ARGONNE NATIONAL LABORATORY - IDAHO

P.O. Box 2528, Idaho Falls, Idaho 83403-2528 Telephone: (208) 533-7004

August 26, 2003

Mr. Owen W. Lowe
Office of Nuclear Energy
Department of Energy
19901 Germantown Road
Germantown, MD 20874

SUBJECT: **FY 2003 – FY 2010 ANL-WEST PLANT ASSETS MANAGEMENT PLAN**

Dear Mr. Lowe:

Enclosed is the FY 2004 – FY 2010 ANL-W Plant Assets Management Plan (PAMP). The planning baseline reflects the FY 2004 Congressional Budget request of $48K GPP/GPE funding for ANL-W. ANL-W is planning to use this money to perform urgent corrective maintenance on the Steam and Condensate System. This PAMP contains detailed descriptions of the risk-ranked asset needs and target funding profiles for the top twenty-four GPP/GPE items totaling $11.3M and the two line items totaling $94M.

The complete prioritized listing of ANL-W infrastructure asset needs is available from the ANL-W Asset Management and Infrastructure Prioritization system and presently contains 183 GPP/GPE items totaling $24M.

If supplemental GPP/GPE funding is provided in FY 2004, ANL-W will review and revise this Plan based on the available funding level and the highest priority projects identified.

If you have any questions, please call me at (208) 533-7004.

Sincerely,

Calvin Ozaki

Calvin B. Ozaki
Infrastructure Program Director

CBO/DRF:pmh

Attachment

cc: M. M. Holzmer, AAO-W
D. R. Funk, NE-40
O. W. Lowe, NE-70
S. W. Sorrell, AAO-W
R. C. Wunderlich, DOE-CH

ec: R. W. Benedict
D. C. Crawford
R. A. Evans
D. R. Fringley
D. R. Funk, NE-40
K. M. Goff
S. P. Henslee
M. M. Holzmer, AAO-W
M. F. Janeczko
S. G. Johnson
G. C. Marshall
H. F. McFarlane
R. D. Phipps
H. P. Planchon
D. L. Porter
J. R. Price
J. I. Sackett
S. W. Sorrell, AAO-W
D. A. Tate
E. G. Tourigny, DOE-NE
R. C. Wunderlich, DOE-CH

ARGONNE NATIONAL LABORATORY - WEST

PLANT ASSET MANAGEMENT PLAN

FY 2004 – FY 2010

August 2003

Prepared and submitted by:

Infrastructure Program Director

August 26, 2003

Date

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EXECUTIVE SUMMARY

The Argonne National Laboratory–West (ANL-W) *Plant Assets Management Plan* documents the Laboratory's visions for its 21st Century scientific missions and for the supporting infrastructure at the Idaho site. The Laboratory's overall scientific missions in energy supply and research are well suited to the ANL-W site and are significant drivers for the necessary site infrastructure to support these mission areas. Accommodation of 21st century scientific research methods, technologies, and patterns of investigation necessary to foster the required interdisciplinary and collaborative work processes provides the greatest challenge to modernization at ANL-W. This plan identifies the existing conditions of the ANL-W infrastructure, provides a plan for rehabilitation and modernization, and details the resources required to achieve the vision of ANL-W and the Office of Nuclear Energy.

The physical setting at ANL-W is relatively unencumbered by serious environmental or contamination legacies and has available land and utilities to support mission adaptation and developmental change. The biggest challenge for ANL-W is reshaping and rehabilitating the existing facility infrastructure to meet the needs of emerging scientific missions, communications, and security technologies and maintaining it in a mission-ready condition. Additional requirements for upgrading the infrastructure include: compliance with today's standards of environmental performance and safety, continued remediation and monitoring of past operations, and the addition of key general-purpose facilities. Any new facilities will be built within the existing site perimeter fence, which will help minimize changes to the ANL-W site and reduce costs.

