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NO FURTHER RESPONSE ACTION PLANNED OR FURTHER REMEDIAL ACTION DECISION REPORT FOR POTENTIAL SOURCE OF CONTAMINATION 25 (PSC25) NAS JACKSONVILLE FL

12/1/1996

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POTENTIAL SOURCE OF CONTAMINATION 25
NO FURTHER RESPONSE ACTION PLANNED OR FURTHER REMEDIAL ACTION DECISION REPORT

In this report, the Remedial Response Decision System (RDS) is applied to potential source of contamination (PSC) 25, Building H2038, the former Radioactive Waste Storage Area, located at the Naval Air Station (NAS) Jacksonville. This No Further Response Action Planned (NFRAP) or Further Remedial Action Decision Report is an attachment to Appendix D to Volume 2 of the Naval Installation Restoration Program (NIRP) plan.

This attachment follows RDS as described in Volume 2 of the NIRP Plan and is divided into the following 10 chapters:

1.0 PSC Background
2.0 Regulatory Authority Evaluation
3.0 Previous Action Evaluation
4.0 Contaminant Source Evaluation
5.0 Exposure Pathway Analyses
6.0 Data Sufficiency Evaluation
7.0 Risk Analyses
8.0 Applicable or Relevant and Appropriate Requirements (ARARs) Evaluation
9.0 Recommendation
10.0 References

1.0 PSC BACKGROUND

This chapter discusses the available background information for PSC 25, Building H2038, the Former Radioactive Waste Storage Area. The discussion is divided into four sections: 1.1, PSC History; 1.2, PSC Description; 1.3, Previous Regulatory Review; and 1.4, Data Assessment. The background information was obtained during a records search by ABB Environmental Services, Inc. (ABB-ES). The records search included a review of the NAS Jacksonville Facilities and Environmental Department, and ABB-ES files; examination of maps, building plans, and aerial photographs; and interviews with base personnel. ABB-ES obtained additional information during a PSC reconnaissance on April 22, 1994.

1.1 PSC INFORMATION AND HISTORY. Building H2038, the Former Radioactive Waste Storage Area, was identified as a PSC during the initial assessment study (IAS). According to the IAS report, hospital waste containing radioactive iodine (^{125}I) and other radioactive isotopes were stored in barrels outside Building H2038 (Fred C. Hart Associates, Inc., 1983).

From 1979 to 1982, as many as 25 barrels per month of ^{125}I-contaminated glassware were generated, containing 500 to 700 microcuries of ^{125}I per barrel. The IAS report mentioned that in June 1982, 300 barrels of waste were disposed of offsite under the direction of the NAS Jacksonville Radiological Affairs Support Office (RASO). Empty barrels were left onsite. The IAS report did not recommend a confirmation study for PSC 25 because the site was cleaned up by a contractor, surveyed, and determined to be free of radiological contamination.

Based on its review of the IAS report, the Florida Department of Environmental Regulation (FDER) requested further information regarding the offsite disposal

of waste, to completely evaluate the recommendation not to complete a confirmation study (Farmer, 1983). Geraghty & Miller, Inc., subsequently determined that 300 barrels of low-level radioactive waste from the hospital were removed by the South West Nuclear Corporation of Laurel, Maryland, for disposal at a facility in Richland, Washington (Geraghty & Miller, Inc., 1983). No explanation regarding the waste to be disposed of or why the cleanup was necessary was provided. Volume 1 of the NIRP Plan recommended no further action at PSC 25 (Geraghty & Miller, Inc., 1991).

According to Lt. Phillip Liotta, a former Radiation Safety Officer at NAS Jacksonville, radioactive waste was generated at PSC 25 when Building H2038 housed the hospital's drug screening laboratory (Liotta, 1994). ^{125}I was the only radioactive isotope used in the laboratory and was used *in-vitro*. Liquid waste was discharged into the sewer system, and the used glassware was stored in drums at the building until the ^{125}I decayed. The half-life for ^{125}I is 60 days, and the hospital maintains a permit to store drums for a period of five half-lives before disposing of the wastes as non-radioactive.

