek and the fourth empties into a small creek which runs into the Blue River called Boone Creek.

The industrial sewer system routes industrial wastewater through a pretreatment facility before discharging it by permit to the sanitary sewer system and subsequently to the city's publicly owned treatment works. Operation of the Kansas City Plant facility ensures compliance with the discharge limits imposed by the city. Internal administrative procedures ensure only wastewaters compatible with its industrial wastewater treatment system are introduced.

### *Soil and Groundwater Quality*

Past disposal practices and spills of materials such as plating baths, solvents, and polychlorinated biphenyl (PCB) oils have resulted in areas of soil and groundwater contamination.

The contamination in one area dates back to World War II when the Kansas City Plant was used to make aircraft engines. Several large underground tanks were installed during those years to supply diesel fuel, gasoline, and solvents for the assembly lines and test cells. Over the years, some of the fuels and solvents leaked and contaminated the soil.

Although the Kansas City Plant emptied the tanks and removed them in 1988 along with hundreds of tons of contaminated soil, the remaining soil beneath the area still contains some of the contaminants. Groundwater passing through this and other areas of contaminated soil formed what is called groundwater contaminant "plumes."

It is probable that a small amount of contaminated groundwater from the largest of these plumes had reached the Blue River before the Kansas City Plant undertook a project in 1988 to intercept and treat contaminated groundwater.

As part of the plant's water quality monitoring measures, many groundwater monitoring wells have been drilled around the facility to determine exactly where groundwater contamination occurs, the degree of contamination, and how fast it is moving. These wells are monitored up to two times annually with a detailed report on groundwater corrective action activities sent to MDNR and EPA each March.

Off-site movement of contaminated groundwater has been contained since the late 1980's by a series of groundwater pumping wells. Ten pumping wells situated throughout the Bannister Federal Complex serve to contain groundwater and keep it from flowing off-site to Blue River and Indian Creek. Water collected from the pumping wells is pumped back to a state-of-the-art ultraviolet light and hydrogen peroxide treatment system. Here, the contaminants are destroyed and the treated water sent to the city's sanitary sewer system.

The last site addressed under the RCRA clean up program is called the 95<sup>th</sup> Terrace site. This site exhibits contamination by PCBs as a result of spills that occurred in 1969 and 1971 from an operating department near the southeast corner of the MMB (DOE 1993a). The 1969 spill occurred when an expansion joint failed and released approximately 1,500 gallons of PCB oil to an adjacent gravel area. Approximately 900 gallons of PCB oil went into the storm sewer and discharged to Indian Creek. Despite clean-up efforts at the time of the spill, residual PCBs remained in the creek bottom sediments. Shortly thereafter, Indian Creek was rerouted and the 1969 contamination was entombed in-place alongside and underneath 95<sup>th</sup> Street. The 1969 spill was the primary source for 95<sup>th</sup> Terrace PCB soil contamination addressed by RCRA Corrective Action. The 1971 spill released approximately 1,100 gallons of PCBs to surface soils outside D/26 an operating department at the facility. Some of the PCB oils reached the storm sewer and discharged to Indian Creek via a newly installed box culvert and contaminated soils in the vicinity of the stormwater outfall to the rerouted Indian Creek.

Environmental clean-ups under the RCRA corrective action program are conducted in three phases. The first phase, the RCRA Facility Investigation (RFI), includes detailed soil and groundwater sampling and analysis to determine the nature and extent of groundwater contamination. The next phase is called the Corrective Measures Study (CMS). In this phase remediation alternatives are evaluated to determine the best way to address releases to the environment identified in the RFI. MDNR evaluates a number of remediation alternatives provided by DOE and after providing the public an opportunity to provide comment, MDNR issues

a Final Decision on the recommended alternative. The final step in the corrective action process includes the implementation of the MDNR-selected remedy called the Corrective Measures Implementation (CMI).

### ***Hazardous Waste***

Some hazardous waste liquids are treated in a on-site waste water pretreatment plant and are discharged to the city's sewer system. Hazardous wastes generated from the KCP from processes such as plating, etching, metals and plastics machining, cleaning, and forming, are stored onsite no longer than 90 days before licensed subcontractors provide approved transportation and disposal services.

The Bannister Federal Complex is located on the flood plain of the Blue River. A comprehensive flood protection system was constructed in the 1990's. This now protects the complex from the effects of a 500 year flood.

### ***Nuclear/Radioactive and Mixed Waste***

Although the Kansas City Plant is part of the DOE nuclear weapons production system, it is not a "nuclear" facility. There are no nuclear reactors on-site and nuclear materials are not manufactured or processed here.

However, there are commercial sources of low level radiation used in several plant locations, such as X-ray machines. The equipment and the areas surrounding them are prominently marked with radiation warning symbols and are monitored. Small quantities of low-level radioactive wastes are stored on-site until they can be moved to an approved off-site disposal facility. Low-level radioactive wastes, such as spark gap tubes, are sent to DOE-controlled sites. The Kansas City Plant generates a small amount of mixed waste; defined as, waste that is both hazardous and radioactive. This waste is sent off site for proper management.

### ***Compliance with Local and State Regulations***

The Kansas City Plant is committed to operating in full compliance with federal, state and local regulations.

The majority of federal, state and local air requirements applicable to the facility are administered by the City of Kansas City, Missouri.

Four state-permitted storm sewer outfalls are monitored weekly for compliance with the permit. Routine monitoring results are sent quarterly to MDNR. Surface water is sampled by an independent laboratory at several locations upstream and downstream of the Kansas City Plant storm sewers.

The discharge from the industrial/sanitary sewer system to the city's publicly owned treatment works is regulated by federal pretreatment standards and a local sanitary sewer ordinance. The federal pretreatment regulations are administered by the city. The regulations on metal finishing are the primary pretreatment regulations applicable to the Kansas City Plant. Monthly internal monitoring is performed at various points in the plant's industrial/sanitary sewer system. The city requires the plant to submit the results of a continuous six-day sampling every six months.

The MDNR has authority to regulate hazardous waste management at the Kansas City Plant and inspects the facility on a periodic basis. The last inspection occurred in September 2005 with only three very minor unsatisfactory features identified. They included providing an updated address for a contact in a plan, assuring that state required documentation is included on hazardous waste manifests (e.g., license plate numbers) and including additional job classifications in a training plan.

Ordinary trash is disposed of in local sanitary landfills in accordance with federal and local regulations. An active pollution prevention program is in place to evaluate hazardous and non-hazardous wastestreams for cost-effective waste reduction at the point of generation, recycling and reuse. Since 1993, routine hazardous waste has been reduced by over 93% while routine non-hazardous waste has been reduced by over 87%.

All remedial and corrective actions, which include treating groundwater and removing contaminated soil, are undertaken with the cooperation and approval of the appropriate regulatory authorities.

