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The Hanford Building Leasing Program:

Identified Procedural Improvements

Research Report

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Summary

The Hanford building leasing program came to the attention of the Hanford Advisory Board (HAB) in early 2000 as a result of activities of the Government Accountability Project (GAP), a HAB member. Corrective action by the Richland Office of the U.S. Department of Energy (DOE/RL) to remove a radiation source met the immediate concerns raised by GAP. Research at the University of Washington has been related to occupational exposures at Hanford. This previous research and the attention to the leasing program led us to a general inquiry on the nature of standards for protecting occupational and public health from radioactive or chemical materials in leased buildings. Our findings and conclusions are summarized here, with more detailed explanations following:

Practical economic considerations have limited the scope of the Hanford program to a small number of leased buildings. In addition, one effect of the Hanford 2012 Plan is no further leasing in the 300 Area.

Of the buildings leased, Building 313 is unusual in the divergence between past use as a reactor fuel production facility, and current use to fabricate extruded metal products, including baseball bats. The southern (inactive) portion of Building 313 has also been designated as potentially contaminated with beryllium. The company leasing Building 313 expected to allow the lease to expire at the end of 2001, and move to the 1100 Area.

Decontamination standards for released property and buildings are contained in DOE Order 5400.5. That Order specifies a radiation dose limit of 100 mrem/yr, although DOE may grant specific exemptions for higher doses. The Order also sets guidelines for residual surface contamination, specified by radionuclide or ionizing radiation type. For hazardous substances other than nuclides, the Order refers to a section of the law governing Superfund sites. This section, and the applicable federal regulations, set general requirements for the reporting of hazardous substances that might have been stored, released, or disposed on a given federal property; and requires remedial action as necessary prior to transfer. Thus, details on non-radionuclide contamination on transferred federal property are likely to be highly building-specific.

Conditions in the north portion of Building 313 prior to leasing are described in a Facility Baseline document. Radiation monitoring included area surveys and swipe samples for removable contamination. The highest area sample was 50 microrem/hr, which on a 2000 work hr/yr basis translates to 100 mrem/yr. This meets the standards in DOE Order 5400.5 implicitly, although this conclusion was not explicitly stated in the Facility Baseline.

With regard to chemicals, the Facility Baseline for Building 313 describes surveys for polychlorinated biphenyl (PCB) compounds, asbestos, and general plant conditions, and includes Material Safety Data Sheets for petroleum oils. Surveys for beryllium were not included nor described.

With regard to radiation exposure, several different DOE guidelines are relevant to leased buildings. Workers in leased buildings are classified as “general employees,” subject to a total

equivalent exposure limit of 5 rem/yr. As indicated above, DOE Order 5400.5 requires an estimated dose of no more than 100 mrem (0.1 rem)/yr to lease a building, with exemptions up to 500 mrem/yr authorized. However, DOE implementation guidance in 1999 recommended a dose of no more than 25 mrem/yr to any individual lessee worker. DOE/RL deserves credit for keeping doses to Building 313 workers below 25 mrem/yr, the most stringent limit among these guidance documents. We recognize that responsibility for consistency in national guidance documents lies with DOE/HQ.

Building 313 was first leased in August 1994. Since then, occupational exposure standards for beryllium have developed at DOE/HQ and DOE/RL. In 1997, DOE/HQ established an Interim Chronic Beryllium Disease Prevention Program (CBDPP). In 1998, DOE/HQ proposed formal federal regulations for this Prevention Program, and issued final regulations in December 1999. During 1998, DOE/RL established a list of Hanford buildings potentially contaminated with beryllium. Following issuance of DOE's CBD Prevention regulations in December 1999, prime contractors at Hanford established a system to coordinate and implement those regulations on site.

Building 313 was leased without consultation with the U.S. Environmental Protection Agency (EPA). EPA Region 10 was consulted on a subsequent facility leasing proposal in 1998, and did not concur. In addition, discussions were held at the staff level on potential leasing of Building 314, adjacent to 313. In that case, EPA Hanford Project staff indicated they would not support leasing because of radioactive and chemical contamination, and DOE/RL abandoned further efforts to lease Building 314.