To begin to achieve this vision, ANL-W projects a need of $24M between FY 2004 and FY 2010 to fund General Plant Project (GPP) and General Purpose Equipment (GPE) activities. $11.3M is needed to fund the top twenty-four priority activities covered by this Plan. ANL-W also needs, at a minimum, $13.9M per year for essential maintenance of real property, which is currently included as the maintenance portion of our FY 2004 Infrastructure Congressional Budget of $31.1M. An additional $5.4M per year in maintenance funding would be needed to attain a "mission-ready" status, and is currently not funded.

With this funding commitment, a reliable, efficient, safe and environmentally sound infrastructure will reduce operating costs and result in improved scientific productivity. However, without this level of funding commitment, serious consequences to future scientific missions at ANL-W will occur. The Laboratory's capability to perform world-class, cost-effective research will continue to degrade and the rate of deterioration will continue to rise, thus increasing corrective maintenance costs.

In addition, ANL-W requires approximately $94 M in new Line Item funding during this planning period for the construction of: 1) the Remote Treatment Project (RTP) Facility needed to segregate, characterize, treat, package, and ship remote-handled mixed transuranic wastes that were generated by DOE missions conducted at ANL-W since 1965 and 2) a new multi-program office building to replace eight "temporary" office buildings.

PREFACE

A modern, effective, and efficient physical infrastructure is critical to maintaining the capability of the Department of Energy (DOE) Office of Nuclear Energy, Science and Technology's (NE) Program laboratories to promote safe, secure, and environmentally responsible nuclear technologies to serve the present and future energy needs of the country. To better address infrastructure needs in support of the DOE-NE missions, DOE-NE has requested ANL-W to develop and submit a *Plant Assets Management Plan* (hereafter "the Plan").

This document, the *Argonne National Laboratory – West (ANL-W) Plant Assets Management Plan (PAMP)*, identifies the infrastructure physical asset needs and resources required to support present DOE-NE missions and programs.

ANL-W is co-authoring the first *Idaho National Laboratory (INL) Ten year Comprehensive Site Plan* covering the planning period FY 2004 – 2013. The INL will be comprised of the former Idaho National Engineering and Environmental Laboratory and Argonne National Laboratory-West starting in FY 2005. This new plan identifies the infrastructure needs necessary to facilitate advancement of the INL assigned missions. The objective of the plan is to provide the foundation for strategic planning and the cornerstone of the programs initiative to restore, revitalize and rebuild the laboratory.

I. MISSION OF THE LABORATORY

The University of Chicago operates Argonne National Laboratory-West (ANL-W) for the U.S. Department of Energy (DOE). To accomplish its current mission for the Department and the nation, ANL-W continually strives to advance the frontiers of science and to use its leading-edge capabilities in science and engineering to provide quality solutions for sponsors and stakeholders. In these efforts, the Laboratory often works closely with other DOE laboratories and industrial partners so that the full capabilities of the DOE Laboratory system are brought to bear on priority problems in science and technology.

II. INFRASTRUCTURE VISION AND GOALS

A. Infrastructure Vision:

The ANL-W site will support world-class, technology-focused research, development, and demonstration. This will be accomplished by providing reliable, efficient, and cost-effective facilities that are safe and environmentally sound, and generally stimulate creativity and high productivity. The three major goals described below support ANL-W's vision for the future.

B. Infrastructure Goals

The three major goals of the Infrastructure Program are to:

1. Achieve Excellence in Environment, Safety, and Health Compliance

ANL-W is fully committed to providing a safe and secure environment for all its employees and visitors and to providing public protection. ANL-W actively complies with federal, state and local regulations, and DOE's orders and policies in ongoing scientific and facilities operations. ANL-W ensures compliance with environment, safety, and health standards as an integral part of overall project design and implementation during rehabilitating/upgrading of existing facilities, as well as during construction of new facilities. Research and operations support facilities and site services are maintained to meet all essential functional and safety requirements.

2. Maintain and Develop Facilities to Support World-Class Nuclear Energy Research and Development

A key objective of DOE's nuclear energy program is to support research and development activities that will allow nuclear energy to demonstrate that it is a safe, cost effective and environmentally benign technology for providing reliable energy to the entire world. ANL-W and the INEEL work together as co-Lead Laboratories for Nuclear Energy Research and Development. In this role, ANL-W assists and works with DOE-NE to sustain world-class nuclear research and development facilities and capabilities.