Lt. Liotta was not aware of the "other radioactive isotopes" to which the IAS report referred. He stated that the hospital was able to store radioactive waste at PSC 25, but clinical isotopes (i.e., technetium 99M, iodine 131, iodine 123, gallium 67, thallium 201, indium 111, cobalt 57, and xenon 133) were typically discharged down the drain; sealed-source isotopes, such as cesium 137 and barium 133, did not go to storage. In 1987, the drug screening laboratory was moved to Building H2003 and drum storage was moved to Building H2071. Building H2038 was demolished.

ABB-ES contacted RASO and the Navy Environmental Health Center in Norfolk, Virginia, for a copy of the closure report for the decommissioning of Building H2038 and further information on the site cleanup and survey. However, neither copies of the report nor additional information were available.

Bechtel Environmental, Inc., conducted a radiological survey at PSC 25 in 1995 to assess the presence of residual radiological contamination at the site. The survey included monitoring the site with a 2-inch by 2-inch sodium iodide detector and collecting three soil samples for radium 226 analysis. Results of the monitoring and sample analysis indicate that no "hot spots" were detected (i.e., no beta or gamma radiation was detected at levels greater than 2 times background concentrations). Thus, no residual radiological contamination has resulted from the temporary storage of radioactive waste at PSC 25.

<u>1.2 PSC DESCRIPTION AND ENVIRONMENTAL SETTING</u>. PSC 25 is situated at the southeast intersection of Miles Street and Braun Avenue at the NAS Jacksonville hospital (Figure 1). There is no evidence of former Building H2038 on the 60-foot by 130-foot grass-covered plot (Photographs 1 and 2) and aboveground steam lines are currently present.

PSC 25 is surrounded by parking lots and hospital buildings. A chain-link fence separates the eastern boundary of PSC 25 from Building H2031, but the site is accessible from other directions by pedestrians.

Most of PSC 25 is flat but the land slopes to the west along its boundary with Building H2031. Stormwater runoff is toward stormwater catch basins along Braun Avenue and Miles Street.

