

FY 2009 – 2018 TEN YEAR SITE PLAN (TYSP) APRIL 2008

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Date

NNSA Service Center

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Acronyms

CAS	Condition Assessment Survey
DOE	Department of Energy
ES&H	Environmental Safety and Health
FCI	Facility Condition Index
FY	Fiscal Year
GSA	General Services Administration
HQ	Headquarters
HVAC	Heating, Ventilation and Air Conditioning
MSSC	Maintenance Support Service 'Contractor
NNSA	National Nuclear Security Administration
SC	Service Center
TYSP	Ten Year Site Plan

EXECUTIVE SUMMARY

This Ten Year Site Plan (TYSP) defines the condition of the Service Center's (SC) facilities, identifies required infrastructure projects, and prioritizes the projects.

The basis for this plan is the Complex Support Department's (CSD) 2004 Infrastructure Condition Assessment Survey (CAS). Included in this survey is a condition rating of the SC buildings according to the Facility Condition Index (FCI), which is a comparative indicator of the condition of facilities expressed as a ratio of the cost of correcting maintenance deficiencies listed in the deferred maintenance backlog to the current replacement value. Of the thirty-one buildings included in this plan, five are categorized as *Good*, five are categorized as *Fair*, and twenty-one are categorized as *Poor*.

All projects identified by the Infrastructure CAS were consolidated and placed in the Prioritized Project Schedule. However, the SC has received congressional approval for a new leased facility scheduled for completion in Fiscal Year (FY) 2012.

The utilization of the facilities' space and infrastructure is nearing capacity of about 1200 employees. The complex currently houses 685 federal employees and 366 contractor employees, for a total of 1051.

INTRODUCTION

General

The Service Center (SC) Complex currently occupies approximately 339,000 gross square feet of building space (refer to Table 1). It is comprised primarily of office, administrative, security, maintenance, and storage space and conference rooms. The buildings are located in two general areas: the Main Complex and the South Campus that includes the Shandiin Child Development Center and the Warehouse (refer to Figure 1).

The SC recently received congressional approval for a new leased General Services Administration (GSA) facility scheduled for occupancy in FY 2012. Therefore, the SC's strategy is to minimize its facility costs over the next few years in anticipation of moving into built-to-suit leased spaces in 2012. As a result, many normal costs, plus any additional costs for upgrades, will be artificially constrained during this period. Once the SC moves to its new building, the annual costs will return to normal funding levels. SC officials are currently working on the requirements for the new building to house over 800 federal and contractor employees. With the exception of safety and security issues, over the next 3 ½ years, the SC will intentionally decrease the maintenance and run the older facilities' (20381-20385 and 20390) systems to failure. These older facilities are scheduled for demolition starting in FY 2013 (refer to Attachment E-1 and E-4a). Due to ongoing operational costs plus needed upgrades and renovations, leasing a new building will be a definite savings over historical maintenance and construction costs.

The five multi-story buildings (20381, 20382, 20383, 20384, and 20385) house approximately 487 or 44 percent of the work force population at the SC. The buildings are over 50 years old and were originally designed as military barracks. In 1997, they were identified as non-compliant in a seismic study (Holt and Associates, 1997) under the current seismic classification for the Albuquerque area. Those results were reiterated in the Infrastructure Condition Assessment Survey (CAS). The engineering analysis concluded that during a seismic event, structural damage posing danger to occupants could occur. Although seismic upgrade projects have been identified for the five buildings, there are no plans to complete these projects in anticipation of the new building.

Also located on the main complex are several newer buildings (20387, 20388, 20391, 20392, 20393, and 20397) ranging in age from 15 to 20 years old. These buildings are in good condition. The Shandiin building, 20401, is the newest building. It is thirteen years old and is in good condition.

The modular temporary structures (South Campus and Main Complex) were installed in the early 1980s and are in poor condition. Some improvements to the indoor air quality conditions have been made and will continue to be addressed as needed. These modular buildings require greater effort to maintain their Heating, Ventilating and Air Conditioning (HVAC) systems, and to repair leaking roofs and deteriorating walkways and offices.

