FY2007
Kansas City Plant
Ten-Year Site Plan

Overview

The Kansas City Plant (KCP), including property, facilities, equipment and people located in Missouri, New Mexico, and Arkansas, is a NNSA national security asset. The plant produces, maintains, and ensures the safety and reliability of 85 percent of all nonnuclear components in the nuclear weapons stockpile. Current employment is approximately 3,000 people.

The KCP is dedicated to Stockpile Stewardship and supporting missions. With a planned significant increase in workload due to the Life Extension Programs (LEPs), the KCP must be more efficient, more agile, and more responsive. The KCP must be especially able to ensure manufacturing readiness to support LEP requirements as well as supporting any urgent national security needs.

The KCP is currently meeting all of its stated mission requirements. The facilities, utilities, site services, equipment, and personnel are considered suitable for the NNSA-assigned mission. Over the next decade, planned LEPs will drive a significant increase in workload. Outsourcing plans are being developed to support this increase in workload without increasing headcount. Manufacturing capability and capacity, including critical skills, are in place to support this increase. Critical skill positions are being maintained at 99 percent occupancy. The KCP continues working to diversify the customer base. Product quality remains excellent with a total of 99.9 percent of product shipped on schedule. The KCP site condition assessment continues to benefit the infrastructure sustainment management process. The Facilities Infrastructure Recapitalization Program (FIRP) continues to be used to buy down the FY2003 deferred maintenance backlog while Readiness in Technical Base and Facilities (RTBF) remains inadequate to prevent new deferred maintenance growth. Reduction of the FY2003 baseline deferred maintenance and intelligent management to limit new deferred maintenance growth remains a focus for the KCP.

The KCP is committed to expanding our national security support to include not only DOE customers, but also the Department of Defense (DoD), other federal agencies, commercial industry, universities and others. This includes customers, skills, intellectual property and technology. This strategy allows the NNSA to share the base cost of operating the plant with other agencies, thus reducing the cost of products and services provided to the NNSA. The KCP benefits by being able to provide a challenging workload and cutting-edge technologies to the nation’s brightest and most innovative manufacturing minds. The opportunity to work with cutting-edge technologies draws both young talent and experienced professionals. This is critical in retaining and maintaining our widely respected contemporary manufacturing technologies and solutions.

The Ten-Year Site Plan (TYSP) provides information to ensure an understanding of each site’s current and future facilities and infrastructure needs. The TYSP incorporates the programs’ technical requirements, performance measures, and budget and cost projections within the Future-Years Nuclear Security Program (FYNSP) funding constraints. This FY2007 TYSP
provides updated cost projection spreadsheets and other pertinent changes since submittal of the FY2006 TYCSP on September 30, 2005. The TYSP includes projects to sustain the production infrastructure and to ensure the vitality and readiness of the KCP and Kirtland Operations (KO). It includes projects for production, utility systems, office infrastructure, and security. The plan defines needs for FY2007 through FY2016 based on mission and workload estimates and on projected advancements in technologies and applications. These cost projections reflect a balanced approach by the KCP in support of NNSA’s Strategic Plan.

**Future Strategies**

The KCP is aggressively evaluating transformation options in consideration of the goals from responsive infrastructure leadership at NNSA-HQ, which includes the recommendations of the SEAB task force report released in the fall of 2005. These transformation scenarios all seek to reduce the necessary footprint and the fixed costs of sustaining the nonnuclear manufacturing mission. In doing so, it is also necessary to meet the prerequisite requirements of maintaining the enduring stockpile and improving response time and adaptability under the responsive infrastructure charter. The transformation options being considered include several different options that could be completed on a timeline to support qualification of the Reliable Replacement Warhead (RRW) program.

The KCP is currently performing a detailed analysis of potential outsourcing strategies to significantly reduce both footprint and overhead costs. This analysis seeks to build on a preliminary (2005) outsourcing plan originally targeted to support increased LEP workload without increasing headcount. Pending this analysis, some RTBF, FIRP and GPP projects may be placed on hold to allow determination of their validity in conjunction with these potential outsourcing and downsizing actions. Ultimately, these outsourcing and downsizing actions would decrease sustainment costs.