During 1997, DOE/HQ, Office of Environment, Safety and Health, conducted a Safety Review of facility disposition practices at the Oak Ridge (OR) site. This Review contained critical comments on procedures and management issues related to leasing of a few buildings at OR. Among other findings, the Review noted that space had been leased without being fully decontaminated. The Review identified Opportunities for Improvement, including suggesting that OR consider leasing only entire buildings that had been decontaminated.

Conclusions and Recommendations

It appears that the Hanford building leasing program has avoided some of the worst problems identified at Oak Ridge. With Building 313, the first facility leased, radiation surveys included samples at higher building elevations and on the roof. Mitigation actions were taken prior to leasing, and radiation levels implicitly met standards in DOE Order 5400.5. Pre-leasing surveys were also conducted for major chemical substances that might have been expected at the time.

In addition, we can identify three broad procedural changes in Hanford leasing since Building 313 was leased in 1994. Past and current uses of leased buildings seem more consistent; EPA has been allowed to review and concur on leasing proposals; and as a consequence of the Hanford 2012 Plan, there will be no further leasing in the 300 Area. These all seem to be positive developments with regard to protection of non-radiation workers. Plans to fully remediate the 300 Area before allowing new commercial activities in the Area, also seem to represent a more health-protective strategy for encouraging economic redevelopment at Hanford.

Nonetheless, Building 313 remains an anomaly with regard to all three of the subsequent procedural improvements. In addition, the inactive portion of Building 313 was designated a facility potentially contaminated with beryllium subsequent to leasing of the north portion. Exposures, real and potential, to commercial workers should be reduced when the leasing company moves operations to the 1100 Area after the Building 313 lease expires at the end of 2001. Building 313 is then expected to be decontaminated and demolished within a few years.

Under the terms of the Building 313 lease, an exit survey is performed after the lease is terminated. This provided an opportunity to include surveys for beryllium in the north (leased) section of the building. Commercial employees have been working in the leased portion since 1994, and monitoring would represent a prudent step even if it were to confirm assumptions that recent workers were not exposed to detectable levels of beryllium. In addition, Building 313 is to be demolished in its entirety within a few years, and a beryllium survey would represent part of a comprehensive characterization of the building prior to demolition.

We therefore recommended that the north portion of Building 313 be surveyed for beryllium, at the time of the lease termination exit survey, if not before. Consistent with the Facility Baseline survey conducted for radiation and some chemicals, beryllium surveys should extend beyond usual areas of floor and walls below 8 feet, and should focus on interstices, rafters, light fixtures and such locations which might not have been reached during a routine clean-up. Also, a complete roster of current and past workers, especially those of Kaiser Corporation, in Building 313 should be maintained for potential beryllium medical monitoring, pending the results of surveys. These recommendations were formally transmitted by letter to the Medical Director of the Hanford Environmental Health Foundation, the primary Hanford contractor for health and safety matters, with copies to the DOE/RL Manager and Realty Officer (Takaro, 2001). In January 2002, DOE/RL responded by accepting these recommendations, and scheduled characterization of the north portion of Building 313 for beryllium during that month (Shoop, 2002).

We further recommend that the current federal administration continue with the strategy under the Hanford 2012 Plan to fully remediate the Hanford 300 Area before allowing new commercial activities.

DETAILED INFORMATION

Background

The Hanford building leasing program came to the attention of the Hanford Advisory Board (HAB) Health, Safety, and Waste Management Committee in February 2000 as a result of activities by the Government Accountability Project (GAP), a HAB member. In January 2000, GAP detected ionizing radiation from Hanford Building 3712, adjacent to Building 313, a portion of which had been leased for commercial activities. GAP notified the Richland Office of the Department of Energy (DOE/RL), requesting information on the leasing program and recommending corrective action. [Government Accountability Project, 2000] RL subsequently removed the radiation source from Building 3712, which satisfied GAP's immediate concern [Carpenter, 2001].

