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INEL Storage Facility for Sealed Sources from the Commercial Sector

**Clinton O. Kingsford
Brent C. Satterthwaite**

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**Idaho National Engineering Laboratory
EG&G Idaho, Inc.
National Low-Level Waste Management Program
Idaho Falls, Idaho 83415**

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ABSTRACT

Commercially owned sealed radiation sources determined by the U.S. Nuclear Regulatory Commission to be a public health or safety hazard are accepted by the U.S. Department of Energy, under the Atomic Energy Act of 1954, as material for reuse or recycle. To implement this policy, the sealed sources must be stored until proper disposition is determined. This report documents the investigation and selection process undertaken to locate a suitable storage facility at the Idaho National Engineering Laboratory.

CONTENTS

ABSTRACT	iii
ACRONYMS	vii
1. INTRODUCTION	1
1.1 Purpose	1
1.2 Background	1
1.3 Scope	1
2. REQUIREMENTS FOR STORAGE SPACE FOR SEALED SOURCES	3
2.1 Regulatory Requirements Governing Storage Space for Sealed Sources	3
2.2 Number and Space Requirements of Sealed Sources to be Stored	4
3. FACILITY EVALUATION PROCESS	7
3.1 Background	7
3.2 DOE Sealed Sources	7
3.3 Evaluation Summary	10
3.4 Facility Planning Concurrence	10
4. CRITERIA WEIGHTING AND SCORING LOGIC	11
4.1 Square Footage	11
4.2 Floor Loading	11
4.3 Building Access	12
4.4 Floor Type	12
4.5 Site Situation	12
4.6 Life Expectancy	13
4.7 Availability	14
4.8 Lighting	14

4.9 Fire Protection	14
4.10 Results	15
5. RECOMMENDATIONS	19
6. REFERENCES	20
Appendix A—INEL Sealed Source Laydown Requirements	A-1
Appendix B—Inspection/Report Plan to Identify Storage for Sealed Sources	B-1
Appendix C—Data from Phase I Inspections	C-1

TABLES

1. Typical applications for radioactive sealed sources	2
2. Number of sealed sources in the private sector that may require storage at a DOE facility	5
3. Phase II evaluation criteria	8
4. Square footage criteria	11
5. Floor loading criteria	11
6. Building access criteria	12
7. Floor type criteria	12
8. Site situation criteria	13
9. Life expectancy criteria	13
10. Facility availability criteria	14
11. Lighting criteria	14
12. Fire protection criteria	14
13. Facility scores	16
14. Recommended facilities for sealed source storage	18

ACRONYMS

AEA	Atomic Energy Act of 1954
CFA	Central Facilities Area
CPP	Chemical Processing Plant
DOE	Department of Energy
DOT	Department of Transportation
EIS	Environmental Impact Statement
FPR	Fuel Processing Restoration
GTCC LLW	greater-than Class C low-level waste
INEL	Idaho National Engineering Laboratory
NRC	Nuclear Regulatory Commission
PBF	Power Burst Facility
psf	pounds per square foot
RCRA	Resource Conservation and Recovery Act
SAR	Safety Analysis Report
SCW	Special Case Waste
TAN	Test Area North
TRA	Test Reactor Area

INEL Storage Facility for Sealed Sources from the Commercial Sector

1. INTRODUCTION

1.1 Purpose

The purpose of this study is to identify existing Idaho National Engineering Laboratory (INEL) facilities that are, or can be modified to be, suitable for storing sealed radiation sources from the commercial sector. To preclude health or safety concerns identified by the Nuclear Regulatory Commission (NRC) or an Agreement State, the Department of Energy (DOE) can, under the Atomic Energy Act of 1954, accept title to, and possession of, such sealed sources. The NRC estimates that DOE can expect to be asked to store approximately 2,000 sealed sources within 5 years of establishing a storage capability.

1.2 Background

Sealed sources typically consist of a small amount of highly radioactive material contained within individually sealed inner and outer stainless steel capsules, providing double encapsulation. When approved by the Department of Transportation (DOT) as "special form" radioactive material, sealed sources may be shipped and stored in Type A transport containers and may be excluded from any nuclear materials list. The principal assumption for this study is that all the sealed sources qualify as "special form" materials, thereby permitting storage in a non-nuclear facility as received in their Type A shipping containers.

The majority of surplus sealed sources do not require storage in a DOE facility, because their use is either redirected to other activities, or they qualify for commercial disposal as Class A, B, or C waste as defined by the NRC in 10 CFR 61.55. Those sealed sources denoted in Table 1 exceed the NRC disposal limits and must, therefore, be reused, recycled, or stored in a DOE facility until a program for disposal is available. In addition to providing storage, the DOE is investigating the feasibility of establishing a reuse/recycle program for those sources accepted for storage.

1.3 Scope

The study reported in this document involved establishing criteria for a storage facility for sealed sources; surveying buildings at the INEL to identify potential storage facilities; evaluating the identified facilities against the storage criteria; and recommending the three best facilities.

Table 1. Typical applications for radioactive sealed sources.

Device type	Method	Isotope	Typical activity	Maximum activity
Calibration	NA	Am-241	<500 mCi	1 Ci
		Cs-137	<1 Ci	2 kCi
Medical	Radiography	Am-241	<100 Mci	30 Ci
	Teletherapy	Cs-137	1.25-2.5 kCi	2.5 kCi
	Brachytherapy	Cs-137	1-10 mCi	500 mCi
Well logging	Neutron thermalization	Am-241	6-16 Ci	20 Ci
		Pu-238	6-16 Ci	20 Ci
	Gamma scattering	Cs-137	<500 mCi	5 Ci
Portable gauge	Neutron thermalization	Am-241	40-50 mCi	5 ci
	Gamma scattering	Cs-137	5-15 mCi	1 Ci
Irradiation	NA	Cs-137	1-5 kCi	20 kCi
Fixed gauge	Beta transmission	Sr-90	<500 mCi	1 Ci
	Gamma transmission	Am-241	0.01-0.5 Ci	1 Ci
		Cs-137	0.01-0.5 Ci	1 Ci
		Am-241	100 mCi	1 Ci
	Gamma backscatter	Cs-137	50 mCi	1 Ci
		Pu-238	25 mCi	1 Ci
		Am-241	100 mCi	1 Ci
	Photon switch	Cs-137	0.05-2 Ci	2 Ci
		Am-241	0.1-0.5 Ci	1 Ci
	XRF	Pu-238	25 mCi	100 mCi
		Am-241	10 mCi	NA
General neutron applications	Neutron capture and activation analysis	Am-241	1-100 Ci	100 Ci
	Neutron transmission	Am-241	0.25-1 Ci	1 Ci
X-ray fluorescence		Am-241	1-1,000 mCi	1 Ci
		Pu-238	1-1,000 mCi	1 Ci
Other	Nuclear battery	Pu-238	4-6 ci	35 Ci
		Sr-90	NA	20 kCi

2. REQUIREMENTS FOR STORAGE SPACE FOR SEALED SOURCES

2.1 Regulatory Requirements Governing Storage Space for Sealed Sources

In order to identify requirements for a sealed source facility, the following regulatory documents were reviewed:

- "Implementation Guide for Occupational Radiation Protection," G-N 5400.9/M1, December 1992
- *U.S. DOE Radiological Control Manual*, DOE B 5480.6, June 1992
- "Radiation Protection for Occupational Workers," DOE Order 5480.11, June 1992
- "Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23," Nuclear Safety Analysis Reports DOE-STD-1027-92, December 1992
- "Occupational Radiation Protection", Federal Register Vol. 58, No. 238, December 14, 1993 Part 835.

These requirement documents focus on the administrative issues associated with inventory and control of radioactive waste. Sealed sources (as defined in this study) are not defined as waste but rather as candidate radioactive materials for a reuse or recycle program.

Since no specific physical storage requirements were found, facilities were evaluated based on NRC estimates and recent survey information. The following requirements are derived from this information:

- Although it is not required, it is preferable to have all sealed sources that are accepted from the commercial sector stored in one location. The amount of floor space is estimated to be 4,000 ft², as outlined later in the report.
- The floor load capacity should be a minimum of 250 pounds per square foot (psf).
- Outside access to the facility storage area shall be a minimum of 8 ft wide and 10 ft high to accommodate forklift and truck operations.
- The preferred storage for sealed sources shall be a slab-on-grade within the facility.
- The facility shall be easily accessible to vehicular traffic.
- The facility shall have a minimum life expectancy of 10 years.
- The facility is currently available or can be available during FY-95.

- Adequate lighting for warehouse operations shall be available.
- Fire protection is desirable but not mandatory.