Construction projects over the last six years have focused mainly on safety and health concerns associated with the site's infrastructure. A few minor renovations have been completed to improve employee work areas, including the renovations to accommodate employees relocated to the SC from Department of Energy's (DOE) Oakland, Nevada and Headquarters (HQ) sites. Other minor renovations include portions of buildings 20381, 20382, 20383, 20384, 20385, and Modular 12.

		Table 1: 200 Gross Square		Life	Age	Ť -	FCI	
Building	Use	Footage	Construction	(yrs.)	(yrs.)	FCI (%)	Condition	
20380	Administration	2,634	Steel/CMU	31	21	10	Good	
20381	General Office	34,058	Concrete/CMU	0	55	21	Poor	
20381A	General Office	14,284	Steel/Metal	38	14	11	Fair	
20382	General Office	34,874	Concrete/CMU	0	55	30	Poor	
20383	General Office	36,351	Concrete/CMU	0	55	20	Poor	
20384	General Office	33,270	Concrete/CMU	0	55	17	Poor	
20385	General Office	40,525	Concrete/CMU	0	55	17	Poor	
20386	Administration	6,119	Steel/Metal	22	30	15	Fair	
20387	Security	9,954	Steel/CMU	31	21	15	Fair	
20388	General Office	16,093	Steel/CMU	34 18		6	Good	
20389	General Office	9,380	Steel/Metal	0 55		21	Poor	
20390	Maintenance	5,513	Steel/CMU	13	39	22	Poor	
20391	General Office	14,939	Steel/Metal	33	19	11	Fair	
20392	General Office	17,286	Steel/CMU	35	17	9	Good	
20393	General Office	12,209	Steel/Metal	36	- 16	7	Good	
20397	Storage	8,690	CMU/CMU	36	16	11	Fair	
20398	Administration	287	Steel/CMU	37	15	30	Poor	
20401	Child Care	8,537	Steel/EIFS	41	13	7	Good	
Mods 1-4, 12,17,18	General Office	13,809	Steel/Metal	0	22	22	Poor	
SC1-SC6	General Office	20,197	20,197 Wood/Wood			22	Poor	
otal (31)	Total	339,009		4	21		F001	

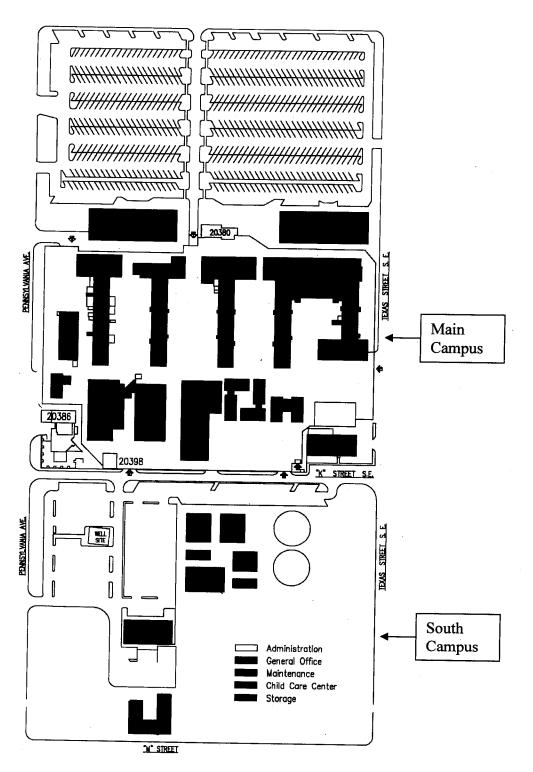


Figure 1: Service Center Site Map

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Energy Management System (EMS)

In FY 2002, the SC began addressing energy inefficiencies and high maintenance costs resulting from current HVAC systems by installing Building Automation and Control Network (BACNET™) based energy management systems in buildings 20381, 20381A, 20383, 20385, 20388, 20391, 20392 and 20393. BACNET™ is a data communication protocol for building automation and control networks. Additional HVAC construction upgrades have been done to Buildings 20381, 20382, 20383, 20384 and 20385.