## **Community Relations Program Objectives**

### ***Public Involvement***

The Kansas City Plant's community relations program fosters communication between the plant and the public about the issues, concerns, and environmental work being done at the Kansas City Plant.

The Kansas City Plant is one of a number of manufacturing facilities in the metropolitan area. DOE and Honeywell FM&T personnel receive few public inquiries and, historically, no organized groups have publicly monitored the work done at the facility or regularly made inquiries about operations. The plant's primary image in the Kansas City area is one of a good citizen active in education outreach and community assistance. When studies have occurred to discuss the possibility of closing the Kansas City Plant, public officials and others in the business community have rallied to support the facility.

### ***Technical Resource Library***

The community relations plan also provides the public with access to plans, reports, and documents relating to environmental projects. These documents are available to the public in the Blue Ridge Branch of the Mid-Continent Public Library. The documents are available during regular library hours.

### ***Mechanism for Addressing Public Comments***

When the Kansas City Plant develops a plan for a cleanup or remediation project, public comments are invited and considered in the plan submitted to MDNR for approval. Media and public comments may be directed to:

Sharon Robinson  
Public Affairs Officer  
The Kansas City Plant  
P.O. Box 419159  
Kansas City, MO 64141-6159  
(816) 997-4833

### ***Key Site Contacts***

Gregory Betzen  
Assistant Manager  
Office of Safety and Security  
National Nuclear Security Administration  
2000 E 95<sup>th</sup> Street  
Kansas City, MO 64131  
816 997-7003

David Caughey  
Environmental Restoration Manager  
ES&H Programs  
National Nuclear Security Administration  
2000 E 95<sup>th</sup> Street  
Kansas City, MO 64131  
816 997-7288

Curtis Roth  
Program Manager  
ES&H Programs  
Office of Safety and Security  
National Nuclear Security Administration  
2000 E 95<sup>th</sup> Street  
Kansas City, MO 64131  
816 997-5713

### **Regulatory Contact**

Don Dicks  
MDNR Hazardous Waste Program  
P.O. Box 176  
Jefferson City, MO 55102  
(573) 751-3553

### ***Document Repository Location and Potential Meeting Location***

Methods for public notice announcements may include placements in the Southland and City Sections of the *Kansas City Star*, articles in the Kansas City Plant's *Focus* newsletter, and/or postings on the Kansas City Plant Web site, [www.kcp.com](http://www.kcp.com).

Copies of the administrative record for the 95<sup>th</sup> Terrace Site and can be viewed and copied at the Blue Ridge Branch of the Mid-Continent Public Library, 9253 Blue Ridge Boulevard, Kansas City, Missouri 64138.

Meeting locations may vary. Previous meetings have been held at the Courtyard by Marriott, 500 East 105<sup>th</sup> Street, Kansas City, Missouri.

### ***FOCUS on the Environment Newsletter***

The NNSA's public affairs department publishes a quarterly newsletter called *Focus*. The newsletter answers questions asked during surveys sent out by the facility and/or reports on environmental projects at the facility, as well as on community and educational outreach activities. *FOCUS* is sent to everyone who asked to be placed on the mailing list during earlier interviews and to others who have expressed an interest in environmental activities at the plant. The newsletter is also sent to all residents within a one-mile radius of the plant. Individuals desiring to receive the newsletter should call Nicole Wickenhauser in the public affairs department at (816) 997-3348.

## **Techniques/Timing**

### *Survey*

Guidelines have been established for community involvement in the environmental cleanup work that must be performed at DOE sites.

The community surrounding the facility was surveyed during the spring and summer of 1990 to determine informational needs and environmental concerns. Approximately 5,000 letters were mailed to addresses within a 3-mile radius of the Kansas City Plant. The letters contained a business reply card for those who wished to be interviewed for the survey.

A total of 125 interviews were conducted with local residents, elected officials, regulators, environmental groups, school superintendents, PTA leaders, businesses, and media representatives. Interviews were also conducted with the American Association of Retired Persons, a local hospital, church, homeowners association, and other groups in the community. The interviews were usually conducted in person by a team representing both the Department of Energy and Honeywell (formerly AlliedSignal Aerospace Company).

Environmental concerns about the Kansas City Plant ranged from severe to non-existent. Most interviewees had moderate concerns.

A small percentage of local residents had some concern about a high-pitched sound that appears to be coming from the facility and is audible in one neighborhood. Several general environmental and health concerns were also voiced in the interviews and in the questionnaire.

The 1990 survey marked the beginning of a significant effort to involve the community in the environmental work going on at the Kansas City Plant. It has led to the strengthening of traditional methods of communicating with the community and to the establishment of new channels of communication.

A second survey was conducted by mail during the spring of 1992. More than 150 residents on the community relations plan mailing list received a fact sheet and questionnaire regarding public concerns and the environmental program at the Kansas City Plant.

Another public survey was conducted in April 1994; 2000 residents on the community relations plan mailing list received a questionnaire regarding public concerns and the environmental program at the Kansas City Plant. A follow-up survey was again conducted by mail in the fall of 1996. Another survey was mailed in January 1999 to approximately 1,900 residents on the community relations mailing list. The survey had a very low response rate. Of the few responses received, only one or two addressed issues covered in the survey. The unrelated respondents asked questions such as whether the Kansas City Plant held tours of the facility for the public. The other respondents asked that *Focus* newsletter content be more relevant to its neighbors in community; this feedback was incorporated into the editorial content of subsequent *Focus* issues.

### ***95<sup>th</sup> Terrace***

#### Summary of Community Interviews and Concerns

Attempts have been made to inform, educate and solicit the opinion of the public on 95<sup>th</sup> Terrace related issues the last area that underwent corrective action. Of greatest importance are human health and environmental risks related to low levels of PCBs in Indian Creek from spills that occurred over 30 years ago and the presence of trace amounts of PCBs in regulated stormwater outfall 002.

The KCP has used *Focus* to keep the public abreast of issues at the 95<sup>th</sup> Terrace site. In February 2003, a public survey was included in *Focus*. It asked residents for their feedback and concerns regarding the Kansas City Plant. Response to the survey was minimal, with only nine respondents out of 1500. Those who did reply wanted more information on topics such as wastewater recycling and building construction. The Kansas City Plant responded by using these topics of interest to guide future editorial content of *Focus on the Kansas City Plant*. Questions about the water quality of Indian Creek were forwarded to the MDNR's Kansas City Regional office.

In June 2003, a MDNR Citizen Advisory Team consisting of people from state and federal regulatory agencies, and private citizens worked together to determine the usage of Indian Creek by residents and to gauge the level of public concern. The team was formed as a result of actions by the Sierra Club, specifically, the announcement of the Club's intent to sue DOE and Honeywell FM&T, for the discharge of PCBs into Indian Creek.