The following assumptions apply:

- All sources qualify as "special form" material, as defined by the DOT.
- All sources are self-shielded; no special shielding is required.
- Each source will be stored in a DOT-approved, Type A transportation container.
- Stacking of sealed sources using storage racks is acceptable.
- Facility storage area meets, or can be upgraded to meet, all safety, environmental, and operational requirements.
- All sources will be in serviceable condition. Non-serviceable sources will be classified as waste and moved to a waste storage and disposal facility.
- Expected term of storage is 10 years or less.
- Repairs and upgrades to the facility, if needed, are not extensive.
- No special security is required in the facility. Standard measures, e.g., locked doors, security fence, and administrative controls are adequate.
- The ability to store greater-than-Class C low-level waste (GTCC LLW) and special case waste (SCW) in, or adjacent to, the sealed source building would be a desirable feature.

2.2 Number and Space Requirements of Sealed Sources to be Stored

Table 2 identifies 2,000 sources by isotope and device type that could be accepted by DOE for storage within 5 years after the facility begins operations. This table is based on data extracted from Table 4 in Harris 1993. As indicated in the table, these are private-sector sources.

Sealed sources are used by the private sector for a variety of tasks. A number of private-sector vendors were contacted to verify the quantities and types of potential sources noted in Table 2. From the vendors it was found that:

- Individual vendors have from as few as one to as many as 1,000 sources
- Private storage facilities for sealed sources are almost nonexistent

Table 2. Number of sealed sources in the private sector that may require storage at a DOE facility.

Device	Am-241	C-14	Cm-244	Cs-137	Ni-63	Np-237	Pu-238	Pu-239	Pu-241	Sr-90	Tc-99	U-238	Total
Calibration	72	0	1	25	0	0	3	20	0	0	0	0	121
Medical	5	0	0	0	0	0	0	0	0	0	0	1	6
Well logging	298	0	0	0	0	0	20	0	0	0	0	0	318
Portable gauge	887	0	0	0	0	0	0	0	0	0	0	0	887
Irradiation	7	0	0	57	0	0	0	0	0	0	0	0	64
Fixed gauge	125	0	0	3	0	0	0	0	0	0	0	0	128
Neutron	76	0	0	0	0	0	7	33	0	0	0	0	116
X-ray florescence	25	0	19	0	0	0	10	0	0	0	0	0	54
Other	37	0	1	7	0	0	178	42	0	0	38	2	305
Total	1,532	0	21	92	0	0	218	95	0	0	38	3	1,999

- The NRC and many States are implementing stricter licensing requirements, which may force some vendors to forsake activities requiring sealed sources and seek storage or disposal sooner than originally anticipated.

For the purposes of this study, the 2,000 sources projected by NRC over a 5-year period will be the basis for storage planning.

Using size and weight data from Hulse 1991 and the number of devices by isotope listed in Table 2, the estimated maximum storage space, without stacking, for 2,000 sources is 2,800 ft². See Appendix A for a table that shows these calculations. In order to provide sufficient aisle space for inventory and other administrative activities, the estimated total storage facility size was arbitrarily increased to 4,000 ft². The required floor loading capacity was set at 250 psf in accordance with standard warehouse criteria.

3. FACILITY EVALUATION PROCESS

3.1 Background

Facility evaluation data were gathered in two phases. The purpose of Phase I was to identify all potential facilities. This was done through interviews with all facility managers at the site. A total of 27 questions in five areas were used in these interviews. These questions are included in Appendix B. At the conclusion of these interviews a list of potential facilities was prepared. This list is reflected in the first column of Table 3.

The purpose of Phase II was to physically inspect each of the potential facilities. At this time specific data were collected that corresponded to the evaluation criteria. These criteria are presented as columns in Table 3. Each of the columns is self explanatory, except the column on availability. The number under "Availability" designates the number of competing programs wanting to use the facility. The original inspection sheets for each facility are included as Appendix C. Some of the facilities identified during Phase I were not included in Table 3. Power Burst Facility (PBF) 623 was removed when the Safety Analysis Report (SAR) for the original mission was released and the building became unavailable. At the Central Facilities Area (CFA), buildings CFA 665, CFA 664, CFA 603, CFA 666, and CFA 674 are in an area that is zoned radiation free. The ability to get a zoning variance is questionable; therefore, these buildings were not considered further. Chemical Processing Plant (CPP) 682 would be an excellent choice, but it has recently been occupied by another long-term program and is not available for the sealed source storage program. CFA 617, which houses the laundry, recently became available for other uses. However, this building is committed to three major programs that are planning to occupy the facility. By the time the Site Environmental Impact Statement (EIS) is issued in FY-95, the building will be fully occupied by these programs.

3.2 DOE Sealed Sources

The DOE is currently storing approximately 1,200 government-owned sealed sources at various locations at the INEL. They are used for research, calibration, and verification of shielding at different operational sites. The INEL has 40 different custodians to monitor and keep track of these sealed sources at their point of use. Inspections at these locations revealed that physical storage ranges from storage cabinets to well defined and controlled storage areas for radiological materials. At the present, there is no consolidated storage facility for all sources.

Co-storage of the commercial sealed sources with the DOE sources has been considered as part of this study. Several custodians, with an aggregate responsibility for approximately 600 of the DOE sealed sources, were interviewed to determine the possibility of co-storage. It was learned that the majority of the DOE sources are being used on a regular basis in an operational status. Therefore, it was the consensus of the custodians that it would not be practical to commingle government-owned sealed sources that are being used on a regular basis with commercial sealed sources that are considered surplus material and not have them be subject to the same control requirements. An example of this is at Test Area North (TAN) 607, where over 300 sources are stored; two-thirds of these are in regular use.

Table 3. Phase II evaluation criteria.

Building number	Square footage (ft ²)	Floor loading capacity (psf)	Access width (ft)	Floor type	Site situation	Life expectancy (years)	Availability	Lighting	Fire protection
TAN 647 storage	5,250	6,000	8	Slab on grade	Excellent	30	2	Ok	Yes
TAN 648 storage	6,848	22,500	10	Slab on grade	Excellent	30	2	Ok	Yes
TAN 633 annex hot cell	682	Not posted	8	Slab on grade	Good	<3yrs D&D	3	Ok	No
TAN 624 IET extension	3,036	Not posted	12	Slab on grade	Excellent	<3yrs D&D	4	Ok	Out of service
TAN 650 reactor vessel	34,666	Not posted	12	Supported	Okay	<3yrs D&D	4	Ok	No
TAN 630 storage	22,354	Not posted	6	Slab on grade	Poor	20	1	Ok	No
PBF 635 old sizing building	3,400	Not posted	8	Slab on grade	Okay	10	0	Ok	No
PBF 622 sizing building	5,000	Not posted	14	Slab on grade	Excellent	20	4	Ok	Yes
PBF 612 SPERT II	3,588	50/100	14	Supported	Okay	30	1	Ok	Yes
TRA 605 waste treatment	27,360	300	10	Supported	Okay	10	4	Ok	No
TRA 605up waste treatment	~2,500	200	8	Supported	Okay	10	4	Ok	No

Table 3. (continued).

Building number	Square footage (ft ²)	Floor loading capacity (psf)	Access width (ft)	Floor type	Site situation	Life expectancy (years)	Availability	Lighting	Fire protection
TRA 610 blower room	3,168	1,000/3,000	8	Slab on grade	Okay	10	4	Ok	No
CF 638 DOE LAP building	2,155	Not posted	6	Slab on grade	Excellent	15	3	Ok	No
CF 617 laundry	11,509	Not known	7	Slab on grade	Excellent	30	4	Ok	Yes
CF 637 haz storage	2,000	Not known	6	Slab on grade	Good	30	2	Ok	No?
CPP 691 computer	4,000	Not posted	16	Supported	Okay	50	5	Temp	Yes
CPP 691 storage	Not known	Not posted	8	Supported	Okay	50	5	Temp	Yes
CPP 1606 warehouse	16,000	Not posted	12	Slab on grade	Okay	50	5	Ok	Yes
CPP 1636 warehouse	8,160	Not posted	12	Slab on grade	Okay	50	5	Ok	No
CPP 1637 warehouse	4,800	250	12	Slab on grade	Okay	50	5	Ok	No
CPP 1653 shop	9,000	Not posted	20	Slab on grade	Good	50	2	Ok	No
CPP 654 warehouse	18,000	250	14	Slab on grade	Good	30	5	Ok	Yes

3.3 Evaluation Summary

At the conclusion of the Phase II inspections each of the criteria was assigned a weighted factor and a point spread, based on its importance. Each facility was scored by using this method. Criteria weighting and scoring logic is presented in the following sections. Based on the results of this scoring process, the top three candidate facilities were identified.