Research conducted at the University of Washington has been related to occupational beryllium exposures, in the form of basic laboratory work, medical monitoring of former Hanford workers, and policy analysis and recommendations. In addition, DOE/RL has designated the inactive portion of Building 313 as a potential beryllium contaminated facility. This information led us to a more general inquiry on the nature of standards for protecting occupational and public health from radioactive or chemical materials in leased buildings.

Scope of the Program

Hanford buildings have been leased under the Asset Conversion or Economic Transition program, designed to convert or transfer government assets to the local community, supporting goals of encouraging economic development and diversifying the local economy. Practical economic considerations have limited the scope of the leasing program: Rents for leased facilities on the Hanford site are generally higher than for commercial buildings off-site, and administrative restrictions are often required for leasing on-site [Glines, 2000]. As a result, a small number of facilities have been leased, as reported in the table below:

Facilities Leased	
Facility	Year Leased
313 Building	FY 1995
6291 and 1172A Gas Stations	FY 1996
3746A Building	FY 1998
3745A Building	FY 1998
3746 Building	FY 1998
306E Building	FY 1998
318 Building	TBD
314 Building	TBD

Table notes: TBD=to be determined.

Information taken from <http://www.hanford.gov/infrastructure/sid/property.html>, current as of May 5, 1999.

Updated information: No leasing activity for Buildings 314 or 318; 1172A Gas Station property transferred to the Port of Benton [Ortiz and Jacob, 2001].

A more recent restriction on building leasing resulted from the Hanford 2012 Plan, which includes plans in the 300 Area to accelerate decommissioning, decontamination, and demolition of inactive buildings. Future land use in the 300 Area remains industrial and economic development, but current plans are to fully remediate the Area before initiating new commercial activities. One effect of the 2012 Plan is no further leasing of buildings in the 300 Area [Jacob, 2001].

Leased Buildings

Building 313, the first Hanford building leased (see Table above), was constructed during World War II. The building lease refers to 313 as the Nuclear Fuels Fabrication Facility. Prior operations included steps in the process to fabricate uranium fuel rods; those operations ceased in 1986. The northern section of Building 313, designated the N Fuel Manufacturing Support Facility, was first leased in August 1994 to Kaiser Aluminum and Chemical Corporation. Also in August 1994, DOE/RL transferred to the city of Richland a metal extrusion press and related equipment in Building 313 as excess government property. Richland then sold the press and equipment to Kaiser for use in Building 313 to manufacture extruded metal products, including aluminum baseball bats. [USDOE/RL, 1999] Kaiser recently announced that it would allow its lease on Building 313 to expire at the end of 2001, and shift operations to Building 1167, which the company leased from the Port of Benton [Culverwell, 2000].

Among the other facilities in the Table above, 6291 and 1172A Gas Stations were leased as gas stations. Buildings 3745A, 3746A, and 3746 in the 300 Area were former laboratories leased to Washington State University - Tri-Cities, for use as laboratories. Building 306E is used by Cogema Engineering Corporation, a DOE/RL contractor. The leasing agreement allows Cogema to use a designated portion of 306E for commercial activities independent of DOE contract obligations. Thus, compared to other leased facilities, Building 313 is unusual in the divergence between its previous use as a reactor fuel production facility and its leased use.

In 1998, DOE/RL established a formal Hanford Beryllium Suspect Facilities List. Buildings 306E, 314, 318, and the southern (inactive) portion of Building 313 have been placed on this list as facilities potentially contaminated with beryllium. 314 and 318 have not been leased, as noted above, and are expected to be decontaminated and demolished within a few years under the 2012 Plan. Building 306E is occupied by Cogema, which as a DOE contractor is responsible for implementing DOE rules designed to prevent beryllium disease.