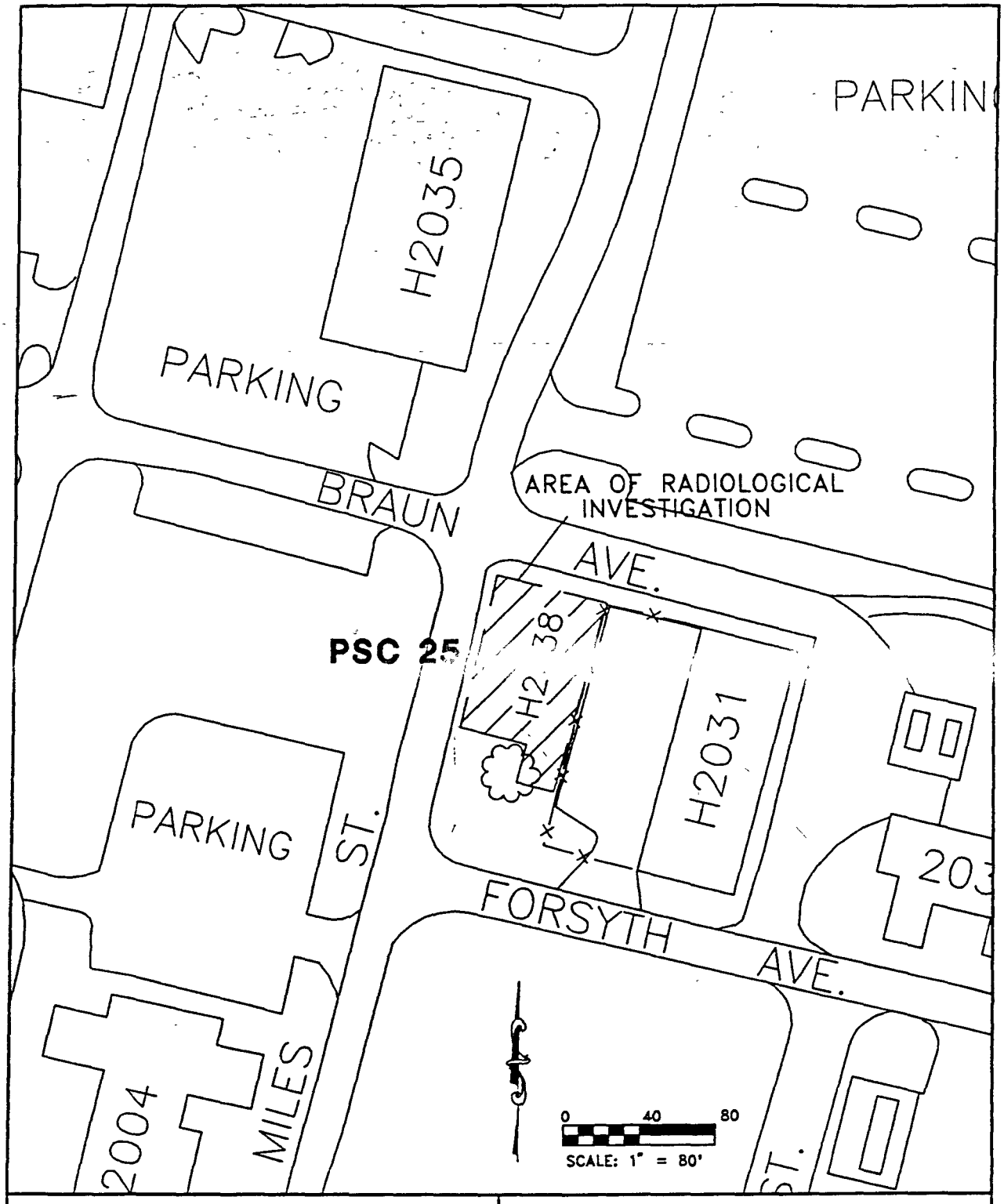

FIGURE 1
LOCATION OF PSC 25, BUILDING H2038, FORMER RADIOLOGICAL WASTE STORAGE AREA

REMEDIAL RESPONSE DECISION SYSTEM

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Append_D.RDS
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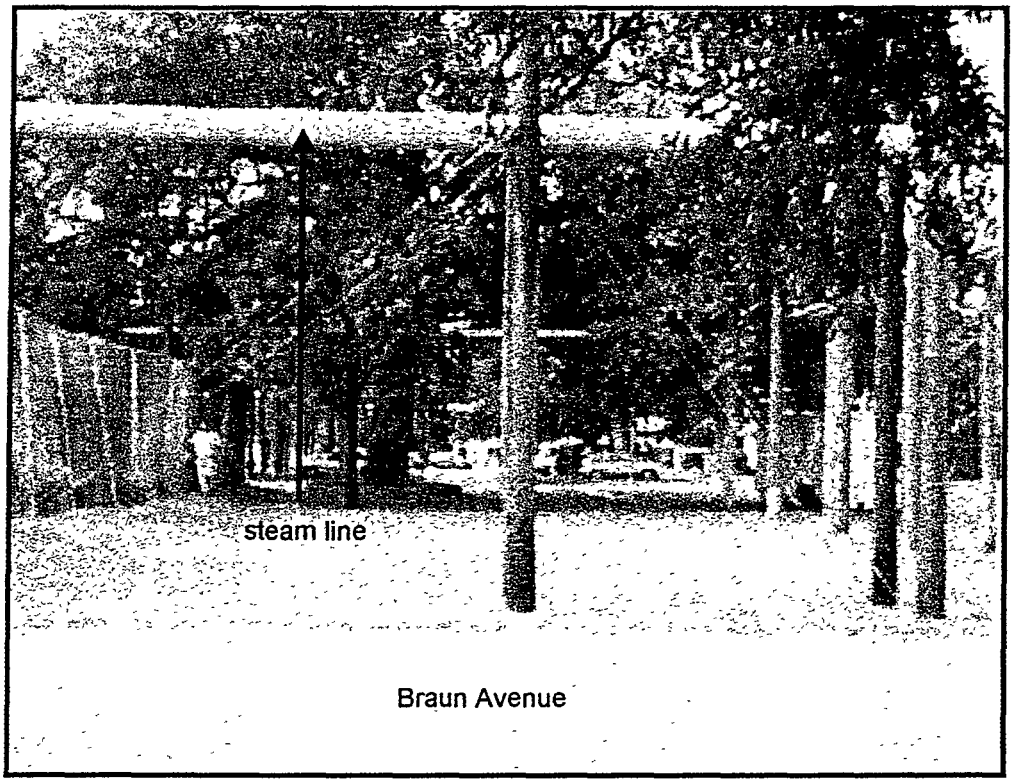