3.4 Facility Planning Concurrence

The facility planning unit reviewed all candidate buildings on the final list (see Table 3) to verify their availability. This review involved a check of the building data gathered by the study and a cross-check of planned space use during the next 2 to 5 years.

Their review provided the following comments:

- The candidate list is complete
- Other buildings, which are currently well used, could become available during the next 2 to 3 years if missions change
- Building ownership has changed on some buildings listed in Appendix C since the inception of the study.

With this information, the team updated Appendix C and strongly recommends continuing the dialogue with facility planners as title design is initiated.

4. CRITERIA WEIGHTING AND SCORING LOGIC

4.1 Square Footage

Square footage was considered of primary importance and was assigned 18 points of the 100 points assigned to all criteria (see Table 4). Any building with less than 1,200 ft² was considered too small to be of practical storage value. A larger prorated weighting was given for buildings up to 8,000 ft². A smaller incremental rating was given for buildings with over 8,000 ft². In this case larger is not necessarily better because of the increased problems of maintenance and administration.

Table 4. Square footage criteria.

Square footage (ft ²)	Points
0 - 1,200	0
1,200 - 4,000	6
4,000 - 6,000	8
6,000 - 8,000	12
8,000	15
10,000	16
15,000	17
20,000	18

4.2 Floor Loading

Floor load capacity was considered equal in importance to square footage. Therefore, it too was assigned 18 points (see Table 5). Scoring for the minimum floor loading of 250 psf was 12 points. Many floors inspected were not posted. If a floor slab was cast directly on soil and was not posted, it was given 10 points. In these cases, it was assumed that the capacity was near the 250 psf minimum.

Table 5. Floor loading criteria.

Floor loading (psf)	Points
Not posted	6-10
250	12
> 1,000	16
> 2,000	18

4.3 Building Access

This criterion evaluates the access width to the building. Access width is important in handling sealed sources with forklifts or driving a truck directly into the building. Doors 8 to 12 feet wide were considered desirable (see Table 6). A 10-foot-high door was considered minimum.

Table 6. Building access criteria.

Access width (ft)	Points
6	4
8	9
10	10
12	12

4.4 Floor Type

The preferred type of floor is a slab-on-grade, which was given the highest score of 14. Other types of flooring, such as concrete floors or metal decking floors over basements, were rated lower because of a greater chance for fatigue, failure, or higher maintenance or reconditioning costs.

If a slab was supported on columns over a basement, the point factor was reduced. If a metal floor was supported over a basement, it was given a significantly lower rating (see Table 7).

Table 7. Floor type criteria.

Floor type	Points
Supported metal	4
Supported concrete	10
Slab-on-grade	14

4.5 Site Situation

The site for each facility was evaluated and rated based on its proximity to other buildings, paved roads, and the general accessibility to the building. Buildings with convenient access and little conflict with other facilities were given high scores. Buildings with poor access or conflict with adjacent facilities were given lower scores.

In addition to the need for storing sealed sources, there is a potential that some GTCC LLW and SCW may need to be stored at the INEL. A paved pad would be an advantage should this situation arise. If a building had an asphalt or concrete pad adjacent to it, an additional two points were given to the rating.

The only buildings inspected that had pads with any sizeable storage area were TAN 647 and 648, and PBF 623. The pad at the TAN buildings is designated as a Resource Conservation and Recovery Act (RCRA) site and is not available. PBF 623 has been designated for another mission.

Some buildings were given 1 extra point in the rating because they have areas that could be paved and developed for storage (see Table 8).

Table 8. Site situation criteria.

Site situation	Points
Fair	4
Good	7
Excellent	10
Asphalt pad	Add 2
Pad development potential	Add 1

4.6 Life Expectancy

During the inspection, buildings were evaluated and judged for their expected remaining life. Current conditions, maintainability, and accessibility were the main factors used to estimate the remaining life. Buildings that were on the decontamination and decommissioning (D&D) list were given just 1 point in the remaining life. This allows for the possibility of using the facility for storage of sealed sources (see Table 9).

Table 9. Life expectancy criteria.

Life expectancy (years)	Points
30	4
10 - 29	2
On D&D list	1

4.7 Availability

The scoring here addresses the current and future missions of the facility, as far as it was possible to determine. Judgment was made on the number of programs investigating a facility for use. If one to two programs wanted the facility, 7-8 points were given. Where there were three or more programs interested in a facility, 0-6 points were given (see Table 10).

Table 10. Facility availability criteria.

Availability	Points
3 or more users	0 - 6
1 - 2 users	7 - 8

4.8 Lighting

Typical warehouse lighting requires 30-50 footcandles of light. A judgment was made as to whether the lighting was permanent. If the lighting was permanent and was estimated to meet the footcandle requirement, the facility was given 6 points. If the lighting was only temporary or poor, the rating was given only 2 points (see Table 11).

Table 11. Lighting criteria.

Lighting	Points
Satisfactory	6
Poor	2

4.9 Fire Protection

There were 8 points given if the facility had fire protection and 0 if there was no fire protection. (See Table 12).

Table 12. Fire protection criteria.

Fire protection	Points
Yes	8
No	0

4.10 Results

The scoring for each building is summarized in Table 13. Buildings having the highest scores are the most attractive for use as a facility for storing sealed sources. Table 14 lists the four best facilities based on the inspections and on the rating given each facility.

Table 13. Facility scores.

Building number	Square footage	Floor loading capacity	Access width	Floor type	Site situation	Life expectancy	Availability	Lighting	Fire protection	Total score
Possible Points	18	18	12	14	12	4	8	6	8	100.00
TAN 647 storage	8	18	9	10	12	4	7	6	8	82.00
TAN 648 storage	12	18	10	14	12	4	7	6	8	91.00
TAN 633 annex hot cell	0	8	9	14	7	1	6	6	0	51.00
TAN 624 IET extension	6	8	12	14	10	1	3	6	6	66.00
TAN 650 reactor vessel	18	6	12	14	4	1	3	6	0	64.00
TAN 630 storage	18	8	4	14	1	2	8	6	0	61.00
PBF 635 sizing building	6	7	9	12	4	2	8	6	0	54.00
PBF 622 sizing building	8	8	12	14	10	2	3	6	8	71.00
PBF 612 SPERT 2	6	6	12	4	4	4	8	6	8	58.00
TRA 605 waste treatment	18	12	10	10	4	2	5	6	0	67.00
TRA 605up waste treatment	6	10	9	10	4	2	5	6	0	52.00
TRA 610 blower room	6	16	9	14	4	2	5	6	0	62.00

Table 13. (continued).

Building number	Square footage	Floor loading capacity	Access width	Floor type	Site situation	Life expectancy	Availability	Lighting	Fire protection	Total score
Possible Points	18	18	12	14	12	4	8	6	8	100.00
CF 638 DOE LAP bldg	6	8	4	14	10	2	6	6	0	56.00
CF 617 laundry	16	12	4	14	12	4	5	6	8	81.00
CF 637 haz storage	6	12	4	14	8	4	7	6	0	61.00
CPP 691 computer	8	7	12	8	4	4	2	2	8	55.00
CPP 691 storage	6	6	9	8	4	4	2	2	8	49.00
CPP 1606 warehouse	17	8	12	14	4	4	2	6	8	75.00
CPP 1636 warehouse	16	8	12	14	4	4	2	6	0	66.00
CPP 1637 warehouse	8	12	12	14	4	4	2	6	0	62.00
CPP 1653 shop	15	10	12	14	7	4	7	6	0	75.00
CPP 654 warehouse	17	12	12	14	7	4	1	6	8	81.00

Table 14. Recommended facilities for sealed source storage.

Building	Score	Availability score
TAN 648	91	7
TAN 647	82	7
CPP 654	81	1
CPP 1653	75	7

5. RECOMMENDATIONS

The team recommends that buildings TAN 648, TAN 647, and CPP 654 be considered for storing sealed sources. If it is not possible to acquire these facilities, building CPP 1653 should be considered as the next best alternative. These buildings received the highest scores during the rating process and are discussed individually below. Other buildings should be considered in the order of scoring shown in Table 13.

TAN 648, the team's first choice, is a 6,848-ft² metal building, currently used to store radioactive waste. Much of this waste is scheduled to go to the Radioactive Waste Management Complex or back to the originator. TAN 648 has a slab-on-grade foundation and good access for both vehicles and personnel. The facility manager stated that one-third to one-half of the floor space currently could be dedicated to storing sealed sources, and the remainder of the floor space would be available when the radioactive waste presently being stored is removed.

TAN 647, the team's second choice, is a 5,250-ft² metal building located adjacent to TAN 648. Approximately one-third (1,750 ft²) of the building is segregated from the remainder with a divider wall. The segregated portion has a concrete floor, vehicle and personnel access, and motion sensors/alarms. The building is currently used to store transport casks. These casks are in the process of being moved; a future mission has not been identified.