The largest contributor to energy losses are windows. Four of the five multi-story facilities (20381, 20382, 20383, and 20384) have single-pane windows that are poorly sealed and greatly reduce the energy efficiency of those buildings. Although there are no plans to replace these windows with more efficient ones, approximately 48 severely broken windows were replaced in August 2006.

Environmental, Safety and Health (ES&H)

Historically, projects and maintenance activities at the SC have not required an Environmental Assessment or Environmental Impact Statement. Maintenance, construction, and custodial services are covered by an Umbrella Environmental Checklist (ECL) that is updated every two years. Activities not covered by the ECL require a separate National Environmental Protection Act (NEPA) review. There have been no such projects undertaken in the last several years that required additional NEPA review nor are there any anticipated.

Health concerns within the secure perimeter of the SC area are attributed to abatement and/or encapsulation of asbestos and the disturbance of lead based paint during construction and maintenance projects. Asbestos containing materials are still present in the older SC facilities and are located on mechanical, structural, and architectural systems. A limited asbestos survey was part of the CAS for buildings 20381, 20382, 20383, 20384, and 20385. Where records are incomplete, or the potential for asbestos or lead containing materials exists, sampling of the areas in question is conducted, followed by appropriate abatement of materials. Several buildings have had extensive abatement work completed, and abatement continues on a project-by-project basis.

Health concerns regarding indoor air quality have been and will continue to be addressed. Only Phase 1 of Buildings 20381, 20381A and all three phases of 20385 of the upgraded HVAC systems, have been completed. In anticipation of the new building, similar designs are no longer being considered for buildings 20382, 20383, and 20384, and remaining Phases for 20381 and 20381A.

Electrical safety issues have been identified in the CAS and a project to correct a portion of the site-wide electrical deficiencies have been completed. In August 2005, Gamblin-Rodgers Electrical Safety Contractors Inc. performed an electrical distribution evaluation including an infrared survey. Major electrical safety problems have been corrected but many minor electrical safety deficiencies are addressed by the Maintenance Support Service Contractor (MSSC).

PLANNING AND FACILITY CONDITION

Planning Process

In November 2005, the final version of the CAS was completed which utilized Uniformat II (ASTM 31557-97) for building element classification. RS MeansTM data and methods were used for all project costing. Replacement values were calculated based on an estimating method in which building functionality, standard overhead, and location in a secure compound were all considered. Included in the CAS is a condition rating of the buildings according to the FCI. An FCI of 10 percent or less is categorized as Good, 11-15 percent is Fair, and values greater than 15 percent are Poor. The building's FCI information, along with other general information, is located in Building Data (refer to Table 1).

The CAS identified two discrete sets of data: 1) infrastructure deficiencies/observations and 2) system, structures, and components life-cycle baseline scenarios. The items identified are consolidated and projects prioritized for the remainder of the planning period.

Facilities and Infrastructure Overview

As mentioned above, the CAS included a condition rating of the buildings according to the FCI. The FCI summary information, along with other general information, is located in the Building Data (refer to Table 1). As noted, the buildings are categorized as *Good, Fair*, and *Poer*.

Utilization

The utilization of the facilities space and infrastructure is nearing capacity. The SC Complex has 685 federal employees and 366 contractor employees as reported in the NNSA SC "Who's Where" Database. These numbers show that the site is close to reaching its capacity of approximately 1200 employees. The age and physical condition of the older multi-story buildings makes space utilization significantly inefficient and interior renovations complex and costly.

Maintenance

Although significant funds could be spent on the maintenance of the older facilities (20381-20385 and 20390) that are scheduled to be demolished starting in FY 2013, the SC will provide only safety and security maintenance projects due to the new SC building. All other buildings (20380, 20386-20389, and 20391-20401) will be appropriately maintained over the next 3 ½ years (please refer to Attachment A-5).