DOE Environmental Standards for Leasing

Decontamination standards for leasing buildings are contained in DOE Order 5400.5, Radiation Protection of the Public and the Environment. Chapter II, Section 5 notes that release of real property (land and structures) shall be in accordance with requirements for radioactive material described in Chapter IV of the Order, and in accordance with the requirements of Section 120(h) of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA, commonly known as Superfund) for other hazardous substances. Chapter IV of the Order establishes a public dose limit for exposure to residual radioactive material of 100 millirem (mrem) per year, although under “unusual circumstances,” DOE may allow authorize specific exemptions up to 500 mrem/yr. Table IV-1 in that Chapter also sets guidelines for residual surface contamination, specified by radionuclide or ionizing radiation category, that may remain on structures or equipment to be released.

With regard to hazardous substances in addition to radionuclides, CERCLA Section 120(h) [also U.S. Code, Title 42, Section 9620(h)] contains general requirements applicable to property transferred by federal agencies. These include reports of the property history with regard to hazardous substances stored, released, or disposed on the property, “to the extent such information is available,” and any remedial action taken by the federal agency. The federal agency is required to take remedial action necessary “to protect human health and the environment” prior to property transfer; and the federal government is responsible for remedial action found to be necessary after the property transfer, if based on conditions at transfer. Consistent with this section of the law, U.S. EPA promulgated Title 40, Code of Federal Regulations, Part 373 (40 CFR 373), to implement requirements for reporting prior storage, release, or disposal of hazardous substances when transferring federal property. These regulations are also expressed in general requirements. Residual hazardous substances on any given federal property are likely to be highly site-specific; and details of residual contamination would be contained in documents accompanying contracts for property transfer.

Building 313 Conditions at Leasing

Conditions in Building 313 prior to leasing are described in the Facility Baseline, a Joint Survey and Inspection of Condition of Government Property completed in August 1994, signed by representatives of DOE/RL and Kaiser Aluminum. This Joint Survey was incorporated by reference into the initial lease for Building 313, and as well into the most recent lease renewal beginning August 1999. All these documents, the Facility Baseline, the initial lease, and the recent renewal, were released by DOE/RL to the Government Accountability Project in response to GAP’s Freedom of Information request [Sherman, 2000].

The Facility Baseline for the north section of Building 313 includes summaries and copies of surveys for ionizing radiation and chemicals. Radiation surveys included general area monitoring and wipe samples for removable radiation sources. Samples were taken at higher building elevations and on the roof. Mitigation actions prior to leasing included cleaning of ventilation exhausts to reduce removable contamination. The highest area sample was 50 microrem/hr, which on a 2000 work hr/yr basis translates to 100 mrem/yr. Thus, the standard in DOE Order 5400.5 was met implicitly, although this conclusion is not explicitly stated in the Facility Baseline. The lease also specified that DOE/RL would conduct routine radiation monitoring around Building 313, including surveys for penetrating radiation outside Building 3712; this suggests a known radiation source inside Building 3712.

With regard to chemicals, the Facility Baseline for Building 313 describes surveys for polychlorinated biphenyl (PCB) compounds, asbestos, and general plant conditions, and includes Material Safety Data Sheets for petroleum oils. Surveys for beryllium are not included or described. The most recent lease renewal beginning August 1999, also incorporates as an attachment the Facility Baseline, but no subsequent chemical surveys.

Occupational Exposure Standards

Several different DOE guidelines for radiation exposure seem to come into play with leased buildings. As noted above, DOE Order 5400.5 sets an exposure limit of 100 mrem/yr from residual radioactive material, although DOE may allow specific exemptions up to 500 mrem/yr. In a response to the Government Accountability Project (GAP), Keith Klein, Manager of DOE/RL, noted that workers in a leased DOE building were classified as “general employees” under DOE regulations, and occupational dose limits for general employees were up to 5 rem per yr total dose equivalent. [Klein, 2000]

GAP had earlier identified an additional document, Guidance on Protection of Workers Utilizing DOE Leased Facilities, DOE/HQ Office of Environment, Safety, and Health, August 6, 1999. This document provided guidance for implementation of DOE Order 5400.5, recommending that for a DOE facility to be considered suitable for reuse, maximal exposure from all DOE sources to any lessee employee should be less than 25 mrem/yr. In his response to GAP, Mr. Klein noted that Building 313 was leased before this implementation guidance document. However, radiological monitoring of Building 313 indicated that workers in the leased area were expected to receive doses less than 25 mrem/yr [Ibid.].