CPP 654, the team's third choice, is a recently upgraded warehouse with new insulation and fire protection system. This building has 18,000 ft², which is currently about two-thirds utilized. The sealed source facility could easily be co-located here.

CPP 1653, the team's alternative, is a large shop and meeting area, which was used by MK Ferguson while the Fuel Processing Restoration project was being constructed. It has 9,000 ft², which could be divided, with part being allocated to sealed sources. It has a slab-on-grade foundation and good access.

The point-of-contact for each of these facilities is:

TAN 648 and 647	— Kevin Streeper, 6-6151
CPP 654	— Stan Gearhart, 6-3304
CPP 1653	— Tom Matule, 6-5533.

6. REFERENCES

Harris 1993, Gerald Harris, *Characterization of Greater-Than-Class C Low-Level Radioactive Waste Sealed Sources*, DOE/LLW-163, (Draft), October 1993.

Hulse 1991, *Greater-Than-Class C Low-Level Radioactive Waste Characterization: Estimated Volumes, Radionuclide Activities, and Other Characteristics*, DOE/LLW-114, National Low Level Waste Management Program, EG&G Idaho, Inc., August 1991, New Rev. to be issued in 4th quarter 1994.

Appendix A

INEL Sealed Source Laydown Requirements

Appendix A

INEL Sealed Source Laydown Requirements

Device	(1) Transport case vol. (cu m)	(2) (cu ft)	(3) Cube root	(4) No. of SS	(5) Storage vol. (cu ft)	(6) Storage space (sq ft)	(7) Avg lb each	(8) lb per sq ft
Calib.	0.0017	0.0600	4.7"	121	7.26	18.545	35	228.36
Medical	0.0017	0.0600	4.7"	6	0.36	0.92	35	228.36
Well log	0.0764	2.698	1.39'	318	857.96	616.295	165	78.90
Port gauge	0.0566	1.999	1.25'	887	1,773.11	1,407.555	90"	56.72
Irradiate	0.0849	2.998	1.44'	64	191.87	133.066	2,127	1,023
Fix gauge	0.017	0.600	10.1"	128	76.8	91.056	143	201.13
Neutron	0.0764	2.698	1.39'	116	312.97	224.812	125	64.50
X-Ray	0.0419	1.480	1.14'	54	79.92	70.130	35	26.95
Others	0.0198	0.699	10.6"	305	213.2	240.225	167	212.03
Totals				1999	3,513.45	2,802.604		236 avg

(2) Transport Case Vol (cu ft) = (1), Transport Case Vol (cu m) x 35.314

(5) Storage Vol (cu ft) = (2), Transport Case Vol (cu ft) x (4), Number of sources

(6) Storage space (sq ft) for single layer laydown configuration = (3), Cube root of transport case vol (cu ft) squared x (4), No. of sources

(8) Lb per sq ft = (7), Wt per transport case / (3), cube root of transport case vol (cu ft) squared

(4) Reference Table 2 in text portion of this report

(1,7) DOE/LLW-114 E-4, Table 3.

* No data available; based on verbal discussions with vendors.

Given the small physical size and weight of some transport cases, stacking configurations should be investigated. For example:

Transport cases housing calibration and medical sources can be stacked in groups of 8 in a space 1 ft x 1 ft x 10 in. high with a resultant floor load of 280 lb/sq ft.

Appendix B

Inspection/Report Plan to Identify Storage for Sealed Sources

Appendix B

Inspection/Report Plan to Identify Storage for Sealed Sources

Engineers will use a graded approach to inspect potential facilities for the storage of greater-than-Class C low-level waste (GTCC-LLW) sources on the INEL. During Phase I, the engineer will collect and evaluate basic data of potential facilities. Phase II will provide for the inspection of potential facilities. The informal report will include the top three to four facilities according to the criteria listed in Phases I and II below. Tasks in each phase are listed as follows:

I. Phase I Inspection

- A. Make contact and interview facility managers. Evaluate potential storage facilities and schedule inspections of available facilities.

II. Phase II

- A. Perform inspections and collect data for each potential facility.

1. Administrative Considerations

- a. What planned upgrades are in place?
- b. Will the improvements bring the building up to code?
- c. Mission (any competing activities current or future).
- d. Surrounding buildings, how close, how active, noncompatible missions.

2. Functional

- a. Shear walls
- b. Cracks in walls
- c. Stains or discoloration indicating water damage
- d. Foundation condition
- e. Lighting
- f. Ventilation in place
- g. Any basement/suspended floor.

3. Physical

- a. Length, height, width
- b. Square footage
- c. Known floor loadings limit
- d. Fire protection - visual
- e. Alarms in place - visual
- f. Radiation shielding
- g. Type of construction, building composition; floor, walls, ceilings.

4. Site Considerations

- a. General area (flood plane, river drainage, lava outcrops).
- b. Drainage
- c. Roads access type
- d. Entrance width
- e. Situation on site.

5. Life Line

- a. Electrical power
- b. Transportation
- c. Fire water delivery
- d. Fire resisting elements.

B. Evaluate the use of storage racks if required to meet necessary square footage of storage.

C. Political Issues

- 1. Zoning issues
- 2. Radioactivities (additional shielding)
- 3. Space competition
- 4. Other GTCC orphan waste and special waste
- 5. Facility manager must approve.

D. Demolition Plans

- 1. What is driving the demolition?
- 2. Are they looking to knock down the buildings or is reuse possible?

III. Report Generation

The report will recommend 3-4 alternatives that will meet space requirements.

Appendix C

Data from Phase I Inspections

TAN 647		Mgr: Kevin Streeper, 6-6151
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Mission is currently RCRA storage.	
d. Is mission compatible with surrounding buildings	628	
2. Functional		
a. Shear walls	Cross-ties	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	None	
d. Foundation condition	Excellent, slab on grade	
e. Lighting	Okay	
f. Ventilation in place	None	
g. Any basement or supported floor	None	
3. Physical		
a. Length, height, width	Need to get from plans.	
b. Square footage	5,250 sq ft	
c. Known floor loadings limits	6,000 psf	
d. Fire protection -visual	Dry pipe	
e. Alarms in place - visual	Motion alarms	
f. Radiation shielding	None	
g. Construction type/composition floor, walls, ceiling	Metal building with 1/3 concrete and 2/3 gravel floor.	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	No	
b. Drainage	Okay	
c. Roads access type	Great	
d. Entrance width	One roll-up door, one personnel door.	
e. Situation on site	Excellent	
5. Life Line		
a. Electrical power	Adequate, 480 V	
b. Transportation	Good access	
c. Fire water delivery	Dry pipe	
d. Fire resisting elements	None	

	TAN 648	Mgr: Kevin Streeper, 6-6151
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Storage area	
d. Surrounding buildings how close, active mission compatible	TAN 647	
2. Functional		
a. Shear walls	Cross-ties	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	None to be seen	
d. Foundation condition	slab on grade	
e. Lighting	Okay	
f. Ventilation in place	None	
g. Any basement or supported floor	None	
3. Physical		
a. Length, height, width	23'9"w, 27'4"l, & 18'9"h	
b. Square footage	6,848 sq ft	
c. Known floor loadings limits	22,500 psf	
d. Fire protection -visual	Dry pipe	
e. Alarms in place - visual	Fire alarms	
f. Radiation shielding	None	
g. Construction type/composition floor walls ceiling	Metal building with concrete floor.	
4. Site Considerations		
a. General area (flood plane, river drainage, lava)	Not on floodplain	
b. Drainage	Okay	
c. Roads access type	Small, okay	
d. Entrance width	Small roll-up door	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	Dry pipe	
d. Fire resisting elements	None	

	TAN 633 (aka Hot Cell Annex)	Mgr: Kevin Streeper, 6-6151
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Storage for the in situ vitrification project.	
d. Is mission compatible with surrounding buildings	Mission is compatible.	
2. Functional		
a. Shear walls	Good condition.	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	None	
d. Foundation condition	Good concrete foundation.	
e. Lighting	Excellent	
f. Ventilation in place	Steam heat	
g. Any basement or supported floor	No supported floor	
3. Physical		
a. Length, height, width	22'3"w, 31'9"l, & 15'2"h	
b. Square footage	682	
c. Known floor loadings limits	Not posted	
d. Fire protection -visual	None	
e. Alarms in place - visual	None	
f. Radiation shielding	None	
g. Construction type/composition floor walls ceiling	Concrete masonry units, CMUs & corrugated roof.	
4. Site Considerations		
a. General area (flood plane, river drainage, lava)	Okay	
b. Drainage	Okay	
c. Roads access type	Narrow road between buildings.	
d. Entrance width	8'3" width	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	120 V	
b. Transportation	Okay	
c. Fire water delivery	None	
d. Fire resisting elements	CMU building	