Implementation of responsive infrastructure strategies is expected to have a major impact on future TYSPs, specifically in the areas of the Technology Roadmap, RTBF, FIRP, and construction line items. It is premature to forecast the impact of those effects in the stated categories; therefore, there have not been major changes to this FY2007 TYSP submittal.

**Assumptions**

This TYSP follows the FY2007 Ten-Year Site Plan Guidance provided by the NNSA in February 2006. Information presented in this plan depends on the following key assumptions:

- **Budget Constraints**: The NNSA Facilities and Infrastructure Cost Projections (Attachments A-3 and A-4) adhere to the budget targets established in the FYNSP. In addition, the data presented in Attachment A-1, Line Item Projects for the KCP, conform to the budget targets provided in the Integrated Construction Program Plan (ICPP), with exceptions, as noted to show proposed line items in Attachment A-2. Descriptions and photographs of proposed line item projects are included in Attachment LI.

- **Kirtland Operations**: Kirtland Operations will be consolidated along with the Office of Secure Transportation (OST) within the Albuquerque Transportation & Technology Center (ATTC) to be constructed by the GSA with completion in FY2009. OST will report in its TYSP total
ATTC leased space, estimated at 350,000 gross square feet, of which KO will occupy approximately 175,000 gross square feet. KO will vacate the Craddock and Air Park leased properties. This change is reflected in the KO Attachment E-4(a). KO may also propose for the NNSA to retain all or part of the permitted NC-135 property on Kirtland Air Force Base (KAFB). This, if needed, would provide for NNSA emergency response due to its proximity to the KAFB runway. In addition, the area would be used for other support tasking and to support fully funded Work For Others (WFO). KO will re-evaluate operations at the NC-135 Area for those which are to remain there should mission requirements change. Funding for demolition of the NC-135 facilities is included in Attachment A-3, should this be required. KAFB land-use permit implications will be addressed when determining factors are known.

Changes from Prior Year TYSP

As stated in the Assumptions, line item construction projects are consistent with the latest NNSA ICPP, with exceptions as noted to show proposed line items. A new proposed line item project has been added since the FY2006 TYCSP submittal. This is for construction funding of the Replace Main Switchgear project. Project Engineering and Design funding (PE & D) for this project is in the current ICPP and has been received. However, it now appears that project construction will not be supported in FY2007. Because this project is still needed at the KCP, it is being resubmitted as a proposed FIRP line item in Attachment A-2.

The line item project to provide nonnuclear support for modern pit manufacturing has been removed from Attachment A-2, Proposed Line Item Projects table. Congressional decisions associated with the Modern Pit Facility (MPF) places LANL with increased responsibility for pit manufacturing. The need still exists for the KCP to supply nonnuclear parts, tooling and gages for pit manufacturing at LANL. The quantities and types of pits have been reduced from the original requirements. This in turn reduces the volume of tools, gages and other nonnuclear parts that will be required. These pit workload changes have a direct effect on the KCP project as it is currently proposed. Therefore, when the pit manufacturing and planning requirements are further refined, the scope, cost and funding profile previously shown in Attachment A-2 and the Project Information Sheet for this project will be updated and resubmitted in a future TYSP.

In addition to the above changes, compliance with the recently enacted DOE 10 CFR Part 851 Worker Safety and Health Program; Final Rule, which becomes effective February 9, 2007, creates uncertainties around legacy facility infrastructure needs. A compliance gap analysis is in progress. There may be projects already on record that will address some of the findings of this analysis. Working with KCSO, equivalencies or variances will be requested and projects will be prepared as needed to address issues identified.