ANL-West's goal is to return existing facilities to a "mission ready" status, fully capable of supporting existing and future missions and programs.

The ANL-W Asset Management and Infrastructure Prioritization (AMIP) process is the primary tool for identifying and prioritizing infrastructure needs, and is discussed in detail in Section VI.

3. Cost-Effectively Manage Existing and Proposed Facilities and Systems

ANL-W manages its existing and proposed facilities and infrastructure to maximize cost effectiveness. Low cost, fast payback, energy efficiency improvements are identified during facility Conditional Assessment Surveys (CAS) and are implemented, as operating funds are available.

As new mission needs are identified, existing facilities are adapted or upgraded wherever feasible to accommodate new programmatic missions. When existing facilities are modernized and upgraded, ANL-W incorporates the latest cost effective energy and water conservation techniques.

Whenever practical new facilities are constructed adjacent to existing facilities to reduce the cost and time required for construction. This also allows the facilities to share utilities and reduces long term operating costs. For example, the new Remote Treatment Facility Project (RTP) facility will be built next to and interconnected to the Hot Fuel Examination Facility (HFEF).

III. CURRENT FACILITY AND INFRASTRUCTURE CONDITION

Of the 600,000 square feet of building spaces at ANL-W, 64% are over 30 years old. Many laboratories and offices are located in buildings that are over 40 years old. Recent Condition Assessment Surveys (CAS) have identified mechanical, electrical, and architectural features that need upgrading in order to support the "mission ready" goal. These include roofs, motor control units, architectural elements (such as doors and windows), and air handling systems.

The current fiscal year Infrastructure budget included no funding specifically authorized for upgrading aging infrastructure. Unplanned corrective repairs continue to be funded from the general Infrastructure budget, which is not adequate to cover both planned and unplanned maintenance operations. In addition, insufficient GPP funding over the past decade has prevented ANL-W from maintaining facilities in a "mission ready" status. To return facilities to a "mission ready" status will require the funding levels identified in this Plan. ANL-W has forecasted the site's facilities and infrastructure projects/activities and associated cost profile for Fiscal Years 2004-2013. If new major concerns are identified, they will be prioritized and this Plan will be amended as necessary.

Age makes several of the facilities and associated equipment difficult to maintain and repair because replacement parts are often no longer available. Additionally, the Laboratory has an unfunded liability of asbestos and asbestos-containing materials on site. This insulating material, used extensively in the earlier years of the Laboratory, is removed as it is encountered during facility modifications; however, its presence adds to the cost and complexity of the rehabilitation.

Roads, walkways, site and security lighting, and other surface infrastructure are deteriorating and require major replacement and rehabilitation. Minor essential repairs are funded from the operating portion of the Infrastructure budget.

Insufficient GPE funding over the past decade has led to serious aging and obsolescence of equipment for support activities. This obsolete and inefficient equipment needs to be replaced with new equipment in a timely manner. The Laboratory's emphasis on additional safety and environmental activities — particularly responses to self-assessments and corrective actions to meet expanding DOE, federal, and state requirements — has diverted resources and increased the backlog of needs in other areas.

Major programmatic facilities at ANL-W have been well maintained through program funding. However, even though Conditional Asset Surveys continue to identify repair and maintenance needs for general purpose facilities, asset management funding levels have continued to decline to the point that ANL-W can only keep general-purpose facilities in a workable state of readiness by

letting certain asset repairs go undone. Current funding is only adequate to support situations where breakdown or failure of critical systems is imminent or has taken place. Less critical systems receive less preventive maintenance and in some cases are allowed to run to failure because of insufficient funding. This has resulted in a backlog of needed repairs (deferred maintenance), which will cost several million dollars to correct.

IV. PLANNING ASSUMPTIONS

Achievement of the Infrastructure Program's goals is based on the following operational and mission-related assumptions:

1. ANL-W will continue to comply with all mandatory environmental, safety, and health requirements. First priority for funding will be given to repairs and upgrades that address essential requirements for compliance.