	LOFT Area. Initial Engine Test Extension Building #624	Mgr: Ben Johnson, 6-6250
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Storage	
d. Is mission compatible with surrounding buildings	Okay	
2. Functional		
a. Shear walls	Okay	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	Peeling steel	
d. Foundation condition	Okay	
e. Lighting	Okay	
f. Ventilation in place	Yes, ventilation is in place but not in service.	
g. Any Basement or Supported floor	No suspended floor.	
3. Physical		
a. Length, height, width	Obtain from plans.	
b. Square footage	3,036 sq ft	
c. Known floor loadings limits	Not posted.	
d. Fire protection -visual	Is out of service, believed to be wet pipe.	
e. Alarms in place - visual	Yes	
f. Radiation shielding	Not available	
g. Construction type/composition floor walls ceiling	Steel lined with a concrete floor.	
4. Site Considerations		
a. General area (flood plane, river drainage, lava)	None, no problem.	
b. Drainage	Okay	
c. Roads access type	Okay	
d. Entrance width	12' door	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	Wet pipe, out of service.	
d. Fire resisting elements	None	

	TAN-650 Reactor Vessel. Round Vessel.	Mgr: Ben Johnson, 6-6250
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Currently no mission.	
d. Is mission compatible with surrounding buildings	Okay, needs access through TAN 624.	
2. Functional		
a. Shear walls	None	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	None seen	
d. Foundation condition	Okay	
e. Lighting	Okay	
f. Ventilation in place	Okay	
g. Any basement or supported floor	Yes, supported floor with basement underneath it.	
3. Physical		
a. Length, height, width	Obtain from plans.	
b. Square footage	34,666 sq ft	
c. Known floor loadings limits	Not posted	
d. Fire Protection -visual	None	
e. Alarms in place - visual	None	
f. Radiation shielding	Fully shielded	
g. Construction type/composition floor walls ceiling	Steel - 10' thick rounded domed walls.	
4. Site Considerations		
a. General area (flood plane, river drainage, lava)	Okay	
b. Drainage	Okay	
c. Roads access type	Okay	
d. Entrance width	Entrance through IET building 624, 12' door.	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	None	
d. Fire resisting elements	None	

	TAN 630. A below basement small storage area	Mgr: Ben Johnson, 6-6250
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Former showers.	
d. Is mission compatible with surrounding buildings	In basement, has more than 700' of tunnel for access.	
2. Functional		
a. Shear walls	None	
b. Cracks in walls	None seen	
c. Stains or discoloration indications of water damage	None seen	
d. Foundation condition	Slab on grade	
e. Lighting	Okay	
f. Ventilation in place	Okay	
g. Any basement or supported floor	None	
3. Physical		
a. Length, height, width	48' l, 22'7"w, 12'8"h. The tunnel access is 7'9" & comes down the 5'8".	
b. Square footage	22,354 sq ft, 1,056 available.	
c. Known floor loadings limits	Not posted	
d. Fire protection -visual	None	
e. Alarms in place - visual	None	
f. Radiation shielding	None	
g. Construction type/composition floor walls ceiling	Cast in place concrete.	
4. Site Considerations		
a. General area (flood plane, river drainage, lava)	Acceptable	
b. Drainage	It's underground so it is difficult.	
c. Roads access type	Access is difficult because of tunnel.	
d. Entrance width	Entrance width is 6' but it also has low height of about 5'8".	
e. Situation on site	Tunnel	
5. Life Line		
a. Electrical power	480v	
b. Transportation	Good	
c. Fire water delivery	Good, water delivery in transportation.	
d. Fire resisting elements	Good	

	PBF-635, Contact Point: Danny Cochran, 6-8008	Mgr: C.L. Parsons, 6-6132
1. Administrative Considerations		
a. What planned upgrades are in place	Current planned upgrades are to level the floor. Decontamination and decommission the old sizing room inside and then make the facility a warehouse.	
b. Will upgrades bring the building in compliance with code	NA	
c. Mission (any competing activities current or future)	Present sizing facility former warehouse is for a parts and a staging area.	
d. Is mission compatible with surrounding buildings	Surrounding building is 609, which is the incinerator.	
2. Functional		
a. Shear walls	Cross-bracing, cross-ties	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	Stains and discoloration indicating water damage. This building is basically very leaky particularly during hard rains, but the upgrade should make this building waterproof.	
d. Foundation condition	Slab on grade	
e. Lighting	Adequate	
f. Ventilation in place	None, basically it has heat.	
g. Any basement or supported floor	Slab on grade, no suspended floor.	
3. Physical		
a. Length, height, width	Obtain from plans.	
b. Square footage	3,400 sq ft.	
c. Known floor loadings limits	300 - 500 pounds estimate	
d. Fire protection -visual	No fire protection, but should be updated with the upgrading.	
e. Alarms in place - visual	Alarms are in place now, CAM and RAM, but should be removed as it becomes a warehouse.	
f. Radiation shielding	No radiation shielding	
g. Construction type/composition floor, walls ,ceiling	Metal building, frame construction. Tin roof, tin sides, steel bents for the columns and roofings.	
4. Site Considerations		
a. General Area (flood plain, river drainage, lava)	No flood plain, river drainage is okay	
b. Drainage	No problem with drainage	
c. Roads access type	Okay	
d. Entrance width	Singular, approx 14' wide roll-up door, a small singular personnel door & a double personnel door.	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	440 and 220 V power	
b. Transportation	Okay	
c. Fire water delivery	No water deliver system and no bathroom facilities.	
d. Fire resisting elements	None	

PBF-622, Contact Point: Danny Cochran, 6-8008		Mgr: C.L. Parsons, 6-6132
1. Administrative Considerations		
a. What planned upgrades are in place	No current upgrades needed or planned.	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Sizing of low-level waste, and also has a large temporary building inside that can be used as a radiation containment facility.	
d. Is mission compatible with surrounding buildings	PBF 635 and 609	
2. Functional		
a. Shear walls	Cross-braced ties	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	Very tight, no leak building.	
d. Foundation condition	Slab on grade	
e. Lighting	Good	
f. Ventilation in place	Ventilation okay, it has heating, ventilation and air conditioning as well as HEPA filtration for the exhaust.	
g. Any basement or supported floor	No supported floor	
3. Physical		
a. Length, height, width	Obtain from plans.	
b. Square footage	5,000 sq ft	
c. Known floor loadings limits	Not posted	
d. Fire protection -visual	Two standards	
e. Alarms in place - visual	CAM and RAM	
f. Radiation shielding	No radiation shielding.	
g. Construction type/composition floor, walls, ceiling	Metal building construction.	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	General area okay. No flood plain, river drainage, or apparent lave outcrops.	
b. Drainage	No problem with drainage	
c. Roads access type	Okay	
d. Entrance width	There are two roll-up doors and one double door. Roll-up doors are approx 12' wide.	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	480, 440, and 220 V power.	
b. Transportation	Okay	
c. Fire water delivery	Water delivery system is good for fire.	
d. Fire resisting elements	None	

PBF 612		Mgr: Art Wilson, 6-5746
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	None	
d. Is mission compatible with surrounding buildings	None	
2. Functional		
a. Shear walls	Okay	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	None	
d. Foundation condition	Supported metal plate	
e. Lighting	Okay	
f. Ventilation in place	Yes	
g. Any basement or supported floor	Yes	
3. Physical		
a. Length, height, width	92'x 45'x 39'	
b. Square footage	3,588 sq feet	
c. Known floor loadings limits	50,100 psf	
d. Fire protection -visual	Yes	
e. Alarms in place - visual	No	
f. Radiation shielding	No	
g. Construction type/composition floor, walls, ceiling	CMUs	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	Okay 500 year flood plain	
b. Drainage	Okay	
c. Roads access type	Okay	
d. Entrance width	14'	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	Yes	
d. Fire resisting elements	None	

	TRA-MTR 605, Main Level. Contact Point: Steve Keeting, 3-4782	Mgr: Bill Lewis, 3-4423
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Warm Waste Treatment Facility for Liquid Waste	
d. Is mission compatible with surrounding buildings	Okay	
2. Functional		
a. Shear walls	None	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	None	
d. Foundation condition	Supported floor over basement.	
e. Lighting	Okay	
f. Ventilation in place	Heating with no HEPA filtration.	
g. Any basement or supported floor	Yes, supported floor.	
3. Physical		
a. Length, height, width	Obtain from plans.	
b. Square footage	27,360 sq ft	
c. Known floor loadings limits	300 lb per sq ft	
d. Fire protection -visual	None	
e. Alarms in place - visual	CAM	
f. Radiation shielding	Concrete cast in place	
g. Construction type/composition floor,walls, ceiling	Concrete cast in place	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	Okay	
b. Drainage	Okay	
c. Roads access type	Okay	
d. Entrance width	8 foot roll-up door, one personnel door and one double personnel door.	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	440 and 220 V power	
b. Transportation	Okay	
c. Fire water delivery	None	
d. Fire resisting elements	Concrete cast in place	