The team developed a user survey of Indian Creek that was issued to neighborhoods based on sociological factors and the neighborhoods' geographic proximity to the Creek (specifically, the boundaries of the survey were 87<sup>th</sup> to 103<sup>rd</sup> and Troost to Blue). Results of this survey revealed the following:

- Residents surveyed came mostly from the immediate neighborhood, (87%). 75% lived within five blocks of Indian Creek.
- The Indian Creek is an underutilized urban resource. Only 26% of the people answering survey questions admitted to ever visiting Indian Creek. Those who visited the creek went in all seasons, in about equal percentages.
- Young children, defined as children six years or younger, rarely visited the river. One person surveyed out of the entire surveyed population said that her young child went with her once to the creek, for less than two hours.
- Children aged 7 – 16 exhibited slightly more use of the creek. 70% said these children never used the creek, but one child waded in the river with his father four times, and one child and his friends “adventured” in the river often (50-99 visits). These children fished for channel catfish and sunfish, but said they fished for fun, and did not eat the catch.
- Only 16% of adults admitted to wading and fishing along the river, and only 11% admitted to fishing. However, the residents repeatedly offered their opinion that there were people who regularly fished Indian Creek in the past. The favorite location for fishing is currently at the Lydia Street crossing at the now newly completed Bridger Bridge. MDNR plans to conduct follow-up interviews after the bridge reopening to complete outreach efforts.

The MDNR Citizen Advisory Team noted that stream sediments and fish tissue samples collected by MDNR and DOE showed that risk of toxicity is low to humans in general, and especially considering the use patterns discerned from the survey.

The survey respondents were also asked whether they would be interested in receiving information about the Kansas City Plant. Respondents who answered yes were added to the Kansas City Plant's facility mailing list. They are now on distribution to receive *Focus*. In addition, these individuals are also now on distribution for modifications that may occur to the RCRA Part B Post Closure permit. Through this distribution they are

notified any time changes occur to the RCRA permit. The permit is the regulatory driver for environmental clean up activity at the site.

### Public Participation Activities

#### *Voluntary*

Multiple public participation and outreach activities have been conducted to ensure that concerned parties understand the environmental issues at hand. A number of presentations have been made to government and civic groups in order to specifically address PCBs at the 95th Terrace Site and their potential impact on Indian Creek. These activities and presentations included the following:

- Presentation to the Southern Communities Coalition: Kansas City Plant representatives provided PCB awareness information, including a presentation complete with a question and answer session, as well as handouts including a “Stewards of One Environment” DVD, issues of *Focus* addressing PCBs, and a PCB fact sheet. No further action was requested by the audience.
- Presentation to the South Kansas City Chamber of Commerce: Kansas City Plant representative provided PCB awareness information and handouts, including a “Stewards of One Environment” DVD, issues of *Focus* addressing PCBs, and a PCB fact sheet. Audience was satisfied with information presented.
- Presentation to the Center Planning and Development Council: Kansas City Plant representative provided PCB awareness information and handouts, including a “Stewards of One Environment” DVD, issues of *Focus* addressing PCBs, and a PCB fact sheet. Audience was satisfied with information presented.
- Information packet provided to the Blue River Watershed Water Association: Packet included a “Stewards of One Environment” DVD, issues of *Focus* addressing PCBs, and a PCB fact sheet. No further action was requested by the audience.
- Discussion with the Kansas City Chamber of Commerce: Honeywell FM&T’s president met one-on-one with the Kansas City Chamber of Commerce’s president to provide PCB awareness information. No further action requested.
- Presentation to the Linden Hills Neighborhood Association: Kansas City Plant representative provided PCB awareness information and handouts, including a “Stewards of One Environment” DVD, issues of *Focus* addressing PCBs, and a PCB fact sheet. Audience was satisfied with information presented.
- Publication of several *Focus* articles related to 95<sup>th</sup> Terrace Site: No feedback received from public.
- A public meeting was held February 19, 2004 where regulatory authorities discussed PCB issues near the Kansas City Plant. A representative of the Agency for Toxic Substances and Disease Registry (ATSDR) presented information on the risk to the public based on data collected by MDNR and NNSA. They concluded that there was no risk to the public through physical contact with the creek or through the ingestion of fish from the creek. They also noted that the data indicated that the KCP was not the only source of PCBs in Indian Creek.

#### *Speakers Bureau*

The NNSA’s public affairs department has established a speaker’s bureau. Speakers have been selected and trained to share information with interested community groups about environmental issues. A brochure describing the program was mailed to residents and groups identified in the surveys.

### ***Media Relations***

Media inquiries about environmental efforts at the plant are welcomed, and responses are provided in a timely manner. If desired, video footage may be provided to the media on request.

The public will be given the opportunity to discuss plant environmental activities and remediation plans submitted to the MDNR and EPA in public hearings and meetings. The hearings and meetings will be announced in mailings to plant neighbors and community leaders, through notices published in local newspapers and online at [www.kcp.com](http://www.kcp.com). The hearings and meetings will be held near the Kansas City Plant.

### ***Community Involvement Group***

The Community Involvement Group was formed in 1994 and is comprised of economic, community and governmental leaders. The Kansas City Site Office has responsibility for the Community Involvement Group and will periodically communicate with these individuals and provide information and materials about key issues at the plant.

### ***Associate Communication***

An associate communication program keeps Kansas City Plant personnel informed of environmental remediation projects and concerns. By using ongoing publications, video news, bulletin boards, information centers, special brochures, meetings, and training programs, the communication program provides comprehensive and timely information to plant associates.

### ***Tours***

Various groups including schools, scouts, service organizations and others frequently request tours of the Kansas City Plant. The public affairs department and the office of industrial partnerships cooperate to provide tours.

### ***Online Communication***

Plant publications, including the monthly *Quest* and the quarterly *Focus* newsletters may be found on the Kansas City Plant's Web site. The Internet address is <http://www.kcp.com>.



Appendix J:

2012 Community Interviews Summary  
Report



# **Bannister Federal Complex Individual Community Interviews regarding RCRA Permit Modification Final Report February 21, 2012**

In February 2012, community interviews were conducted with 21 individuals on the subject of the Bannister Federal Complex, in an effort to gather information that would be useful in developing a community involvement plan regarding the RCRA environmental permitting process and corrective actions at the site.

Eleven (11) of the respondents were members of the BFC Community Advisory Panel, one (1) was an individual who had resigned from the Panel in 2011 and nine (9) individuals were community members.

Of those nine community members, six were residents who were recruited at random from the area surrounding the Complex, while three were individuals whose names had been provided through contacts suggested by the communications staff at the Complex. Six (6) of the nine community members were interviewed in person at the Watts Mill Panera restaurant, while the other three, at their request, were interviewed over the telephone. All CAP members who participated (plus the one former member) were interviewed via telephone.

The questions used in the interview process were provided to a third-party interviewer, as was the introduction, which described the objectives for the project. A third-party interviewer was selected to increase the candor of the responses since some persons may not be forthcoming with their concerns if the interviews were conducted by BFC employees. All interviews were completed between February 8 and February 17, 2012.