In summary, multiple DOE guideline documents are relevant to radiation exposure in leased facilities. DOE/RL deserves credit for keeping doses to workers in the leased portion of Building 313 under 25 mrem/yr, as this is the most stringent limit among several DOE guidance documents. We recognize that responsibility for consistency in national guidance documents lies with DOE/HQ.

Development of Beryllium Standards

As noted above, Building 313 was first leased in August 1994. Since then, standards for protecting workers from beryllium exposure have developed at DOE, both nationally and at RL. In July 1997, DOE/HQ established an Interim Chronic Beryllium Disease (CBD) Prevention Program, to be integrated into general Department worker protection programs and to apply as appropriate to DOE offices and contractors. In December 1998, DOE/HQ proposed formal federal rules for a Chronic Beryllium Disease Prevention Program; after receiving public comments on the proposed rules, DOE issued final regulations in December 1999.

CBD is a chronic incurable disease affecting the lungs and other organs, and has been observed among workers exposed to beryllium dust. The primary route of exposure is inhalation of dust or fumes of beryllium oxides, metal, or alloys. Many exposed workers have developed an allergic response, designated "beryllium sensitization." The body's immune system recognizes beryllium as a foreign invader, and responds by recruiting blood cells that seek and engulf beryllium particles in the lungs and other organs.

In most patients, beryllium sensitization progresses to CBD. The disease develops when the immune cells attracted to beryllium particles create a state of persistent inflammation, which then leads to scarring. Scarring in the lungs damages the ability to transfer oxygen into the body. CBD patients may experience shortness of breath even with minor exertion, along with pain in the chest and joints. In extreme cases, CBD is fatal. CBD is mediated by the immune system, and human genetic variations play a role in determining individual susceptibility. A practical threshold for sensitization of susceptible individuals has not been demonstrated. CBD has been observed most frequently among certain categories of exposed workers. But as DOE recognized in its proposed rules to prevent CBD, the disease in some instances has been identified in administrative personnel or family members of workers, who presumably were exposed from contaminated clothing or other incidental pathways. [USDOE, 1998; see section IV.D.]

During 1998, DOE/RL established a list of Hanford buildings potentially contaminated with beryllium. After December 1999, prime contractors at Hanford issued a document to establish a coordinated system among themselves to implement the DOE rules for occupational beryllium exposure [Bechtel Hanford et al.]. Among other requirements to minimize exposures, warning signs were required to be posted on buildings with potential beryllium contamination.

When we inquired about access to leasing documentation, including building environmental surveys, we were referred to the DOE/RL Freedom of Information Office, which advised that we needed to file a formal Freedom of Information Act (FOIA) request. We did so in January 2001, requesting information among other topics on when surveys for beryllium were first conducted in the leased portion of Building 313, and on survey results.

DOE/RL responded in February 2001 by identifying three pages associated with the RL Beryllium web site [Marvin, 2001]. However, the information contained on those pages only includes surveys during 1999 in the southern (inactive) portion of Building 313, where beryllium operations occurred from the 1950s to 1986. A fact sheet notes that the northern section of Building 313 was leased at the time of survey, and there are no records of past beryllium activities in the northern section. Subsequent communications with Hanford personnel confirmed that the northern section of 313 had not been surveyed for beryllium [Hewitt, 2001].

Regulatory Authority

In its January 2000 letters to DOE/RL and U.S. Environmental Protection Agency (EPA) Region 10, the Government Accountability Project cited the Hall Amendment, Section 3154 of the National Defense Authorization Act for Fiscal Year 1994. This provision requires DOE to consult with EPA or the appropriate state authority to assure that the leasing of assets for reuse is appropriate from an environmental, health, and safety perspective. Concurrence by EPA or the state is required if the facility is listed on the National Priorities List [of Superfund sites].