2. ANL-W research and demonstration programs will continue to support DOE-NE missions.

3. All remaining facilities will be needed to support future research activities. Existing facilities will be upgraded to meet new and changing mission requirements.

4. Major new programs are expected to fund the construction of any required special-purpose facilities.

5. Overall the ANL-W site population will experience moderate growth as research programs grow.

6. All construction and refurbishment will incorporate sustainable design principles for selecting building materials and furnishings, construction techniques, energy and water conservation, and habitability features.

7. Infrastructure funding levels will be returned to the level that supports "mission ready" status, and will maintain pace with inflation.

8. DOE will obtain the required annual funding for the Industrial Waste Pond Remediation, Remote Treatment Project (RTP) and EBR-II RCRA Clean Closure.

V. THE PLAN

The *Plant Assets Management Plan* for ANL-W focuses on eliminating deficiencies resulting from aging, deterioration and obsolescence of existing facilities. However, it goes beyond restoring impaired functionality by including projects that upgrade telecommunications, improve building electrical and mechanical services, and modernize laboratory layout and furnishings. The overall emphasis is to maintain and upgrade sound but depreciated facilities. In addition, this Plan addresses disposal or replacement of inefficient structures, continued environmental stewardship, and construction of two new facilities.

A reliable, efficient, safe, and environmentally sound state-of-the art infrastructure will reduce operating costs and result in improved scientific productivity. To this end, the Plan addresses three areas where upgrading and rehabilitating the existing infrastructure is needed to meet the needs of emerging scientific missions and technological advancements. These three areas are: site, existing facilities needs, and new facilities. Funding for equipment and real property maintenance are also addressed.

A. Site

ANL-W has an abundance of land available inside and outside of the area boundary for expansion of facilities and/or to support new missions. Water is plentiful and readily accessible. Electrical rates are among the lowest in the nation.

In 1998, ANL-W identified eight CERCLA sites that required remediation. To date, remediation has been completed at two sites, four sites are currently being remediated and awaiting verification sampling, and two sites are scheduled for remediation in out years.

The roads and utility systems at ANL-W, although requiring ongoing rehabilitation, have adequate capacity to support future expansion. Major rehabilitation of the roadway and parking lot surfaces has not been undertaken since the mid 1980s, and site-wide utilities are in need of replacement and upgrade, most notably the electrical distribution switchgear, steam and condensate system, site service water system, and the site cooling water systems. These systems are listed in section VII under the discussion on General Plant Projects (GPP).

B. Existing Facilities

Selected upgrades of the major permanent facilities and limited creation of new facilities remain the preferred option supporting moderate growth of ANL-W missions and projects over the next decade.

Additionally, environment, safety, and health requirements are one of the main drivers determining work area configurations.

ANL-W will modernize in phases, addressing common building systems needs concurrently across several buildings. As a general sequence, building electrical systems will be upgraded, enabling more intensive equipment use and higher mechanical and functional power and lighting loads to be installed. Improved mechanical and control equipment and upgraded mechanical, distribution, and collection systems will then be provided and enable a more flexible and adaptable building utility support network. Reconfiguration, rehabilitation and modernization of the architectural features, space partitioning and interior configuration of furnishings and final finish will conclude the cycle of modernization.

The top twelve infrastructure GPP projects required to restore facilities to a mission ready status and associated funding profile is listed in Appendix 1.

C. New Facilities

The construction of two new facilities will be required within the planning period to support the current ANL-W and future assigned missions and are listed in Appendix 1.

D. General Purpose Equipment

In order for ANL-W to serve DOE as a premier laboratory, the support infrastructure must include general-purpose equipment that allows efficient performance. Infrastructure GPE funds are the Laboratory's primary resource for purchasing equipment needed for vital operational support activities such as (1) health and safety activities; (2) monitoring and control of effluents to the environment; (3) plant maintenance; (4) heavy equipment services; and (5) technological support, including computing, machine shops, and electronics support. Priority is given to equipment upgrades that improve safety in operation, productivity improvements, and for cases where technological change has made existing equipment obsolete.