The report that follows is divided into three sections:

- General summary of the findings
- Themes from the interviews, along with discussion of those themes
- Addenda: two interview documents used

This is a qualitative – rather than a quantitative – research process, reflecting the thoughts, ideas and concerns of the diverse group of 21 individuals who participated. Some of these ideas were expressed with great passion by some individuals, while other participants were less engaged, and still others were unaware. Presenting the data using a theme/discussion approach is the most effective way to detail the results of these conversations in a manner that can guide future communications planning.

## **General summary of the findings**

The individuals who took part in this research were intended to be a cross-section – from those with detailed, firsthand knowledge of the Bannister Federal Complex, to those whose only source of information is the local news media, to those whose level of awareness of the Complex is little more than its location and that it is a “government facility.” The results demonstrate that this was, indeed, the type of diversity represented in the 21 participants in this research process.

Specifically, the views of the participants about the facility, and its past, present and future, created three distinct groups.

### **High degree of trust/Low to Moderate degree of specific awareness**

This group pays occasional attention to news coverage about activities at the Complex and/or environmental topics related to the facility, but its members have only limited interest in digging below the surface level.

They may have “heard some things” about environmental issues, but it hasn’t troubled them enough to seek out more information. They believe that a good faith effort is being made at the Complex on the environmental issues and on addressing the concerns of the past, and they are hopeful that a new tenant (or tenants) can be found to occupy the space in the future.

In fact, their overriding concern deals with how the future of the Complex potentially impacts their property values. Their fear is that the Complex would stand empty and undergo decay, due to lack of attention, resulting in a meaningful, personal financial impact.

### **Moderate degree of trust/Moderate to High degree of specific awareness**

This group pays closer attention to the news media coverage of environmental issues and other aspects of life at the Complex, and may have even attended a presentation, public meeting or other gathering sponsored by the Complex to gather input and share information.

These individuals would qualify as those who “trust, but verify,” meaning that they believe that there are some environmental issues that need to be addressed, and that efforts are being made in this area. Yet, they continue to wonder if there is more that is not being shared that might help to alleviate their fears, and the concerns of their neighbors. They also wonder why (in their view) efforts by the Complex to involve and inform the community are rare and, when they occur, poorly publicized.

They also are even a bit more concerned than the previous group about the disposition of the property, once its current tenants have vacated the space, for the same reasons – primarily property values, but with varying degrees of environmental concern as well.

Again, they believe that efforts are being made to address all these issues; they just desire a bit more engagement and information.

### **Low degree of trust/High degree of specific awareness**

This group is very well-known to the Complex and its staff, because these individuals are frequently present at meetings, where they ask many questions and are regularly unsatisfied with the answers, and they make it a point to air their concerns to anyone and everyone who will listen.

They believe that there is significant information that has not been provided, and that this lack of information dissemination is intentional. They have little to no trust in anything that is said (or in those who provide the information), and they believe that the Complex's future is bleak, once the current occupants move to the new location.

They are a mixture of anger, fear and mistrust. Their approach influences both of the other two groups: those in the "Modest Trust" group hear what this group has to say, and some of them wonder if there may be some substance, while those in the "High Trust" group generally dismiss these individuals and their concerns, because of their inflammatory approach and style.

While it would be inappropriate to assign percentages to each group for the community as a whole, based on only 21 interviews, the fact that these segments had such clear behaviors is extremely instructive in thinking about a community engagement plan.

Specifically:

- **The Low Trust group is unlikely to move up (to the next level) in substantive numbers, no matter what steps are taken by the Complex and its staff.** These individuals simply have issues with how they perceive they are being treated (or have been treated in the past) and/or questions that the Complex will never be able to answer to their satisfaction.

Yet, an active approach to communicating with, and engaging, the community at large will be seen by the Low Trust group as a step in the right direction. As long as the expectations for improvement in the relationship with the individuals in this group are reasonable (and modest), any initiative designed to disseminate more information will be beneficial.

- **The Moderate Trust group should be the primary target for the community engagement efforts.** This is the audience whose members lean in support of the Complex, but whose opinions about the facility are clearly impacted by the thoughts, comments and information they receive from various sources.

In essence, they would like to continue to trust, but they would benefit from a steady stream of evidence that that trust is well-placed. More regular public meetings and presentations, more positive activity from the Complex in the media, and more information disseminated through various groups with which they are affiliated would all benefit the relationship.

- **The High Trust group needs steady affirmation that it is right to continue trusting.** This group has, what it believes to be, enough information about the Complex, its status, and its future, to trust that the right steps are being taken now and will be taken in the future.

Further information on these topics through the current sources to which these individuals turn (primarily the local news media) should be sufficient to maintain the relationship with those who already are on the side of the Complex.

In other words, a more accelerated pace of public comment opportunities, town-hall-style meetings, news dissemination, and other communication strategies and tactics will likely maintain the strong relationship with those who already have High Trust, provide additional evidence to those with more Moderate Trust that the Complex is doing the right things, and may help to answer at least some of the criticisms from those who currently have Low Trust.

In doing so, it will be important to set reasonable expectations, as the Complex plans communications strategies and tactics related to the issues of the past, the present and the future. The facility and the issues surrounding it have been in the public consciousness for more than a generation. Small, incremental progress in the relationship between the Complex and the community should likely be the objective, with the understanding that the time frame for such progress will likely be lengthy.

## **Themes from the interviews**

### **Theme 1: Most individuals appear to have at least some rudimentary awareness of the Complex, its tenants and its activities, and an even greater awareness of the Complex's as-yet-undetermined future.**

The level of specific awareness regarding the Complex fell along lines that would be expected.

Specifically, those on the CAP group and those from the community who would be in the Low Trust group had much more detailed awareness about the specific activities (and challenges) associated with the Complex, while more typical citizens revealed some general awareness about it being a “government facility” or “defense-oriented.”

Interestingly, even those with a low to moderate level of awareness seemed only mildly interested in learning more about the basics of the Complex today, and more interested in hearing about the future of the facility, once its current tenants vacate. Whether their tone leaned more toward curiosity or toward worry, depended on the individual, and was a contributing factor in placing him or her in a specific “trust” group.