	TRA-MTR 605, 3rd Floor - Contact Point: Steve Keeting, 3-4782	Mgr: Bill Lewis, 3-4423
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Water evaporation for MTR Main Feed Water.	
d. Is mission compatible with surrounding buildings	TRA 610	
2. Functional		
a. Shear walls	Okay	
b. Cracks in walls	Some seen, but appear to be from caustic environments but not from the weather.	
c. Stains or discoloration indications of water damage	Yes	
d. Foundation condition	Supported floor	
e. Lighting	Okay	
f. Ventilation in place	Corner heaters	
g. Any basement or supported floor	Yes	
3. Physical		
a. Length, height, width	18', Obtain from plans.	
b. Square footage	2,500 sq ft	
c. Known floor loadings limits	200 lb per sq ft	
d. Fire protection -visual	None	
e. Alarms in place - visual	None	
f. Radiation shielding	None	
g. Construction type/composition floor, walls, ceiling	Concrete cast in place, with composite steel concrete roof.	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	Okay	
b. Drainage	Okay	
c. Roads access type	Okay	
d. Entrance width	8 foot sliding door. It's from the 3rd floor, it has a 10-ton crane overhead there and has some monorails in the area.	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	440 V	
b. Transportation	Okay	
c. Fire water delivery	Okay	
d. Fire resisting elements	Concrete cast in place building.	

Additional notes: The storage would need to be lifted to the 3rd floor storage area.

	TRA-MTR 610, Exhaust Blowers Contact Point: Steve Keeting, 3-4782	Mgr: Bill Lewis, 3-4423
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Exhaust blower for MTR / Lead Storage	
d. Is mission compatible with surrounding buildings	Okay	
2. Functional		
a. Shear walls	Okay	
b. Cracks in walls	Okay	
c. Stains or discoloration indications of water damage	There are stains that appear to be from age, flaking paint from roof.	
d. Foundation condition	Okay, slab on grade	
e. Lighting	Great - 440 halogen lamps	
f. Ventilation in place	Heated	
g. Any basement or supported floor	Possible, basement, supported floor. Appears there are tanks or vaults.	
3. Physical		
a. Length, height, width	16'7", length and width obtain from plans.	
b. Square footage	3,168 sq ft	
c. Known floor loadings limits	100 psf	
d. Fire protection - visual	None	
e. Alarms in place - visual	None	
f. Radiation shielding	Concrete masonry units	
g. Construction type/composition floor, walls, ceiling	Concrete masonry units, five shielded vaults.	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	Okay	
b. Drainage	Okay	
c. Roads access type	Okay	
d. Entrance width	One double door and one personnel door.	
e. Situation on site	Okay. Small monorail located on the north wall.	
5. Life Line		
a. Electrical power	480 and 220 V	
b. Transportation	Okay	
c. Fire water delivery	None	
d. Fire resisting elements	Concrete block building.	

	CFA-638, Magazine Bumper, Contact Point: John Marthis, 6-2530	Mgr: Shelby Kawa, 6-5188
1. Administrative Considerations		
a. What planned upgrades are in place	Separations of the radiation areas.	
b. Will upgrades bring the building in compliance with code	Yes	
c. Mission (any competing activities current or future)	DOE LAP program	
d. Is mission compatible with surrounding buildings	Other bunkers and the laundry.	
2. Functional		
a. Shear walls	None	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	None	
d. Foundation condition	Okay	
e. Lighting	Okay	
f. Ventilation in place	Okay	
g. Any basement or supported floor	Slab on grade	
3. Physical		
a. Length, height, width	40' plus 23'3"l, 27'8"w, 12'1"h.	
b. Square footage	2,155 sq ft	
c. Known floor loadings limits	Not posted	
d. Fire protection -visual	None	
e. Alarms in place - visual	Not available	
f. Radiation shielding	Acceptable	
g. Construction type/composition floor, walls, ceiling	Barrel vault with concrete masonry units for dividing walls.	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	Okay	
b. Drainage	Okay	
c. Roads access type	Okay	
d. Entrance width	8 foot door.	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	Okay	
b. Transportation	Okay	
c. Fire water delivery	None	
d. Fire resisting elements	None	

Additional comments include: This facility is currently being used by the Department of Energy (DOE) for their laboratory acceptance program, thermal luminescence program. This building would not be available to use until DOE gets another lab in place.

	CFA-617	Mgr: Art Wilson, 6-5746
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Laundry	
d. Is mission compatible with surrounding buildings	CFA 637	
2. Functional		
a. Shear walls	Okay	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	None	
d. Foundation condition	Slab on grade	
e. Lighting	Okay	
f. Ventilation in place	Yes	
g. Any basement or supported floor	No	
3. Physical		
a. Length, height, width	122'x 10'x 119'	
b. Square footage	11,509	
c. Known floor loadings limits	Not known	
d. Fire protection -visual	Yes	
e. Alarms in place - visual	Yes	
f. Radiation shielding	No	
g. Construction type/composition floor, walls, ceiling	CMUs	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	Okay	
b. Drainage	Okay	
c. Roads access type	Good	
d. Entrance width	7'	
e. Situation on site	Excellent	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	yes	
d. Fire resisting elements	Yes, gypsum	

CFA-637		Mgr: Art Wilson, 6-5746
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Hazardous storage	
d. Is mission compatible with surrounding buildings	Laundry	
2. Functional		
a. Shear walls	None	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	No	
d. Foundation condition	Slab on grade	
e. Lighting	Okay	
f. Ventilation in place	Yes	
g. Any basement or supported floor	No	
3. Physical		
a. Length, height, width	80'x ? x 25'	
b. Square footage	2,000	
c. Known floor loadings limits	Not posted	
d. Fire protection -visual	No	
e. Alarms in place - visual	Yes	
f. Radiation shielding	No	
g. Construction type/composition floor, walls, ceiling	Bunker barrel vaults	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	500 year flood plain	
b. Drainage	Okay	
c. Roads access type	Okay	
d. Entrance width	6'	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	Yes	
d. Fire resisting elements	None	

	CPP-691, Computer Room. Contact Point: Julie Merrill, 6-7471	Mgr: Kevin Ryan, 6-4626
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	Currently 53% completed, so the upgrades will bring it into compliance. It is 90% completed for fire.	
c. Mission (any competing activities current or future)	Fuel processing	
d. Is mission compatible with surrounding buildings	1606, which is a warehouse.	
2. Functional		
a. Shear walls	Okay, new building	
b. Cracks in walls	None, new building	
c. Stains or discoloration indications of water damage	New building	
d. Foundation condition	Four levels belowgrade	
e. Lighting	Temporary lighting upgrade required.	
f. Ventilation in place	Temporary steam heat	
g. Any basement or supported floor	Supported	
3. Physical		
a. Length, height, width	Three rooms 32'1 x 28'h x 17'w 60'1 x 50'h x 20'w 12'1 x 15'h x 16'6'w.	
b. Square footage	4,000 sq ft	
c. Known floor loadings limits	Not posted	
d. Fire protection -visual	Dry stand pipe	
e. Alarms in place - visual	None	
f. Radiation shielding	None	
g. Construction type/composition floor, walls, ceiling	Cast-in-place concrete, currently no restrooms.	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	500 year flood	
b. Drainage	Okay	
c. Roads access type	None, nearest paved road is less than 400'.	
d. Entrance width	Four 16'x 16' roll-up doors, plus several personnel doors.	
e. Situation on site	Good but roads are not close.	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	Two stairwells with dry stand pipes.	
d. Fire resisting elements	Fire resisting elements throughout.	