Utilities

Utilities that service the complex are capable of meeting the existing facilities' needs; however, there is little or no capability for future expansion of these systems.

Water Distribution System

Although many of the water lines are over 50 years old, the current capacity is expected to meet future requirements; however, it is anticipated that portions of the main water system will need to be replaced as failures occur.

The current water pressure was increased from 65 to 100 psi by Kirtland Air Force Base in 2002. The increase has caused strain on the site's lines and valves. As a result of increased water pressure, various pressure pipelines, regulators, flush-meters, and backflow prevention devices have been replaced.

A site-wide Cross Connection Control Survey (Viking II, 2005) was conducted as part of the FY 2004 Life Safety projects and was completed in January 2005. As a result, the MSSC has completed many of the items identified in the survey to ensure proper Back Flow Prevention. Other corrections are prudent but will not be addressed.

Sewer System

The existing sewer system is adequate and meets projected needs. Many of the sewer lines are over 50 years old and will need to be updated as failures occur. Repairs to several indoor sanitary sewer branches were completed within the past thirteen years and recently inspected lines are sound; however, it is anticipated the portions of the sewer lines will need to be replaced as failures occur.

Gas Distribution System

New gas meters were installed in FY 2002 to serve the complex. The major gas distribution lines are in good condition, while the buried branch lines feeding buildings off the main gas line are in fair condition. Several of these branch lines were added during the installation of the new gas-fired hot water boilers in FY 1998.

Electrical System

The electrical distribution system is at capacity and there are no plans to expand it.

In FY 2002, electrical meters were installed throughout the site in order to monitor consumption and verify monthly electric statements. Recent renovation and replacement (as noted in the ES&H section of this document) have provided some needed upgrades.

The MSSC performed a site-wide electrical analysis (Gamblin-Rodgers, 2005). Every site electrical panel was examined to identify and catalog electrical hazards. The deficiencies were addressed in FY 2006 and corrected in FY 2007 as part of the site electrical projects and will continue to be addressed through FY 2008.

The FY07 Arc Flash Analysis Project was conducted in order to identify, catalog, analyze, label and provide information for all electrical distribution panels and equipment throughout the SC Complex. The project has enhanced all safety aspects of conducting maintenance and repairs on all electrical equipment and components.

REFERENCES

- 1. Lopez Engineering Inc. (2004) Infrastructure Condition Assessment Survey and Analysis. NNSA Service Center and Energy Training Center.
- 2. Who's Where Database. Spreadsheets and Drawings. NNSA Service Center
- 3. Randy Holt and Associates Inc. (1997) Seismic Building Analysis. NNSA Service Center.
- 4. Gamblin-Rodgers Electrical Contractors Inc. (2005) *Electrical System Analysis*. NNSA Service Center.
- 5. Viking II Inc. (2005) Cross-Connection Control Survey and Backflow Preventer Testing Information
- 6. FY 2008-2018 TYSP Guidance

APPENDIX

Table A-2: Attachment A-5 - Other Facilities and Infrastructure Cost Projection Spreadsheet