The funding profile necessary to replace the top twelve pieces of equipment that are beyond useful service life and have limited spare part support, and are needed to accommodate increasing requirements for infrastructure support are listed in Appendix 1.

E. Real Property Maintenance

ANL-W is committed to operating and maintaining all buildings and facilities in compliance with applicable environment, safety, health, and quality requirements. Maintenance responsibilities are divided into two areas, referred to as programmatic and non-programmatic.

Program organizations are responsible for the managing, operating, maintaining, and repairing all specialized occupant-related equipment, experimental apparatus, and dedicated systems designed to support experimental or programmatic activities. The Program organization is also responsible for all environment, safety, and health aspects of these operations.

Non-programmatic physical plant responsibilities include managing, operating, maintaining, and repairing building exteriors and internal general-purpose building systems (structural, mechanical, and electrical). Non-programmatic maintenance responsibilities also include maintaining the general appearance and condition of building offices and common areas (e.g., lobbies, washrooms, hallways, lunchrooms, and service areas) and service floors and mechanical rooms.

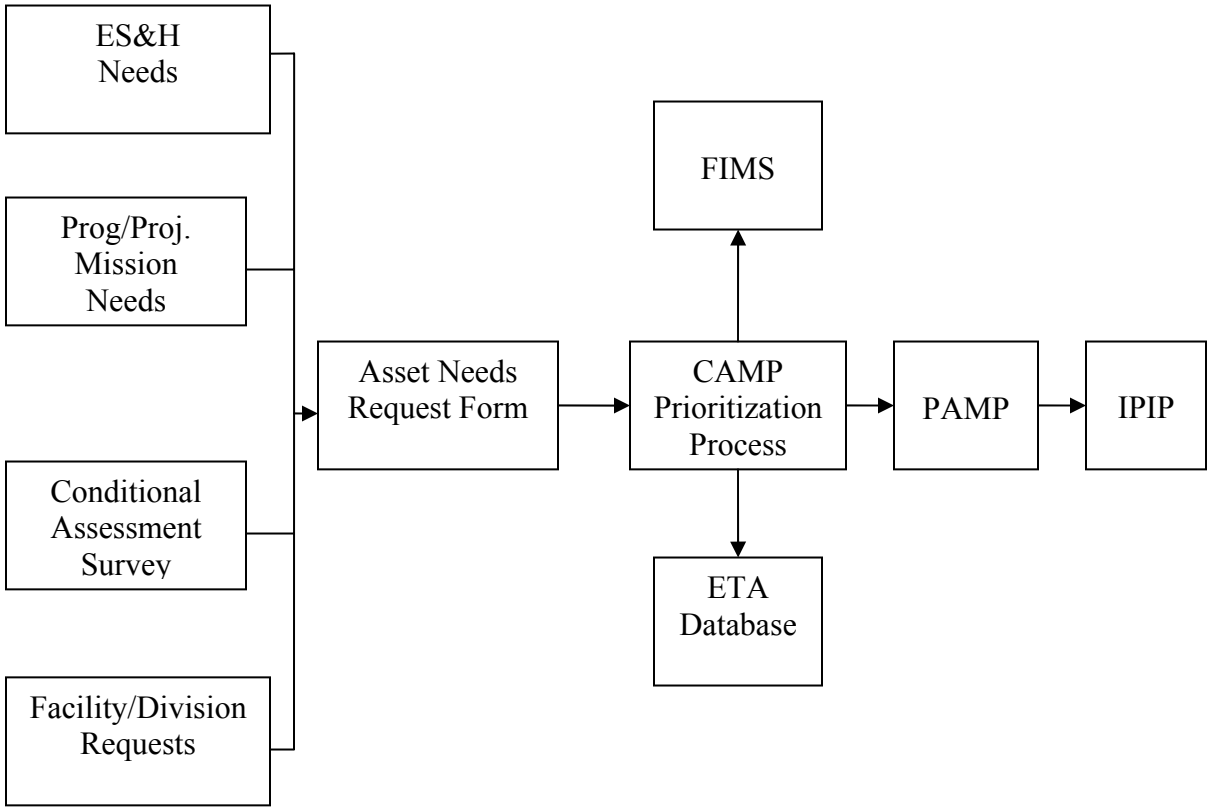
Current and projected funding levels are insufficient to support "mission-ready" status, maintain pace with inflation, or support growth.