	CPP-691, Warehouse. Contact Point: Julie Merrill, 6-7471	Mgr: Kevin Ryan, 6-4626
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	Currently 53% completed, so the upgrades will bring it into compliance. It is 90% completed for fire.	
c. Mission (any competing activities current or future)	Fuel processing	
d. Is mission compatible with surrounding buildings	1606, which is a warehouse.	
2. Functional		
a. Shear walls	Okay, new building	
b. Cracks in walls	None, new building	
c. Stains or discoloration indications of water damage	None	
d. Foundation condition		
e. Lighting	Temporary lighting at this point. There is no permanent lighting in the building.	
f. Ventilation in place	Temporary steam heat.	
g. Any basement or supported floor	Suspended	
3. Physical		
a. Length, height, width	Obtain from plans.	
b. Square footage	Unknown available ~4,000 sq feet.	
c. Known floor loadings limits	Not posted	
d. Fire protection -visual	Dry stand pipe	
e. Alarms in place - visual	None	
f. Radiation shielding	None	
g. Construction type/composition floor, walls, ceiling	Cast-in-place concrete, currently no restrooms.	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	500 year flood	
b. Drainage	Okay	
c. Roads access type	None, nearest paved road is less than 400'.	
d. Entrance width	Roll-up doors and several personnel doors.	
e. Situation on site	Good, but roads are not close.	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	Two stairwells with dry stand pipes.	
d. Fire resisting elements	Fire resisting elements throughout.	

CPP-1606, Warehouse. Contact Point: Judy Peters, 6-5673		Mgr: Stan Gearhart, 6-3304
1. Administrative Considerations		
a. What planned upgrades are in place	Future showers _____ radiological	
b. Will upgrades bring the building in compliance with code	Yes	
c. Mission (any competing activities current or future)	Warehouse	
d. Is mission compatible with surrounding buildings	CPP 691	
2. Functional		
a. Shear walls	Cross-ties	
b. Cracks in walls	Okay, basically new.	
c. Stains or discoloration indications of water damage	New	
d. Foundation condition	Slab on grade	
e. Lighting	Okay	
f. Ventilation in place	Steam heat and ventilation okay.	
g. Any basement or supported floor	None	
3. Physical		
a. Length, height, width	160' l x 20' h x 100' w.	
b. Square footage	16,000 sq ft	
c. Known floor loadings limits	Not posted	
d. Fire protection -visual	Yes	
e. Alarms in place - visual	No	
f. Radiation shielding	No	
g. Construction type/composition floor, walls, ceiling	Metal rigid frame building.	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	Okay	
b. Drainage	Okay	
c. Roads access type	200' to the pavement with no road access currently, just gravel.	
d. Entrance width	Two personnel doors and five 12'x 14' roll-up doors.	
e. Situation on site	Okay with the exception of the gravel road.	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	Okay	
d. Fire resisting elements	1/2 siding gypsum wall approximately 100' into the building.	

	CPP-1636, Warehouse. Contact Point: Judy Peters, 6-5673	Mgr: Stan Gearhart, 6-3304
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Warehouse	
d. Is mission compatible with surrounding buildings	1691, 1606	
2. Functional		
a. Shear walls	Cross-ties	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	None	
d. Foundation condition	Slab on grade	
e. Lighting	Okay	
f. Ventilation in place	Electric element heaters	
g. Any basement or supported floor	No	
3. Physical		
a. Length, height, width	120'1 x 16-20'h x 68'w.	
b. Square footage	8160 sq ft	
c. Known floor loadings limits	Not posted	
d. Fire protection -visual	None	
e. Alarms in place - visual	No	
f. Radiation shielding	No	
g. Construction type/composition floor, walls, ceiling	Metal building	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	500 year flood	
b. Drainage	Okay	
c. Roads access type	200' to the pavement	
d. Entrance width	Two personnel doors, 4 roll-ups, 12'x 16'.	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	None	
d. Fire resisting elements	Single room, no fire resistant elements.	

The shelves are 3'x 8' and can hold 12,500 pounds in this building.

	CPP-1637, Warehouse. Contact Point: Judy Peters, 6-5673	Mgr: Stan Gearhart, 6-3304
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Warehouse	
d. Is mission compatible with surrounding buildings	1636, 691	
2. Functional		
a. Shear walls	Cross-ties	
b. Cracks in walls	None, new building	
c. Stains or discoloration indications of water damage	None	
d. Foundation condition	Slab on grade	
e. Lighting	Okay	
f. Ventilation in place	Ventilation, electrical heat elements.	
g. Any basement or supported floor	None	
3. Physical		
a. Length, height, width	100' l x 16'-20'h x 48'w.	
b. Square footage	4,800 sq ft	
c. Known floor loadings limits	250 psf	
d. Fire protection -visual	None	
e. Alarms in place - visual	None	
f. Radiation shielding	None	
g. Construction type/composition floor, walls, ceiling	Metal building with sloped roof.	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	500 year flood	
b. Drainage	Okay	
c. Roads access type	200' to the pavement.	
d. Entrance width	Three roll-up doors 12'x 14'. 2 personnel doors.	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	None	
d. Fire resisting elements	None, insulated	

	CPP-1653, Contractor's Construction Shop. Contact Point: Judy Peters, 6-5673	Mgr: Stan Gearhart, 6-3304
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Contractor's construction shop.	
d. Is mission compatible with surrounding buildings	Nothing is close.	
2. Functional		
a. Shear walls	Cross-ties	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	None	
d. Foundation condition	Slab on grade	
e. Lighting	Okay	
f. Ventilation in place	No	
g. Any basement or supported floor	No	
3. Physical		
a. Length, height, width	150'l x 20'h x 160'w.	
b. Square footage	24,000 sq ft, has attached 18'x 30' office, 540 sq ft.	
c. Known floor loadings limits	Not posted	
d. Fire protection -visual	No	
e. Alarms in place - visual	No	
f. Radiation shielding	No	
g. Construction type/composition floor, walls, ceiling	Metal building, with a 6 on 12 slope roof.	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	500 year flood	
b. Drainage	Okay	
c. Roads access type	Gravel road, approx 200' to pavement.	
d. Entrance width	One 20'x 14'h roll-up door, two personnel doors.	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	No	
d. Fire resisting elements	No	

CPP-654, Warehouse. Contact Point: Judy Peters, 6-5673		Mgr: Tony Matule, 6-5533
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Warehouse	
d. Is mission compatible with surrounding buildings	Training building	
2. Functional		
a. Shear walls	Okay	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	None	
d. Foundation condition	Slab on grade	
e. Lighting	Okay	
f. Ventilation in place	Six propane heaters	
g. Any basement or supported floor	Slab on grade	
3. Physical		
a. Length, height, width	150' l x 25' h x 120' w	
b. Square footage	18,000 sq ft	
c. Known floor loadings limits	250 lb sq ft	
d. Fire protection -visual	Yes	
e. Alarms in place - visual	No	
f. Radiation shielding	No	
g. Construction type/composition floor, walls, ceiling	Metal building	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	Okay	
b. Drainage	Okay	
c. Roads access type	Close	
d. Entrance width	Three 14'x 16' roll-up doors, several personnel doors.	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	Yes	
d. Fire resisting elements	Okay	

\$400,000 was spent to retrofit to building 654. Included, fire and racks for 663 and 654.

	PBF-623. Current mission is hazardous waste. Contact Point: Danny Cochran, 6-8008	Mgr: C.L. Parsons, 6-6132
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Mixed hazardous waste storage facility	
d. Is mission compatible with surrounding buildings	Okay, 609 is closed.	
2. Functional		
a. Shear walls	Cross-ties, sheer walls.	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	No leaks.	
d. Foundation condition	Slab on grade	
e. Lighting	Great	
f. Ventilation in place	1/2 of building has heat, no HEPA filtration but there is ventilation throughout.	
g. Any basement or supported floor	Slab on grade. It also has 3 separate, divided locations within this building. One is flammable liquid storage; two is liquid mixed hazardous waste; and three is solid mixed hazardous waste.	
3. Physical		
a. Length, height, width	Obtain from plans.	
b. Square footage	9,800 sq ft	
c. Known floor loadings limits	1,500 psf in main part of building. 1,200 psf on the grating.	
d. Fire protection -visual	2 standards (3D)	
e. Alarms in place - visual	CAM and RAM	
f. Radiation shielding	No radiation shielding.	
g. Construction type/composition floor, walls, ceiling	Metal building frame. Steel siding with frame bents.	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	General area okay.	
b. Drainage	No problem with drainage.	
c. Roads access type	Excellent road access.	
d. Entrance width	Four roll-up doors, 10'w, and five personnel doors.	
e. Situation on site	Excellent, good access to transportation capabilities.	
5. Life Line		
a. Electrical power	440 and 220 V power	
b. Transportation	Okay	
c. Fire water delivery	Okay	
d. Fire resisting elements	Okay. Three different rooms are separated by fire walls.	

Note: This facility is not included in Table 3 of the main body of the report. See Section 3.1.