In his response to GAP, Keith Klein, DOE/RL Manager, noted that Building 313 was leased under authority of the Atomic Energy Act, not under Hall Amendment authority. Consequently, EPA concurrence was not sought because it was not required. [Klein, 2000]. In his response to GAP, Chuck Clarke, EPA Region 10 Administrator, noted that, "To date, EPA has been in disagreement with DOE over the application of specific Hall Amendment lease proposals at both Hanford and Oak Ridge. In each case, DOE has maintained that they have the right to pursue leases under authorities granted to them under the Atomic Energy Act of 1954 and are not bound by Hall Amendment requirements." [Clarke, 2000]

Mr. Clarke noted that EPA has been asked to concur on only one Hanford lease to date. In 1998, EPA did not concur on proposed leasing of the K Basins Salmon Rearing Facility in the 100-K Area to the Yakama Nation Salmon Corps. EPA's non-concurrence was based on the pending start of nuclear fuel movement from K Area, with the potential for radiation exposure to Salmon Corps volunteers who were under the age of 18, and this was too young for occupational exposures. [Ibid.]

EPA Hanford Project officials have reported another instance where early discussions between DOE/RL and EPA were sufficient to halt proposals for leasing. At the December 1999 meeting of the Hanford Advisory Board, a short comment was made that Building 314 was an example where EPA denied leasing because the building posed an unacceptable exposure risk to humans. In that case, DOE/RL approached EPA Hanford at the staff level with an expression of interest in leasing 314, which is adjacent to Building 313. As noted above, 314 is also recognized as a potential beryllium contaminated facility. EPA staff indicated its lack of support for leasing, based on radioactive and chemical contamination in the building. With this situation, RL then abandoned further efforts at leasing. Discussions took place at the staff level, there was never a formal proposal requiring EPA's concurrence, and EPA's non-support of leasing was not documented. Building 314 is currently scheduled for decontamination and removal within a few years. [Goldstein, 2001]

Findings at Oak Ridge

During 1997, DOE Headquarters, Office of Environment, Safety and Health, conducted a Safety Review of facility disposition programs at the East Tennessee Technology Park, within DOE's Oak Ridge location [USDOE/EH, 1997]. The review noted that renaming of the K-25 Site to

East Tennessee Technology Park (ETTP) reflected an evolution in the Oak Ridge (OR) site mission to include “reindustrialization,” which involved leasing facility space and equipment as part of a strategic plan to reduce the cost of cleanup through private industry partnerships. In the year proceeding the safety review, OR had signed five leases under the reindustrialization program.

However, the Safety Review found that, “These initial leases were implemented prior to clearly and completely defining DOE roles, responsibilities, and authorities for safety management and line oversight... A year after the first lease, OR is still continuing to address key environment, safety, and health activities needed to protect private sector workers.”

“The addition of reindustrialization as a major element of the ETTP mission has also created an apparent competition for management attention and resources between industrialization and other activities related to controlling and reducing site hazards. OR has also leased spaces within a building that has not been fully decontaminated and that still contains potential worker hazards, including radiological contamination, asbestos, and fissile materials. OR managers indicated that funding was not available to support complete decontamination and decommissioning of this building prior to leasing.”