### **Verbatim comments**

*I know it's a place that's going to need to be redeveloped.*

*It's a manufacturing site with government entities. They build parts for non-nuclear weapons. The GSA is there, as is the IRS.*

*It's GSA; a federal facility.*

*My father worked there, so I know a lot about it.*

*Originally, it was for aircraft engines, and it's been used for a lot of government stuff, like parts for nuclear weapons and components.*

*They worked on nuclear weapons, but they are moving.*

*It was a bomber plant. Then it became a place where non-nuclear components were built. There are multiple agencies there, including a large GSA footprint.*

*It's a huge federal complex that's been here forever. It's the home of the National Archives, IRS, GSA and Honeywell.*

*It's a manufacturing site for non-nuclear components.*

*Honeywell is there, but they are in the process of moving on. They've been working on defense since World War II. They make non-nuclear parts.*

*It's a plant that makes non-nuclear parts.*

*It's a federal facility that makes non-nuclear parts for nuclear weapons. It also houses the GSA.*

*It's a large federal complex that formerly housed a lot of government agencies, but it's downsized quite a bit. It's very well-maintained, however.*

*It's a large industrial complex, located in a flood plain. The buildings are well-maintained, but not state-of-the-art.*

*It's an enormous place.*

**Theme 2: The overall opinion of the Complex was also quite diverse, with respondents getting their information from a variety of sources.**

Utilizing sources as varied as the CAP group, friends and neighbors, the local news media, and the Internet to gather their information, research participants' opinions about the Complex tracked with their level of awareness and their amount of interest.

Specifically, those who felt they were getting enough information were generally positive – although some more cautiously so than others – about the Complex, while those who believed that important information about the facility, environmental issues, its future, etc. was being withheld (or was not being provided in sufficient detail) were much less supportive.

This is a key finding, because it suggests that – for all but the Low Trust group – enhanced information dissemination can help to solidify currently positive or “leaning positive” opinions. Community members will pay attention at the level at which they are

interested. However, there is no “magic bullet” that will reach everyone, because not everyone is overly interested at this time.

As such, the issue appears to be making certain that when they *are* interested, they see a Complex that is providing details, and offering numerous, well-publicized opportunities to become informed.

**Verbatim comments:**

*It's OK. People complain about the leaks and all, but that's mostly crap. Clean it up and it'll be fine.*

*It's a great facility for someone to come in and redevelop. It's in a great location.*

*I'm fairly trusting, but I would always like to know more.*

*It will become the biggest dump site, if we don't get it cleaned up. The land needs to be utilized.*

*In the past, Honeywell would do a dog-and-pony show to make us feel better about the pollution.*

*My opinion is based on a vast amount of personal research and a lot of national research. It's very difficult to define how I feel.*

*I want to know what's at the site and how dangerous it is.*

*I have a good opinion. It provides tax revenue for the Center School District, and it provided me work for 28 years. But, I have heard about the cancer stuff.*

*It could be a valuable resource for the community, if certain organizations, like the Department of Energy, took responsibility.*

*I don't think I know as much as I'd like to.*

*There are so many politics involved;, it's difficult to know what's happening. It's really politically charged. People think it's a dump.*

*I see it as an economic mainstay. It's a real job generator and has a significant presence in the community.*

*It's undergone some needed changes, as time has passed.*

*It's been a very important part of our community. It's employed a lot of people.*

*It's very underutilized and has a tremendous footprint. I think there's a high likelihood that it will go dark when the current tenants leave.*

*It's big. They have a lot of different businesses there.*

*It's large and could be an eyesore when everyone leaves.*

*They should be taking care of the sick workers. I don't trust them, because they won't open up their records.*

*Because it's so huge, I think there are a lot of possibilities, once everyone moves out. It could be a large I.T. company, and I could even see a community like a John-Knox-Village-type place out there. It's so big.*

*Until the environmental conditions are resolved, it has a cloud. I can't imagine any large entity would want to take the chance on something like this, when the Bannister Mall site is also available and has none of these issues.*

*It's very well-built and well-maintained. It's poured concrete that was built to withstand bombs. I think a lot of the pollution will eventually go away. I'm not concerned about it.*

*I know that a lot of people who worked there are dying. I know that there have been investigations. I think the commitment to do the right thing is there, but I don't think we will ever truly know.*

**Theme 3: With the exception of the extremely passionate, the level of awareness of the specific roles of the players in the process (NNSA, GSA and the RCRA regulation) is limited. The interest of research participants appears to be less about *who* is taking care of the future disposition of the site (both environmental issues and the potential transfer of the property to new ownership) than it is that is gets handled to their satisfaction.**

While some of the CAP members had more detailed thoughts on the NNSA, GSA and the RCRA regulation, the specific awareness among less-connected individuals was sketchy at best.

It was clear that these individuals had heard of one or both of these agencies, along with the regulation. But, the level of detail that they were able to share was limited.

They didn't express a great deal of interest in learning much more about these organizations or the regulation. Rather, their focus was on the more basic aspects of the Complex: What's happening now? What do we need to know? What will happen in the future? What will happen when everyone leaves? They are not particularly interested in *who* provides the information (in terms of the agency), or how it gets to them. Their interest is in being informed in a timely manner, and having at least intermittent access to an outlet for asking questions and securing information.

When asked to comment about what they thought the community would want to know about the Complex, their answers were the same. Specifically, their belief is that while there may be some individuals who would want to be more actively involved with the Complex and its transition, they believe that most area residents simply want to be more regularly briefed on the status and on the transition plan.

**Verbatim comments:**

*I'm only interested in what's going to happen with redevelopment.*

*I know several people who have worked there (at the Complex), so I'm familiar with those agencies through them. I just want to know how they (the agencies) will play a role in the redevelopment.*

*I know the Department of Natural Resources has been involved. I've attended some of their meetings.*

*I've received information so I think I'm fairly familiar. I know that the EPA has been involved in a cleanup effort there in the past.*

*On a scale of one to 10 on what the public knows, I'd say it's about a 2.5. They'd probably like to know more.*

*I don't want more gobbledygook. I want the facts.*

*It's the government, so it's layers of bureaucracy.*

*We need information that is understandable. Try presenting at churches. Most people want to know what's going on.*

*I'm fairly familiar with the RCRA, but it's complicated.*

*I would hope that the NNSA and GSA would be trustworthy sources of information.*

*I think that the public has a big interest in this, because it affects their health, their property values and their feeling of security.*

*I'd want to know how they dried up the muck. Was that contaminant? I want to know the plans for the future. I'm concerned about the environmental impact.*

*I'd like to think we could trust the NNSA and the GSA. They're the only two available sources, so we have to trust them. But, I want to know how they disseminate information and what guidelines are they using when they talk about "environmentally friendly."*

*I think people are interested, because of the investment they have in their homes. How will this affect it?*

*I'd like to know more about the Technology Transfer Building. We need to be focused on that. Big, secret work has gone on there.*

*I'd like to know how easily the NNSA can give the property to the Department of Energy.*

*I trust the NNSA and the GSA as much as I can, I guess. I just want to know what their plans are: clean it up or leave it.*

*I think the community has a concern, because the Complex has such a large footprint.*

*The information we get is kind of restricted. But, for the most part, I think that the agencies are pretty upfront.*

*There are very deep fears in the community that the Complex isn't sharing everything. They have a history of poor documentation. I'd like to know, for example, if they've ever handled special nuclear materials there.*