Another project under consideration is one for upgrading the plant emergency lighting system. This project will replace existing emergency lights with modern lighting and battery technology systems to sufficiently illuminate all areas of the plant and significantly reduce preventative and corrective maintenance costs. This project is being formulated and is under evaluation. As a result, a project priority and funding profile will be determined for its inclusion in a future TYSP.
Discussion of Attachments A, E, F

The NNSA Facilities and Infrastructure Cost Projections, provided as Attachment A, adhere to the budget targets established in the FYNSP. In addition, the data presented in Attachment A-1, Line Item Cost Projections, conforms to the budget targets provided in the ICPP, dated March 23, 2005 and the FY2007 Presidents Budget with changes incorporated as directed by NNSA. The Consolidate and Renovate Computing Facilities project is shown in this table since the CD-0 for it has been received. This was the number one proposed LI project last two years. Under the current ICPP and the FY2007 Presidents Budget, the KCP has been authorized to receive funding in FY2007 through FY2011. Because of the requirement to achieve Critical Decision (CD)-2 and Energy Systems and Advisory Board (ESAAB) review prior to submission of the budget to start construction; the ICPP can be revised to defer $5M from FY2008 to FY2009. This would decrease the FY2008 to $0 and increase the FY2009 funding to $10M. The Replace Main Switchgear FIRP Line Item is also shown in this Attachment since it is in the current ICPP with P & D funding received in FY2006.

Attachment A-2, Proposed Line Item Cost Projections identifies proposed line items that are not included in the current ICPP. The Proposed Line Item Construction Project Information Sheets for each of these follow Attachment A-2. The number one priority proposed line item project is Facilities and Equipment For Responsive Manufacturing. The new line item for construction funding for the Replace Main Switchgear project is also shown.

The KCP is generally in good condition and continues to support the NWC mission. The RTBF funded projects ensure the right facilities and infrastructure are in place to operate the physical infrastructure and facilities in a safe, secure, reliable and “ready for operations” manner. RTBF includes purchase of general-purpose equipment, minor expense funded projects, and those general plant projects (GPP) that are required to upgrade areas, enhance operations, or improve safety and health. RTBF projects are identified in Attachment A-3, RTBF/Operations of Facilities (excludes line items).

FIRP funding has been received the last several years and has been used to address high priority infrastructure projects and reduce the deferred maintenance (DM) backlog, as outlined in the FY2003 baseline. FIRP projects must also adhere to the FYNSP funding levels, and current infrastructure needs exceed the projected FIRP budget, as a result of the recent FYNSP reductions. Also included in the latest ICPP is design funding for the Replace Main Switchgear FIRP Line Item. Remaining FIRP projects are included in the cost projection in Attachment A-4.

Attachment A-5 shows “Other Facilities and Infrastructure Projects” at the KCP. The projects listed are part of the EM Program and are shown in this table, since there is no other applicable funding source for them.

Attachment A-6b identifies FY2007 and FY2008 unfunded security infrastructure projects. There are no funded security infrastructure projects; therefore, Attachment A-6a is not applicable.

The Physical Security Upgrades project is needed to upgrade existing nonstandard storage areas to vault-type rooms to meet DOE M 470-4-2 Physical Protection requirements for classified matter storage. This project has been included in the budget and the TYCSP for the past several
years and continues to be unfunded. The KCP is currently conducting a project to identify scope and costs as well as an assessment of risk based on design of upgrades. With this data, NNSA will conduct cost benefit analyses on the 54 areas in order that a risk based decision can be made by NNSA to either fund technical upgrades or accept the risk of the areas as is. The current cost to make the 54 non-standard storage areas into vault-type rooms is estimated at $1M each year for ten years. While the risk assessments and cost benefit analyses are in process, four exceptions requests to DOE M 470.4-2 are being sent to NNSA Headquarters for approval and acceptance of risk. If this risk is accepted by the NNSA, then funding for the Physical Security Upgrades from the Security Infrastructure Program will not be needed.

Per the TYSP Guidance, the KCP has been directed to reserve five percent of the physical security operating budget for FY2007 and seven percent for FY2008 projects to support these unfunded projects. The FY2007 authorized funding for physical security operations is five percent lower than FY2006, which has already impacted protective force armed status, workforce hours, post operating hours, and numbers of open security posts resulting from major cuts in the FY2006 budget. Using FY2007 operational funds to execute unfunded infrastructure projects would require a reduction in security staffing and non-compliance to DOE orders. In addition, KCP security infrastructure planning does not contain projects to warrant the strategy to reserve five percent of budget funds. For these reasons, the funding strategy outlined in the TYSP Guidance for Security Infrastructure is not recommended.