	CFA-674, Warehouse. Contact Point: Ron Myers, 6-1261	Mgr: Niles Hanson, 6-2421
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Warehouse	
d. Is mission compatible with surrounding buildings	Active mission compatibility, previous hazardous waste storage facility, so it is ideal as a hazardous waste storage area.	
2. Functional		
a. Shear walls	Shear walls adequate	
b. Cracks in walls	None to be seen	
c. Stains or discoloration indications of water damage	None to be seen	
d. Foundation condition	Dock height building, which is slab on grade.	
e. Lighting	Adequate	
f. Ventilation in place	Heaters and ventilation in place.	
g. Any basement or supported floor	No	
3. Physical		
a. Length, height, width	41'3"l, 15'4"h, 65'11"w.	
b. Square footage	48,000, the proposed used is 2,685 expandable.	
c. Known floor loadings limits	1,000 per sq ft	
d. Fire protection -visual	Yes	
e. Alarms in place - visual	No CAMs or RAMs, none	
f. Radiation shielding	None	
g. Construction type/composition floor, walls, ceiling	Concrete masonry unit with a steel I beam roof, floor is concrete.	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	Okay	
b. Drainage	Okay	
c. Roads access type	Good	
d. Entrance width	6 foot double door with additional dock roll-up doors.	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	480 volt	
b. Transportation	Okay	
c. Fire water delivery	Okay	
d. Fire resisting elements	Okay	

Note: This facility is not included in Table 3 of the main body of the report. See Section 3.1.

	CFA-665, Warehouse. Contact Point: Ted Thomas, 6-7247	Mgr: Kirt Bullock, 6-2252
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Big shop, high and low bay.	
d. Is mission compatible with surrounding buildings	666, bus facility	
2. Functional		
a. Shear walls	Tie rods	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	None noticeable	
d. Foundation condition	Slab on grade	
e. Lighting	Adequate	
f. Ventilation in place	Steam heat	
g. Any basement or supported floor	None	
3. Physical		
a. Length, height, width	181' by 50' heights various.	
b. Square footage	9,050 sq ft	
c. Known floor loadings limits	2,000 psf	
d. Fire protection -visual	Yes	
e. Alarms in place - visual	No	
f. Radiation shielding	None	
g. Construction type/composition floor, walls, ceiling	Metal frame construction with a flat roof.	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	Good	
b. Drainage	Good	
c. Roads access type	Good	
d. Entrance width	Two doors 20' high x 12' wide and 7 doors that are 14' high x 12' wide.	
e. Situation on site	Excellent	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	Okay	
d. Fire resisting elements	Okay	

Note: This facility is not included in Table 3 of the main body of the report. See Section 3.1.

	CFA-665, a butler building. Contact Point: Ted Thomas, 6-7247	Mgr: Kirt Bullock, 6-2252
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Warehouse	
d. Is mission compatible with surrounding buildings	Attached to CFA-665	
2. Functional		
a. Shear walls	Cross ties	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	None	
d. Foundation condition	Slab on grade, okay	
e. Lighting	Good	
f. Ventilation in place	Nonworking steam heat, hasn't worked in quite awhile.	
g. Any basement or supported floor	No	
3. Physical		
a. Length, height, width	80'l, 22'h at pitch and 40'w	
b. Square footage	1,760 sq ft	
c. Known floor loadings limits	Not posted	
d. Fire protection -visual	Yes	
e. Alarms in place - visual	No	
f. Radiation shielding	No	
g. Construction type/composition floor, walls, ceiling	Metal building with a 3 on 12 pitch roof.	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	Good	
b. Drainage	Good	
c. Roads access type	Good	
d. Entrance width	One personnel and one 12'x 14' sliding door.	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	240 and 120 V with no outlets around the perimeter.	
b. Transportation	Okay	
c. Fire water delivery	Okay	
d. Fire resisting elements	None	

Note: This facility is not included in Table 3 of the main body of the report. See Section 3.1.

	CFA-664, Warehouse. Contact Point: Ted Thomas, 6-7247	Mgr: Kirt Bullock, 6-2252
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Bus maintenance and steam cleaning facility.	
d. Is mission compatible with surrounding buildings	1665	
2. Functional		
a. Shear walls	Several shear walls	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	None noted	
d. Foundation condition	Slab on grade	
e. Lighting	Okay	
f. Ventilation in place	Steam heat	
g. Any basement or supported floor	No	
3. Physical		
a. Length, height, width	20'h 1 and w to be obtained from plans.	
b. Square footage	12,825 sq ft	
c. Known floor loadings limits	Not posted	
d. Fire protection -visual	Yes	
e. Alarms in place - visual	None	
f. Radiation shielding	None	
g. Construction type/composition floor, walls, ceiling	Concrete masonry unit (CMUs with a flat roof).	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	Okay	
b. Drainage	Okay	
c. Roads access type	Okay	
d. Entrance width	Ten roll-up doors.	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	Okay	
d. Fire resisting elements	Okay	

Note: This facility is not included in Table 3 in the body of the main report. See Section 3.1.

	CF/A-603, Dispensary. Contact Point: Gary Godfrey, 6-2356	Mgr: Ren Smith, 6-1182
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Dispensary, multioffice, multiexam room.	
d. Is mission compatible with surrounding buildings	614	
2. Functional		
a. Shear walls	Okay	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	None	
d. Foundation condition	Supported floor	
e. Lighting	Okay	
f. Ventilation in place	Yes	
g. Any basement or supported floor	Yes	
3. Physical		
a. Length, height, width	Obtain from plans.	
b. Square footage	9,686 sq ft	
c. Known floor loadings limits	100 psf, small truck facility that has approx 250 psf	
d. Fire protection -visual	Yes	
e. Alarms in place - visual	No	
f. Radiation shielding	No	
g. Construction type/composition floor, walls, ceiling	CMU and temporary trailer adjoining building.	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	500 year flood plain	
b. Drainage	Good	
c. Roads access type	Good	
d. Entrance width	Two 4' doors, two personnel doors, and one roll-up door 10' x 12'h.	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	Yes	
d. Fire resisting elements	Yes	

Note: This facility is not included in Table 3 in the body of the main report. See Section 3.1.

	CFA-666. Contact Point: Battalion Chief, 6-4820	Mgr: Ren Smith, 6-1182
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Fire station	
d. Is mission compatible with surrounding buildings	664, Bus maintenance building	
2. Functional		
a. Shear walls	Okay	
b. Cracks in walls	Okay	
c. Stains or discoloration indications of water damage	Some are leaking, but have been repaired.	
d. Foundation condition	Slab on grade	
e. Lighting	Okay	
f. Ventilation in place	Steam heat	
g. Any basement or supported floor	No	
3. Physical		
a. Length, height, width	Obtain from plans.	
b. Square footage	11,706 sq ft	
c. Known floor loadings limits	50 psf in the office area. 1,000 psf in truck bays.	
d. Fire protection -visual	Yes	
e. Alarms in place - visual	No	
f. Radiation shielding	No	
g. Construction type/composition floor, walls, ceiling	Concrete masonry units	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	500 year flood	
b. Drainage	Good	
c. Roads access type	Good	
d. Entrance width	Two bays with two doors each (10'x 12'), six bays with 10'x 10' doors, and five personnel doors.	
e. Situation on site	Okay	
5. Life Line		
a. Electrical power	480 V	
b. Transportation	Okay	
c. Fire water delivery	Okay	
d. Fire resisting elements	Okay	

Note: Two separate battery rooms. Expected to be vacated, not used. This facility is not included in Table 3 in the body of the main report. See Section 3.1.

Date of visit 7/12/94	CPP 682, Chemical Plant, Contact Point: Judy Peters, 6-5673	Mgr: Stan Gearhardt, 6-3340
1. Administrative Considerations		
a. What planned upgrades are in place	None	
b. Will upgrades bring the building in compliance with code	None	
c. Mission (any competing activities current or future)	Lunchroom	
d. Is mission compatible with surrounding buildings	1637	
2. Functional		
a. Shear walls	Cross-ties	
b. Cracks in walls	None	
c. Stains or discoloration indications of water damage	None	
d. Foundation condition	Slab on grade	
e. Lighting	Okay	
f. Ventilation in place	Heated	
g. Any basement or supported floor	No	
3. Physical		
a. Length, height, width	40'x 12'x 32'	
b. Square footage	1,280	
c. Known floor loadings limits	Not posted	
d. Fire protection -visual	No	
e. Alarms in place - visual	No	
f. Radiation shielding	No	
g. Construction type/composition floor, walls, ceiling	Metal building with gypsum.	
4. Site Considerations		
a. General area (flood plain, river drainage, lava)	500 year flood	
b. Drainage	Drainage	
c. Roads access type	Gravel road about 250' to pavement.	
d. Entrance width	8 foot width, one roll-up door, one personnel door.	
e. Situation on site	Good	
5. Life Line		
a. Electrical power	120 V	
b. Transportation	Okay	
c. Fire water delivery	None	
d. Fire resisting elements	Gypsum	

Note: This facility is not included in Table 3 in the body of the main report. See Section 3.1.