*The media seems to be a battleground for sensational stuff. The CAP group has laid out an understandable process and a good game plan. But, when people are emotionally charged, it becomes difficult.*

*The information is almost in code. It should be simpler. There's no villain. It just needs to be simpler.*

*The intent of the NNSA and GSA is trustworthy, but the way they translate information breeds mistrust. I would like to see them go out of their way to humanize the process.*

*I generally trust the people, but I always think there is information that is being withheld.*

*I think I have a good relationship and that people there are being honest.*

*They should be straightforward about the legacy issues at the place. The Complex has been less than candid.*

*I'd like to trust, but some of the CAP people who worked there before have me wondering.*

*I'd say my trust is a seven on a scale of one to 10. I never feel unsafe there, but there are a lot of employees who have concerns.*

*I'm moderately familiar and extraordinarily supportive of RCRA. It's much more expedient to handle it this way than to make it a Superfund site.*

*I think they intend to be trustworthy, but I think both agencies are colored by the desire to dispose of the site in a way that is beneficial to them. They both have an agenda.*

*The GSA people have been very involved with the CAP group. The NNSA people were reluctant to let us tour, but they relented. One guy on the committee worked there, and he has a lot of strong opinions.*

*They're very professional people. I get all the information I need.*

*I'm on the CAP, and I just wish we were more involved in the process. I find it frustrating that we don't get the information we want, because of the general umbrella statement that it's "a national security issue."*

*I don't think we have any choice but to hope that the NNSA and the GSA are trustworthy. I just want to make certain that the process that is followed is open and transparent.*

*I think they need to tell us how the legacy issues at the Bannister site are not going to be repeated at the new location.*

**Theme 4: Traditional news media, well-publicized public meetings, and contact with community groups in and around the Complex would all be excellent venues for transmitting information. The key, according to the research participants, is not so much the venue, but the commitment to frequently disseminating updates.**

Seemingly every television station, radio station with a news operation (KMBZ, for example), local print publication, and obvious website (such as ones connected to local news outlets), were named as a primary source of information by at least one individual among the 21 who participated in this process. In essence, the Complex can't go wrong with a steady diet of news disseminated to the sources that would be on every media list in Kansas City.

However, the more important finding under a general heading of “communications strategy” is that a broad cross-section of respondents indicated a belief that the Complex has not done a suitable job with public events, such as town-hall-style meetings. The general tone of the concern is that any publicity about these events is slim, and that said publicity comes at the last minute, thereby meaning that the program is poorly attended.

Some of those in the Moderate Trust group see this situation as something that needs attention, while others believe it sends the message that the Complex actually would prefer to limit public contact, and structures these events (and their promotion) so that that is the result. Some seemed disturbed by this turn of events, while others took the attitude of “it doesn't necessarily look to *me* as though they are trying to limit contact, but I can see how it could look that way to others.”

Those in the High Trust group do not generally seek out such programs, because they don't feel it necessary to attend, while those in the Low Trust group are the ones calling for much, much more frequent opportunities for public comment.

The objective for the Complex should be to strike a balance that, as stated above, would connect with the needs of the Moderate Trust group for more information, perhaps soften the views of the Low Trust group and demonstrate to the High Trust group that efforts to connect with citizens are continuing.

**Verbatim comments**

*I watch Channel 9, listen to KCUR and listen to 980.*

*More news would be good. Meetings, mailings, e-mail – anything would be good.*

*I watch Channel 4.*

*The average Joe doesn't care right now and the meetings that might get him to care aren't well publicized. Need more meetings. People will start to care, once it's a dump site.*

*Every public comment opportunity seems rushed.*

*I get most of my information from the newspaper, or from the Internet – places like the Department of Energy and the GSA.*

*I'd like to get more information through the mail.*

*Put it on radio, television and in the newspaper.*

*I watch Channel 5 and Channel 4, and listen to KMBZ.*

*The Trailside Center would be a good place to put information.*

*The newspaper and the TV news would be good places to put information.*

*Mail or e-mail would be a good way to reach me.*

*Channel 9, 89.9, kcmo.org, Linden Hills Neighborhood Association are all good places to put information.*

*I get most of my information through the GSA.*

*I don't think the public knows or cares right now.*

*I read The Kansas City Star and The Economist. I watch PBS.*

*I get my information from my participation in CAP, but I would always like to get more – particularly face-to-face.*

*I read The Kansas City Star, check out the local media websites, and listen to KMBZ and KCUR. They just need to have more community awareness about the process that's going on out there. More public meetings.*

*My information comes from working on the CAP committee and through the Trailside Center.*

*I can't think of any groups that would be interested in the topic that haven't already heard about it.*

*Most of my information comes directly from the people at the Complex and through being on the CAP group.*

*The public wants to know it's safe. The Complex needs to make certain that everyone on the committee has a chance to speak up. Don't exclude anyone.*

*People want to know if they are safe and the property is safe. They need to do what they can to get the information out there.*

*I get my information from the newspaper and through the Sierra Club.*

*People are lethargic and ignorant on this topic. They just don't seem to care, and they should.*

*I get information from the NNSA via the CAP group, and from PR sent to the Chamber.*

*The community wants to know more about the possible contamination.*

*I read the Business Journal.*

*If they want to show the public they are sincere, they should open up the communication process, get on the local media, have more meetings that are well- publicized. It's always rushed and incomplete when they have a public meeting. People are watching what happens here.*

*People just want to know what's going on, so they should do everything they can to get that information out there.*

*They should keep in touch with the Blue River Watershed Association, the Center School District, and Center Planning and Development.*

*I rely on direct communication with the site. I read the newspaper, but I don't rely on it. I check the facts.*

*It's been such a large employer that people want to know what will happen when the agencies all leave.*

*I think we need to engage economic development folks at the local and state level, the Chamber, and any organization that has contacts with employers who are large enough to consider this site.*

*People are concerned, because the place has a bad image. They need to get information out to the public.*

*I watch TV news and read The Star.*

*The public really wants to know and understand what's at that site. There's some ugly stuff behind those walls. They need to be as clear as possible in discussing how it will be dealt with appropriately.*

*I would make certain that Southtown Council, the Rotary Club and any other community groups in the south part of the community are informed.*

# **Addenda: Research instruments used in the interviews/CAP**

## Bannister Federal Complex questions/CAP

Name of person being interviewed \_\_\_\_\_

Date of Interview \_\_\_\_\_

In person or telephone (circle)

### Opening Statement and Confidentiality Agreement

The reason for this interview is to gather public input to help staff at the Bannister Federal Complex shape a community involvement plan that will help to keep citizens informed of the RCRA environmental permitting process and corrective action activities at the site. Your answers will remain confidential.