VI. PLAN DEVELOPMENT AND PRIORITIZATION PROCESS

The Asset Management and Infrastructure Prioritization (AMIP) process is used to identify, prioritize, and manage the physical asset needs at ANL-W. AMIP enables systematic, comprehensive, and consistent management and oversight of the life cycle asset management process.

The cornerstone of this entire process is a single, integrated list of infrastructure needs. This list is the basis for management decisions regarding prioritization of efforts, allocation of existing resources, and development of funding requests. A single list ensures that duplication is avoided, needs are consistently identified, and decisions are risk-based.

The AMIP consists of four major parts: 1) Identification, 2) Prioritization, 3) Scheduling, and 4) Information Sharing.



Asset Management and Infrastructure Prioritization (AMIP) Process

A. Identification

Identification of needs is performed across the Laboratory at many levels. The objective of the identification phase is to identify all unfunded physical asset needs at ANL-W, regardless of funding source. Four processes identify asset needs.

The first process of identifying needs is periodic ES&H inspections, assessments, and audits. Needs identified as imminent dangers are corrected immediately, all other needs are entered into the AMIP process.

The second process is through the Program/Project mission needs call. The Infrastructure Program Director issues a mission needs call in the second and fourth quarter to all program/project and facility managers and technical leads to identify any physical asset needs not previously identified, and review existing unfunded needs.

The third process is the Conditional Assessment Surveys (CAS). The CAS program ensures that each facility and/or site utility system is inspected for

needed repairs and energy efficiency improvements on a three-year basis. Identified needs are entered into the AMIP.
Finally, facility/division personnel identify physical asset needs during routine inspections and walkthroughs, and enter them into the AMIP.

B. Prioritization

Once a need has been identified, a standardized request form is used to document and submit the need. The request provides a description of the scope of work, justification, importance of correcting the need, and an initial cost estimate.

ANL-W uses the CAMP methodology (see DOE Order 4320-2A, *Capital Asset Management Process*) to initially prioritize and rank the identified need against other needs.

The CAMP prioritization process is used to score the request when it is submitted. The CAMP process uses the following criteria to rate individual projects.

I. Health and Safety
II. Environmental/Waste Management
III. Safeguards and Security
IV. Mission and Investment

The objective of the prioritization phase is to review asset conditions, ascertain needs, identify funding sources, and develop a rank-ordered list of infrastructure needs. This list is used to develop GPE and GPP funding requests, and facilitate understanding of the scope, costs and schedules of the proposed activities. The list is reviewed and updated semi-annually by all stakeholders to reflect changing operational needs and to ensure that completed GPP/GPE items are removed from the list and new ones added as necessary.

This establishes traceability and a consistent comprehensive list of needs, and characterizes the associated risks. The list is the basis for making informed decisions on allocating existing resources and developing funding requests.

The Plant Assets Strategic Planning Group (PASP), consisting of the Infrastructure Program Director, ANL-W Division Directors, and other stakeholders work as a team to review, evaluate, and agree on a final prioritized list of plant asset needs based on initial CAMP scoring and overall Laboratory priorities.

During this process, the following factors are considered: compliance with environmental regulations, responsiveness to public concerns, worker safety and health, public safety, asset preservation, plant reliability, support for programmatic initiatives, cost avoidance and continuous improvement.

Other factors taken into consideration may include: the overall cost of the activities, precedence and coupling relationships among activities, schedule considerations and other strategic or practical planning factors.

The PASP also considers risks and vulnerabilities associated with unfunded proposals, and identifies and implements temporary mitigative actions needed to manage those risks until they can be permanently resolved.