“In summary, there needs to be an improved balance achieved in safety management at ETTP regarding the upkeep and disposition of high-risk radiologically contaminated buildings, environmental restoration, and the implementation of the reindustrialization program...”
[Ibid., p. 2]

Among other findings, the Safety Review reported that one leased building was decontaminated only to a height of 8 feet, areas above 8 feet remained contaminated, and portions of the basement in the same building were “highly contaminated,” defined as more than 100 times limits established for non-contaminated areas [Ibid., p. 22]. As an “Opportunity for Improvement,” the Review suggested that OR should consider leasing only entire buildings that had been decontaminated, from which hazardous materials and chemicals had been removed. In contrast, the Review noted:

“The leasing of shared spaces within buildings that have not been fully radiologically decontaminated and contain hazardous chemicals and materials creates potential hazards to private-sector workers, increases DOE liabilities, and has the potential to undermine community support of reindustrialization.” [Ibid., p. 33]

The findings of this DOE/EH Safety Review have received wider public circulation, including from an environmental organization [Ledwidge, 1999] and in a National Research Council Committee report addressing long-term management issues at DOE sites [National Research Council, 2000, p. 53 and elsewhere]. Among other findings, both of these reports mentioned the leased building that had been decontaminated only to 8 feet.

Conclusions and Recommendations

It appears that the Hanford building leasing program has avoided some of the worst problems identified at Oak Ridge. With Building 313, the first facility leased, radiation surveys included samples at higher building elevations and on the roof. Mitigation actions were taken prior to leasing, and radiation levels implicitly met standards in DOE Order 5400.5. Pre-leasing surveys were also conducted for major chemical substances that might have been expected at the time.

In addition, based on the material above, we can identify three general procedural changes in Hanford leasing since Building 313 was leased in 1994. First, past and current uses of leased buildings seem more consistent. Second, EPA has been allowed to review and concur on leasing proposals. In one case, EPA did not concur, and in another EPA's health and safety concerns were sufficient to discourage the leasing of Building 314. Third, as a consequence of the Hanford 2012 Plan, there will be no further leasing in the 300 Area. These all seem to be positive developments with regard to protection of non-radiation workers. Industrial use and economic development remain the future land use goals for the 300 Area, but current plans are to fully remediate the Area before allowing new commercial activities. This also seems to represent a more health-protective strategy for encouraging economic redevelopment at Hanford. Moreover, the approach of remediating the entire 300 Area first goes beyond the suggestion of the Safety Review at Oak Ridge, that OR consider leasing only entire buildings that had been decontaminated.

However, Building 313 remains an anomaly with regard to all three of the subsequent procedural improvements. In addition, the inactive portion Building 313 was designated a facility potentially contaminated with beryllium subsequent to leasing of the north portion. The leasing of Building 313 reflected an "island of economic development" strategy within an area of chemical and radioactive contamination, as one Hanford information source has noted. Exposures to commercial workers should be reduced when the leasing company moves operations to the 1100 Area after its Building 313 lease expires at the end of 2001.

Under the terms of the Building 313 lease, an exit survey is performed after the lease is terminated. The exit survey provided an opportunity to include surveys for beryllium. Beryllium was not monitored in the leased portion of Building 313 in 1999, on the grounds that there were no records of past beryllium operations in that portion. However, commercial employees have been working in the leased portion since 1994, and monitoring would represent a prudent step even if it were to confirm assumptions that recent workers were not exposed to detectable levels of beryllium. Locked double doors separate the northern and southern sections of Building 313, but free exchange of air under the doors occurs. Moreover, in the absence of monitoring, possible movement of beryllium dust between the two sections since beryllium operations began in the 1950s cannot be discounted. In addition, Building 313 is expected to be demolished in its entirety within a few years, and a beryllium survey would represent part of a comprehensive characterization of the building prior to demolition.

We therefore recommended that the northern portion of Building 313 be surveyed for beryllium, at the time of the lease termination exit survey, if not before. Consistent with the Facility Baseline survey conducted for radiation and some chemicals, beryllium surveys should extend beyond usual areas of floor and walls below 8 feet, and should focus on interstices, rafters, light fixtures and such locations that might not have been reached during a routine clean-up. Also, a

complete roster of current and past workers, especially those of Kaiser Corporation, in Building 313 should be maintained for potential beryllium medical monitoring, pending the results of surveys.

We further recommend that the current federal administration continue with the strategy under the Hanford 2012 Plan to fully remediate the Hanford 300 Area before allowing new commercial activities.

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