1. How long have you lived in the community?
2. Have you worked at the site? Do you have any family or friends who work or have worked at the site?
3. What do you know about the Bannister Federal Complex?
4. What is your overall opinion about the Bannister Federal Complex?
5. Where do you get most of your information about the Bannister Federal Complex and related environmental activities?
6. Would you like more information about the site and what is going on there? (If yes) How would you like to receive that information?
7. How familiar are you with the Resource Conservation and Recovery Act, the federal regulation that governs many of the environmental activities at the Bannister Federal Complex?
8. Do you see the National Nuclear Security Administration and/or the General Services Administration as trustworthy sources of information? Why or why not?
9. What else would you like to know about NNSA or GSA?
10. What do you think the community wants to know about the Complex, and how involved do you think they want to be?

11. How do you usually get information about important issues?
12. What newspaper, TV station, radio station, websites, or social media in the area do you regularly follow?
13. Are you a member of any local civic or service clubs that would be willing to receive information via presentations? (If yes, which ones?)
14. Do you want to be involved with community groups that share information about the site or receive information through newsletters, email, etc.?

## **Addenda: Research instruments used in the interviews/Citizens**

### Bannister Federal Complex questions/Citizens

Name of person being interviewed \_\_\_\_\_

Date of Interview \_\_\_\_\_

In person or telephone (circle)

#### Opening Statement and Confidentiality Agreement

The reason for this interview is to gather public input to help staff at the Bannister Federal Complex shape a community involvement plan that will help to keep citizens informed of the RCRA environmental permitting process and corrective action activities at the site. Your answers will remain confidential.

1. How long have you lived in the community?
2. Have you worked at the site? Do you have any family or friends who work or have worked at the site?
3. What do you know about the Bannister Federal Complex?
4. What is your overall opinion about the Bannister Federal Complex?
5. Where do you get most of your information about the Bannister Federal Complex and related environmental activities?
6. Would you like more information about the site and what is going on there? (If yes) How would you like to receive that information?
7. How familiar are you with the Resource Conservation and Recovery Act, the federal regulation that governs many of the environmental activities at the Bannister Federal Complex?
8. Do you see the National Nuclear Security Administration and/or the General Services Administration as trustworthy sources of information? Why or why not?
9. What else would you like to know about NNSA or GSA?
10. What do you think the community wants to know about the Complex, and how involved do you think they want to be?

11. How do you usually get information about important issues?
12. What newspaper, TV station, radio station, websites, or social media in the area do you regularly follow?
13. Are you a member of any local civic or service clubs that would be willing to receive information via presentations? (If yes, which ones?)
14. Do you want to be involved with community groups that share information about the site or receive information through newsletters, email, etc.?
15. Are you familiar with the Community Advisory Panel?



Appendix K:

BFC News, December 2012 issue





P.O. Box 419159  
Kansas City, MO 64141-6159

BFC News is published by the U.S. Department of Energy and U.S. General Services Administration to provide information to area residents about the environmental and redevelopment activities at the Bannister Federal Complex in Kansas City, Missouri.

## NOTICE OF PUBLIC INFORMATION SESSION

The National Nuclear Security Administration (NNSA), a semi-autonomous agency within the U.S. Department of Energy (DOE), is preparing:

### Environmental Assessment for the Transfer of the Kansas City Plant, Kansas City, Missouri (DOE/EA-1947)

DOE's Kansas City Field Office is preparing an EA in accordance with the National Environmental Policy Act (NEPA). Through a notice of availability, NNSA has identified a preferred planning partner and determined that only land uses consistent with current zoning are feasible.

A public information meeting will be held to provide the public with additional information about the EA. The meeting will be held:

**Tuesday, December 11, 2012**  
**IBEW Local Union 124 Meeting Hall**  
**301 E 103rd Terrace**  
**Kansas City, MO 64114**

An open house will begin at 6:30 pm; the meeting will start at 7:00 pm.

Additional information may be requested by contacting: Mr. Nathan Gorn, BFC EA Document Manager, NNSA Kansas City Field Office, 2000 E. 95th Street, Kansas City, Missouri 64131, or by email to [KCPEAComments@nnsa.doe.gov](mailto:KCPEAComments@nnsa.doe.gov)



## **i** PUBLIC INFORMATION SESSION

# Tuesday, December 11, 2012

**IBEW Local Union 124 Meeting Hall**  
**301 E 103rd Terrace**  
**Kansas City, MO 64114**

*An open house will begin at 6:30 pm; the meeting will start at 7:00 pm.*

# BFC News

BANNISTER FEDERAL COMPLEX

Winter 2012 / 2013

Volume 1, Number 1



DOE and GSA are committed to continue providing opportunities for nearby residents, interested citizens, employees and others to get information and voice their views about the redevelopment activities at the Bannister Federal Complex.

## Welcome to BFC News



For some 70 years, the Bannister Federal Complex (BFC) at Bannister Road and Troost Avenue in South Kansas City, Missouri, has served the community as a major employer and has served the nation by manufacturing products for national security and providing business administrative services for the federal government. The facilities at the 300-acre Complex are zoned for manufacturing and owned by the U.S. Department of Energy (DOE) and the U.S. General Services Administration (GSA).

### The success of the Bannister Federal Complex Redevelopment is dependent on:

- Completion of the Environmental Assessment (National Environmental Policy Act)
- Completion of any environmental cleanup required by the U.S. Environmental Protection Agency and Missouri Department of Natural Resources
- Community input during redevelopment process

The BFC will undergo significant changes in the next few years as both DOE and GSA relocate to new facilities in 2014 and beyond. The federal agencies are committed to ensuring positive transformation of the BFC to maintain the viability and public safety of the Bannister corridor.

DOE and GSA are committed to continue providing opportunities for nearby residents, interested citizens, employees, and others to get information and voice their views about the redevelopment activities at the Bannister Federal Complex. ■

## DOE selects planning partner for redevelopment process

As you may be aware, the Department of Energy will soon relocate its Kansas City Plant operations to a newly constructed National Security Campus about eight miles south of the Bannister Federal Complex. As an integral part of that effort, DOE has been working hard to achieve redevelopment of the Bannister property in a manner that is timely, cost-effective, environmentally responsible, and economically beneficial to the community.

More than a year ago, the DOE issued a Notice of Availability for the transfer, sale, or lease of its property at the Bannister Federal Complex. As a result, the DOE received a substantial response from various companies, which included redevelopment plans that extended beyond the bounds of the DOE property to include the portion owned by the GSA.



DOE has been working hard to achieve redevelopment of the Bannister property in a manner that is timely, cost-effective, environmentally responsible, and economically beneficial to the community.



In August 2012, DOE selected industrial real estate firm CenterPoint Properties as a preferred planning partner to further develop approaches to potential reuse opportunities for the Bannister Federal Complex property. CenterPoint Properties develops, owns, and manages industrial real estate at several locations across the country.