Because the number of needs normally exceeds the expected funding levels, a backlog of unfunded needs develops. The PASP also reviews and analyzes the backlog and risk-ranks the list of needs. This list forms the basis for future *Plant Assets Management Plans* (PAMP) and GPP/GPE funding requests.

C. Scheduling

The single prioritized needs list is the basis for developing funding requests and funding allocation decisions. Only 24 of the highest-ranking DOE-NE Infrastructure GPP and GPE needs are included in the seven-year *Plant Assets Management Plans* (PAMP). The current year work scope, costs and schedules for implementing funded Plant Asset projects are described in the *Infrastructure Program Implementation Plan* (IPIP). The IPIP also provides performance measures by which ANL-W Infrastructure performance is evaluated by ANL and DOE. Monthly Infrastructure program reports are submitted to DOE-CH and ANL-W management each month, and serve as an internal management communications tool.

D. Information Sharing

The information collected during the CAMP prioritization process is also used as a source of information to other management and reporting processes.

The Facility Information Management System (FIMS), a DOE Office of Engineering and Construction Management (DOE-OECM) corporate inventory system, utilizes information contained within the CAMP database, such as maintenance costs and asset condition information for each facility.

Additionally, the CAMP database is integrated with the ANL-W Engineering Task Authorization (ETA) database for developing and compiling detailed cost estimates for top priority GPP/GPE needs. When GPP/GPE funds are available, a detailed ETA evaluation is performed to describe more accurately all of the work to be performed.

VII. NEEDS SUMMARY

ANL-W requires $11.3M in GPP and GPE funds between FY 2004 and FY 2010 to fund its top twenty-four activities/equipment. This represents a substantial increase over historical levels of funding for ANL-W, but is essential to reverse the degradation due to insufficient prior year funding and support the current and future missions. In addition, ANL-W requires an average of $13.9M annually for real property maintenance. ANL-W has also identified $94M in two line item projects for this planning period.

A. General Plan Projects (GPP)

In general, General Plant Project funds are required for work that goes beyond the routine maintenance and repair that keep plant and equipment operational. GPP funding supports key safety upgrades, environmental compliance projects, and infrastructure improvements. GPP funds are dedicated to maintaining, upgrading, and rehabilitating the physical plant and do not directly support specific research and development programs.

Historically, GPP funding at ANL has been inadequate to meet infrastructure and modernization needs. The Fiscal Year 2004 Congressional Budget includes $48K GPP/GPE funding for ANL-W. Because of this, the GPP/GPE funding needs previously identified in this Plan have been moved out by one year. If supplemental GPP/GPE funding is provided in FY 2004, it will be used for the highest priority GPP/GPE items, otherwise the risks of obsolescence and further degradation continues to increase.

The following are the top twelve priority GPP items (totaling $10.1M):

1. <u>Industrial Waste Pond Remediation</u>

The Industrial Waste Pond is included in the 1998 Record of Decision (ROD) signed by the DOE, the Environmental Protection Agency, and the State of Idaho, with a commitment to remediate it, starting in FY 2003-2004. DOE-EM has provided the funding for the previous six ANL-W remediation activities, but is attempting to turn over the two remaining sites (Industrial Waste Pond and Sanitary Sewage Lagoons) to DOE-NE, the Program Secretarial Office for ANL-W. Zero funding was provided in FY 2003. Currently, there is no funding in FY 2004 for remediation activities in either the EM or NE budgets. The agreements and commitments in the ROD are legal and binding, with fines and penalties levied for noncompliance. ANL-West's failure to comply with the actions identified in the ROD will result in violation of the ROD, and ANL-W can be subject to fines (up to $10,000 per week) outlined in the INEEL Federal Facility Agreement and Consent Order.