The KCP will continue working with NNSA-HQ to resolve the funding issues based upon the results from risk assessments, cost-benefit analyses, and approved DOE order exceptions.

Attachment A-7, Other Facilities and Infrastructure Recapitalization Program Projects, includes facilities and infrastructure projects for deferred maintenance deficiencies that comprise their FY2003 deferred maintenance baseline as well as deferred maintenance identified in FY2004. This unconstrained prioritized list of projects, selected from the approved Congressional lists, addresses deferred maintenance identified in FY2003 and FY2004.

Attachment E provides a report of the total space footprint managed at the KCP and KO sites. Beginning this year, Attachment E-6 has been added to report the leased space at the KCP and KO sites. For both sites, leased space has always been included in the “Beginning Site Footprint” columns of Attachment E-4. For the KCP Attachment E-1, two entries (Replace Main Switchgear and Specialty Materials Production Facility) have been removed, because they do not qualify for inclusion per current guidance. In addition, floorspace D&D and demolition for the Return of GSA Leased Space projects have been marked as not applicable, since the space is being returned to the GSA and will not require demolition. The Specialty Materials Production Facility has also been removed from the KCP Attachment E-2. Entries on Attachment E-4(a) have been revised to reflect the above changes.

Attachment F tables have been updated to show the current Deferred Maintenance projections. Attachment F-6 has been added to show the total site Facility Condition Index.

The project priorities and fiscal-year needs shown in the Attachments reflect the current KCP position for continuing support of its DP mission assignments. It also ensures that the infrastructure of the KCP is responsive and has the components in place to quickly react and respond to a broad range of contingencies as necessary in today’s changing security environment.
Due to past funding constraints, the KCP has worked to balance production and infrastructure. This spending approach focuses on the short-term by repairing, maintaining, or replacing equipment and infrastructure most likely to cause major production failures. In general, this asset management strategy has been successful. A total of 99.9 percent of product is shipped on schedule from a plant infrastructure that is safe and provides required capability and capacity. There have been no major production problems. However, limited funding has constrained plant infrastructure activities and the ability to recapitalize assets when system life expectancies are exceeded. This condition has led to a DM backlog. The backlog is composed of unfunded infrastructure projects that are past their need date such as utility piping systems, air-handling systems, roofing, and elevators. In addition, constrained RTBF FYNSP funding limits the KCP’s ability to address infrastructure needs, creating potential future DM.

Even though funding has been sufficient for traditional predictive, preventive and corrective maintenance, funding has not been sufficient in recent years to accomplish recapitalization and replacement-in-kind, thus creating the deferred maintenance backlog. Funding required to recapitalize and sustain the facilities infrastructure is forecast by fiscal year over the TYSP period and ranges from approximately $15-$25 million per year. The sustainment forecast is consistent with protecting the long-term viability of current production capabilities to support mission assignments. The FY2006 funding shortfall for recapitalization of facilities infrastructure is estimated at approximately $11.2 million.

The FIRP program is very successful in buying down the FY2003 Deferred Maintenance Baseline. The FY2003 Deferred Maintenance Baseline has been reduced to approximately $66 million at the end of FY2005, down from the original baseline of $89.5 million in FY2003 and the previous high of approximately $131 million in FY2001 (Facility Condition Index was 8.3 percent in FY2001). The current deferred maintenance forecast, including DM growth not included in the FY2003 baseline, has stabilized at approximately $98 million for a forecasted FY2006 FCI of 5.82 percent compared to the FY2009 goal of 5 percent for mission essential facilities.

**Maintenance and Deferred Maintenance Deviations**

The KCP will not meet the NNSA Corporate Goal of a 5% FCI and the maintenance funding expectation of 2-4% RPV for FY2006. Therefore, the KCP has requested fiscal year waivers for these goals as explained in the following respective discussions.