Photograph 1: View south from Braun Avenue to former location of Building 2038.

Photograph 2: View north from intersection of Miles Street and Forsyth Avenue to former location of Building 2038.

No evidence of contamination, such as stressed vegetation, stained soil, or odor, was noted during the PSC reconnaissance.

1.3 PREVIOUS REGULATORY REVIEW. Volume 1 of the NIRP Plan recommended no further action for PSC 25. The following comments were received from regulatory authorities regarding this recommendation:

U.S. Environmental Protection Agency (USEPA) Region IV, James H. Scarbrough, Chief, Resource Conservation and Recovery Act (RCRA) and Facilities Branch, Waste Management Division, December 5, 1990: disagreed with no further action status for PSC 25 and requested that it undergo a remedial investigation and feasibility study (RI/FS). (Note: NIRP Volume 1 incorrectly stated that radioactive iodine was disposed of at PSC 25.)

FDER, Dr. James J. Crane, Environmental Administrator, Technical Review Section, Bureau of Waste Cleanup, November 21, 1990: agreed that PSC 25 would be eligible for no further action status.

City of Jacksonville, Gerald A. Young, Associate Pollution Control Engineer, Water Resources Division, January 4, 1991: disagreed with no further action status for PSC 25. Wanted to know which medical radioisotopes were stored, why cleanup was necessary, and a copy of cleanup documents.

1.4 DATA ASSESSMENT. The following is a summary of the data currently available for PSC 25 (the sufficiency of these [illegible] in support of a remedial response decision is evaluated in Chapter 6.0):

- Drums of ^{125}I-contaminated glassware were stored for a period of five half-lives at Building H2038 from 1979 to 1982. No waste spills were reported, nor was waste disposed of onsite.
- ^{125}I has a half-life of 60 days; therefore, any ^{125}I remaining at PSC 25 after Building H2038 was demolished has decayed.
- Three hundred drums of low-level radioactive waste from PSC 25 were disposed of in Richland, Washington, in June 1992. A subsequent cleanup and survey indicated that the site was free of radiological contamination.
- Results of a 1995 radiological survey indicate that no residual radiological contaminants are present at PSC 25.

2.0 REGULATORY AUTHORITY EVALUATION

This chapter evaluates the applicability of regulatory requirements to response actions at the PSC to ensure that PSC-specific remedial responses met applicable regulatory requirements. The evaluation is divided into two sections: 2.1, Existing Regulatory Agreements and 2.2, Regulatory Authority Evaluation.

2.1 EXISTING REGULATORY AGREEMENTS. In December 1989, NAS Jacksonville was placed on the Comprehensive Environmental Response, Compensation, and Liability

Act (CERCLA) National Priority List, which requires remedial response consistent with the guidelines specified within Section 120 (42 U.S. Code 9620), Federal facilities of the Superfund Amendments and Reauthorization Act (SARA) of 1986. On October 23, 1990, NAS Jacksonville entered into an FFA with the USEPA and the Florida Department of Environmental Regulation (since renamed the FDEP).

The FFA recognizes that the facility is subject to the terms of its hazardous waste permits and Resource Conservation and Recovery Act (RCRA) closure permits. The FFA integrates the Navy's response obligations into a comprehensive agreement that activities covered by the FFA will achieve compliance with CERCLA and satisfy the corrective action and closure permit requirements under RCRA. Therefore, ARARs must be considered and remedial measures must be consistent with and incorporated in RCRA permits.