Through discussions with CenterPoint Properties, DOE has determined that only land uses consistent with current zoning constraints are feasible. This change eliminates the need to study options outside those zoning restrictions such as residential use. As part of the redevelopment process CenterPoint Properties will solicit community feedback on potential reuses of this property. ■

As part of the redevelopment process CenterPoint Properties will solicit community feedback on potential reuses of this property. ■

## Environmental Assessment of Bannister Federal Complex is underway

DOE, with GSA as a cooperating agency, is currently working on a study, which will analyze the environmental impact of transfer of the property for uses that could be different from its current use.

The National Environmental Policy Act (NEPA) of 1969 was enacted by Congress to ensure that federal agencies consider the potential environmental impacts of their proposed actions and alternatives before deciding on a course of action. An environmental assessment (EA) is a concise public document that a federal agency prepares under NEPA to determine whether a proposed action would result in a finding of no significant impact (FONSI), or require a more detailed analysis through preparation of an environmental impact statement (EIS).

The National Nuclear Security Administration (NNSA), a semi-autonomous agency within the DOE, will prepare an EA to analyze the environmental impact of transferring DOE-owned property at the BFC. The property would be transferred in whole or in part to a new owner who would use the property in a manner consistent with current zoning.

The EA will assess the foreseeable environmental impact of the proposed action, and will evaluate if an EIS is required for this proposed action. The study will also help inform DOE efforts with the U.S. Environmental Protection Agency and Missouri Department of Natural Resources to ensure that the consideration of environmental issues is an integral part of planning. ■



The property would be transferred in whole or in part to a new owner who would use the property in a manner consistent with current zoning.

## Environmental monitoring is ongoing at Complex

EPA Region 7 and the Missouri Department of Natural Resources have issued final hazardous waste permit modifications that allow better coordination of environmental investigations between the BFC's property owners, the U.S. Department of Energy and the U.S. General Services Administration.

Both DOE and GSA have been performing environmental investigations and corrective action activities on their respective portions of the federal complex under separate environmental programs for many decades. The permit modification brings the entire Complex under one primary regulatory enforcement mechanism administered by one agency (DNR) and promotes a consistent, comprehensive approach to further environmental investigation, monitoring, risk-assessment and cleanup before transferring property to a new owner.

These modifications, as well as a summary and response to comments received during the public comment period, are available online. ■

### Information Hub

U.S. Department of Energy's Kansas City Field Office, 816-997-5476 or [www.kcp.com](http://www.kcp.com)

U.S. General Services Administration Public Affairs, 816-823-2931 or <http://gsa.gov/portal/category/102611>

U.S. Environmental Protection Agency Region 7, Community Involvement, 913-551-7253 or [www.epa.gov/region7/cleanup/bannister](http://www.epa.gov/region7/cleanup/bannister)

Missouri Department of Natural Resources, Community Involvement, 573-526-8964 or [www.dnr.mo.gov/env/hwp/permits/mo9890010524/information.htm](http://www.dnr.mo.gov/env/hwp/permits/mo9890010524/information.htm)



Appendix L:

Sample Public Meeting Notice



# Sample Public Notice - Advertisement in KC Star newspaper in 2011

**PUBLIC NOTICE  
U.S. DEPARTMENT OF ENERGY  
KANSAS CITY PLANT  
CLASS 3 MODIFICATION REQUEST  
MISSOURI HAZARDOUS WASTE MANAGEMENT FACILITY PART I PERMIT  
KANSAS CITY, MISSOURI**

The Missouri Department of Natural Resources (MDNR) is accepting written public comments on proposed Class 3 modifications to the Missouri Hazardous Waste Management Facility Part I Permit for the U.S. Department of Energy (DOE) Kansas City Plant (KCP) until November 1, 2011.

The KCP is located east of Troost Ave. between 95th St. and Santa Fe Trail, in Kansas City, Missouri. KCP is proposing the following modifications to their Permit:

- Change the Facility Description to include the entire contiguous property comprising the Bannister Federal Complex (BFC), including the landfill located on United States General Services Administration (GSA) property.
- Expand the list of Permittees under the Permit to include the GSA.
- Expand the scope of environmental corrective action to include areas of the BFC owned by GSA.
- Prepare a Description of Current Conditions Report to provide a historical record of environmental activities at the entire BFC and identify areas that require further investigation.
- Prepare a qualitative risk screening document across all environmental media and contaminants of concern.
- Prepare a quantitative complex-wide assessment of human health and ecological risk.
- Perform a polychlorinated biphenyl (PCB) fate and transport study to evaluate environmental media and transport mechanisms that may be contributing to the presence of PCBs in the nearby environment.
- Evaluate contaminant source reduction/removal options.
- Prepare a BFC Community Relations Plan to describe existing and planned efforts to involve the public in the corrective action process at the BFC.
- Change the current groundwater pumping system to include conclusions contained in a previously submitted pumping system optimization study.
- Add nine GSA owned groundwater monitoring wells to the list of wells managed by the Permit.
- Change groundwater point of compliance wells to remove two pumping wells and add three groundwater monitoring wells.
- Change the list of perimeter and effectiveness wells as defined in the Permit.
- Modify the frequency of submission of a report called the Groundwater Corrective Action Report from semi-annually to annually.

This Public Notice also adds the GSA as a facility owner (Permittee) to the Part II section of the Permit that addresses the Hazardous and Solid Waste Amendments (HSWA). The Part II Permit is enforced by EPA.

A public information session will be held on Monday, September 19, 2011, from 5:00 to 7:00 PM at the Evangel Church, 1414 E. 103rd Street, Kansas City, Missouri 64131 to explain to the public the proposed modifications to both the MHWMF Part I Permit and Part II Permit. This information session will have information, exhibits and agency representatives available. In addition, there will be information available about how to make written comments during the 60-day public comment period.

Visitors are asked to use the Upper North Parking lot and should enter the building from the North side. Individuals requiring special services or accommodations in order to attend the meeting can make arrangements by contacting Tanya Snyder at least 72 hours before the meeting at (816) 997-5937 or by e-mail at [tsnyder@kcp.com](mailto:tsnyder@kcp.com).

Copies of this Permit modification request and other supporting documents can be viewed and copied at the Mid-Continent Public Library's Blue Ridge Branch, located at 9253 Blue Ridge Blvd. in Kansas City, Missouri. Written comments should be sent to Mr. Don Dicks, Missouri Department of Natural Resources, Hazardous Waste Program, P.O. Box 176, Jefferson City, MO 65102 or by email to [don.dicks@dnr.mo.gov](mailto:don.dicks@dnr.mo.gov). The KCP's compliance history during the life of the Permit being modified is also available from Mr. Dicks.

For more information about the proposed permit modifications, please contact Mr. Dicks by telephone at 573-751-3553 or 800-361-4827. Hearing- and speech-impaired individuals may reach Mr. Dicks through Relay Missouri at 800-735-2966. To speak with a representative of the KCP, please contact Mr. David Caughey at 816-997-3449.