The NNSA Corporate Goals for Deferred Maintenance include returning facility conditions, for mission essential facilities and infrastructure, to an assessment level of good to excellent (Facilities Condition Index equals Deferred Maintenance (DM) divided by Replacement Plant Value of less than five percent) by the end of FY2009.

The KCP has developed a comprehensive approach and planning strategy to manage DM. The process of forecasting infrastructure requirements and the planning of maintenance activities are fully integrated across all budgeting and planning processes to ensure available resources are properly aligned with needs. The KCP is committed to focusing on DM reduction and has effectively applied funding from several different sources towards reducing FY2003 DM baseline. The success of this focus and planning process is evidenced by the reduction of the DM baseline from $89.5 million at the end of FY2003 to $67 million by FY2005 with a forecast of $28 million in FY2009.
Based on the NNSA FYNSP numbers in the FY2005 TYCSP, there was projected to be $95.3 million in FIRP funding received from FY2005-FY2009. With this funding profile, the KCP forecasted a reduction in the site mission essential DM, as expressed by the site FCI, from 5.69 percent in FY2005 to 3.75 percent in FY2009. This would have met and well exceeded the Corporate Goal of five percent. Recent FIRP budget cuts, however, have negatively impacted the KCP’s ability to achieve the FY2009 goal. The FIRP FYNSP from FY2005-FY2009 being reported in this FY2007 TYSP totals approximately $76 million. This 20 percent funding reduction, coupled with the inability of the KCP to recover the shortfall from other funding sources, has resulted in a forecasted FCI of 5.50 percent for FY2009. This DM level is considered manageable, but does not meet the FY2009 goal.

The KCP continues to focus available resources towards infrastructure requirements in an effort to maintain and reduce the DM backlog. In addition, the site is currently reviewing the DM backlog, RPV, mission essential / non-mission essential classifications, and infrastructure requirements forecast in preparation for the FY2008 TYSP. The review and possible adjustment of these factors may impact the DM forecast. The KCP is also working with NNSA to develop a more comprehensive approach for Responsive Infrastructure.

The KCP has submitted a request for approval of a deviation from the FY2009 five percent FCI corporate goal for FY2006. A permanent request, if required, will be submitted after the current comprehensive planning effort has been completed.

The NNSA NA-10 expectation is that annual maintenance funding should be at least at the minimum industry standard level of 2-4% of Replacement Plant Value (RPV) at each NWC site. The KCP is generally well maintained and in good condition and continues to support all missions with quality products shipped on schedule. The overall maintenance funding level, when including RTBF maintenance projects, is projected to be 1.9 percent of the KCP mission-essential RPV for FY2006. This level of funding is sufficient for traditional predictive, preventive and corrective maintenance to adequately maintain the plant and to protect and extend the useful service life of NNSA equipment and assets. At the same time, funding has not been sufficient to accomplish long-term recapitalization and replacement-in-kind. Funding required to recapitalize and sustain the facilities infrastructure, ranges between $15 and $25 million per year consistent with previous TYSP submittals.

Options, that would increase funding of maintenance of facilities and infrastructure, using DSW program and Campaign funds, were provided in the FY2006 TYCSP as requested in the July 18, 2005 memo, with the subject, “Maintenance of the National Nuclear Security Administration (NNSA) Facilities and Infrastructure.” Full implementation of these options is not recommended due to the associated impact on programs and campaigns.

The KCP is committed to balancing the available funding between production and infrastructure needs in support of the NNSA mission and maximizing the efficiency of resources applied to infrastructure requirements. The KCP is currently reviewing the Deferred Maintenance (DM) backlog, RPV, mission essential / non-mission essential classifications, and infrastructure requirements forecast in preparation for the FY2008 TYSP. The review and possible adjustment of these factors may impact the maintenance funding percentages.
The KCP has submitted a request for waiver from the NA-10 expectation that maintenance funding should be at a minimum of two percent of RPV.