Table A-3: Attachment E-1 – Facilities Disposition Plan

Table-A-4: Attachement E-4(a) - Footprint Tracking Summary Spreadsheet

\$3,072 \$3,072 (24) FY 2018 \$2,925 \$2,925 (50)**FY 2017** \$2,786 (6L) \$2,786 FY 2016 \$2,653 \$2,653 (8 L) FY 2015 ,527 (11) \$2,527 上人 2014 \$2, \$2,406 406 (91) **EX 2013 EXN2b** \$2 \$1,475 \$1,475 (15) EX 2012 FYNSP Other Facilities and Infrastructure Cost Projection Spreadsheet For NNSA Service Center Site (\$000s) (11) \$150 \$150 EX 2011 EXNSE (13) \$150 20 FY 2009-2018 Ten Year Site Plan Attachment A-5 **EX 2010 EXN2P** ₽ (15) \$150 \$150 **EA 2009 EANSE** (11) \$750 \$150 \$930 \$30 **EX 2008** (10) 下Y 2007 (6) Prior Years' Funding (8) ΰ Total Non-NNSA Facilities and Infrastructure Cost Projection Spreadsheet (Program D) Non-NNSA Facilities and Infrastructure Cost Projection Spreadsheet (Program NNSA Facilities and Infrastructure Cost Projection Spreadsheet (Program B) (4) TOTAL NNSA Facilities and Infrastructure Cost Projection Spreadsheet (Program Program A (facilities & infrastructure reported under this category) TOTAL В Program B (facilities & infrastructure reported under this category) TOTAL 8 9 Program C (facilities & infrastructure reported under this category) Program D (facilities & infrastructure reported under this category) TOTAL Funding Type (9) 0 GSF Added or Eliminated 0 0 (2) Reduction 0 0 0 Deferred Maintenance (4a) Mission Dependency Program (4) Mission Dependency 0 2 2 (8) Project Number Fire Alarm Panel Upgrade Bldgs. Safety Deficiency Project Removal Of Modular Bldgs. Roof Replacement Demolition of 7 SC (Z) Project Name (1) ETC. ETC. ETC. Priority က 4 ETC. S

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		\$1,4/5	200,1	502,16	\$2,527	\$2,653	\$2,786	\$2,925	\$3,072	\$17,844
r defs)	2012	2012	2013		4102	2015	2016	2017	2018	
enter Site Plar 1 n Plan	2012	2012	2012	2042	2012	2012	2012	2012	2012	
NNSA Service Center 109-2018 Ten Year Site Attachment E-1 cilities Disposition Pla NSP/Outyear Planning	34.006	34,058	14,284	34 874	5	36,351	33,270	40,525	5,513	198,875
NNSA Service Center FY 2009-2018 Ten Year Site Plan Attachment E-1 Facilities Disposition Plan							-			
FY; Within F										
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	SC 1-6, Mods 1-4, 12, 17-18	Bldg 20381	Bldg 20381A	Bldg 20382	Rida 20383	COCOT FIG	Diug 20364	Bldg 20385	Bldg 20390	
	All modular Bldgs.		20381A	20382	20383	20384	1000	20363	20390	
	PD	PD	PD	8	PD	<u> </u>	2 6	2 6	Total	

Note: Sum/total the applicable Mission Dependency Program categories (associated with Weapons Activity appropriation) listed in Attachment E-1 for each of fiscal years FY 2006-2018 and report in Attachment E-1 for each of

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	NNSA Leased Space (01)												311,387	311,387	311,387	311,387	311,387	311,387	311,387
	MASA Site Total (Pag) Ashint (9s) (9)	305 450	393,438	393,458	395,458	395,458	395,458	339,009	339,009	339,009	339,009	339,009	198,875	150,533	115,659	79,308	46,038	5,513	0
	Cumulative "Grandfathered" Footprint Added (gaf) (8a)				0 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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NNSA Service Center FY 2009-2018 Ten Year Site Plan Attachment E-4(a) NT TRACKING SUMMARY SPRE/	Footprint "Banked" (gsf)	0	0	-					5 6	2	5 6	0	0	0	0 6	0		0 (0
TPRII	Site Footprint Reduction by FY (gsf) (5)	395,458	395,458	395,458	395,458	305,458	451 907	339,000	600,650	330,000	330,000	339,009	9479,143	247,217	185,407	112,010	96,562	44 626	11,026
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	Excess Facilities Footprint Elimination (gef) (3)	0	0	0	0	0	56,449	0	C	0	0	140 134	48 342	34 874	36.351	33.270	40,525	5.513	2
	Beginning Site Footprint (gsf) (2)	395,458	395,458	395,458	395,458	395,458	395,458	339,009	339,009	339,009	339,009	339,009	198.875	150.533	115,659	79,308	46,038	5.513	
	Fiscal Year (1)	FY 2002 Actual	FY 2003 Actual	FY 2004 Actual	FY 2005 Actual	FY 2006 Actual	FY 2007 (Actual)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	