PSCs at NAS Jacksonville fall under the regulatory authority of CERCLA, SARA, and corresponding State laws if a release of a hazardous substance has occurred or if there is a threat of such a release into the environment (Title 40 of the Code of Federal Regulations 300.130(b)(2)). Exclusion from CERCLA authority and the application of CERCLA regulations with respect to the threat posed by a PSC to human health and the environment are discussed in subsection 2.3.2 of Volume 2 of the NIRP Plan. The PSCs also fall under the regulatory authority of any existing RCRA permits for the facility.

2.2 REGULATORY AUTHORITY EVALUATION. ^{125}I has been identified as a potential contaminant at PSC 25. ^{125}I and other radioactive isotopes are CERCLA hazardous substances as defined in Section 101(14). Because ^{125}I and other radioactive isotopes stored at PSC 25 may have been released into the environment, CERCLA requirements apply to PSC 25 and an NFRAP designation cannot be recommended based on exclusion from CERCLA authority.

3.0 PREVIOUS ACTION EVALUATION

In June 1982, South West Nuclear Corporation removed 300 drums of low-level radioactive waste from PSC 25 for disposal in Richland, Washington. The clean-up and survey were conducted under the direction of RASO. Based on the results of the survey, PSC 25 was determined to be free of radiological contamination. Storage of drums at PSC 25 continued until 1987 when a new drug screening laboratory was constructed. Waste ^{125}I generated from 1982 to 1987 was allowed to decay for a period of five half-lives before disposal offsite.

Results of a 1995 radiological survey indicate that radiation levels at PSC 25 are less than 2 times background levels, and soil sampling results confirm that PSC 25 is free of residual radiological contaminants. Therefore, NFRAP can be recommended for PSC 25 based on previous clean-up actions.

4.0 CONTAMINANT SOURCE EVALUATION

A contaminant source evaluation was not conducted at PSC 25 because radiological contaminants are not present at the PSC.

5.0 EXPOSURE PATHWAY ANALYSES

Exposure pathway analyses were not conducted at PSC 25 because radiological contaminants are not present at the PSC.

6.0 DATA SUFFICIENCY EVALUATION

The existing data, which indicate there is no residual radiological contamination as a result of the temporary storage of radioactive waste at PSC 25, are sufficient to support a recommendation for NFRAP. Therefore, collection of additional analytical data in support of risk analyses is not necessary.

7.0 RISK ANALYSES

Risk analyses were not conducted for PSC 25 because radiological contaminants are not present at the PSC.

8.0 ARARS EVALUATION

An ARARs evaluation was not conducted for PSC 25 because radiological contaminants are not present at the PSC.

9.0 RECOMMENDATION

NFRAP is recommended for PSC 25 based on previous cleanup actions. The results of a 1995 radiological survey confirm that no radiological contamination is present.

10.0 REFERENCES

Bechtel Environmental, Inc., 1995, Radiological Survey at Naval Air Station (NAS) Jacksonville.

Farmer, 1983, Letter from Catherine C. Farmer of the Ground Water Section of FDER to T.J. Heffernan, Public Works Officer of Naval Air Station (NAS) Jacksonville: October 7.

Fred C. Hart Associates, Inc., 1983, Initial Assessment Study, NAS Jacksonville, Jacksonville, Florida, March.

Geraghty & Miller, Inc., 1983, Letter from Peter L. Palmer of Geraghty & Miller, Inc., to Mr. Bill Roche of the NAS Jacksonville Public Works Department: November 15.

Geraghty & Miller, Inc., 1991, Naval Installation Restoration Program Plan, NAS Jacksonville, Jacksonville, Florida, Volume 1, Organization and Planning: September.

Liotta, 1994, Interview with Lt. Phillip Liotta, Radiation Safety Officer, NAS Jacksonville, by Diane Dopkin, ABB-ES, Arlington, Virginia: May 31.