2. **Electrical Switchgear Upgrade – Phase I &**
3. **Electrical Switchgear Upgrade – Phase II**

These projects will upgrade critical portions of the site-wide electrical power distribution system. The systems will be updated to meet current industry standards, improve the system's reliability, safety and performance, and reduce maintenance and repair costs. The scope of work will involve replacing 2.4-kV (Phase I) and13.8-kV (Phase II) switchgear with new equipment that includes current metering and protection devices, and will replace associated feeder cables. These upgrades are necessary because the switchgear is over 40 years old and replacement and/or used parts are essentially non-existent. Failure of either of these systems would severely impact overall site safety and operations.

4. **Diesel Generator for Deepwell Pumps Installation**

This project will procure and install a self-contained diesel generator for powering one of the two deep well pumps upon loss of normal power. The existing 400,000-gallon reserve water tank is designed to handle the design basis fires; however, other potential emergencies necessitate the capability to pump water after loss of normal power. The two most urgent cases are (1) to support fire-fighting efforts in the event of a desert brush fire around the site and (2) to supply water for the boilers for site heating in the event of a prolonged normal power outage.

5. **Steam and Condensate System Component Replacement**

This two-year project will replace and upgrade the steam and condensate system. The system has been experiencing an increased rate of failure, and has required localized repair or replacement an average of six times per year. The project involves replacing old piping and installing cathodic protection to minimize future system corrosion. Failure of this system would severely impact overall site habitability and operations.

6. **FCF Stack Monitoring System Upgrade**

This project will replace the two FCF Stack Monitors. The State Air Permit and the facility Technical Safety Requirements (TSR) require a minimum of one monitor to be operational when working with contaminated/fissile material within the facility. Loss of both monitors requires terminating operations and placing the facility in the “Secure Mode.” Spare parts are no longer available and the present inventory is limited. It will take a minimum of two years to complete the system design and seismic qualifications.

7. Analytical Laboratory Suspect Waste Tanks Modification

This project will modify the existing Analytical Laboratory Suspect Waste Tanks and enable compliance with the RCRA permit conditions. The shape of the current tanks does not allow for a complete transfer of the characterized liquid to the Radiological Liquid Waste Treatment Facility. Solids fall out of solution causing an incorrect characterization of the waste. The modification will ensure complete transfer of the tank content.

8. Service Water Pumps and Controls Replacement

This project will replace the current Service Water Pumps and Controls. The pumps and controls are over 20 years old and spare parts are almost non-existent. The system provides domestic use water, fire system water, and cooling water for the site. The replacement pumps and controls will provide improved energy efficiency, cost savings, improved operational reliability and efficiency, and ensure adequate fire protection.

9. FCF Equipment Transfer Lock (ETL) Basket Redesign

This project will redesign the ETL Basket to incorporate the functions of six separate pieces of equipment currently required for transferring items between the Argon, Air Cells and the Suited Entry Repair Area (SERA). This will improve usable working floor space and eliminate multiple transfers between existing equipment stands. The new basket will be designed for easier decontamination, thus reducing worker exposure.

10. FCF Hot Cell Shield Window Refurbishment

The shielding windows in FCF are 40 years old. Currently, 16 of the 27 shield windows require refurbishment. Most of the windows have multiple oil leaks and show signs of degradation in optical quality. It is necessary to remove the associated window oil tank unit as part of refurbishing each window. To minimize down time and radiation exposure, it is necessary to fabricate a new window oil tank that can be installed as the faulty one is removed. The refurbished window and associated window oil tank will be used as a replacement for the next window. This project is on a five-year plan and therefore extends beyond the scope of the current plan.

11. HFEF Main Cell Chillers Replacement

This project will replace the HFEF Main Cell chillers that are used to control cell temperature and pressure by cooling the Cell argon atmosphere. The existing York 50 Ton Liquid Chillers are over 30 years old and spare parts are no longer manufactured. Spare parts availability is limited to the manufacture's in-stock inventory. The units use Freon 502, which is being phased out and has limited availability.

12. HFEF Diesels Upgrade

This project will upgrade the HFEF primary and backup diesels. The primary standby power diesel is 50 years old and the backup diesel is 35 years old. Engine parts have limited availability, and control panel parts are no longer manufactured. The facility relies on the diesels to supply backup power to the facility exhaust systems and to ensure facility containment is maintained during a loss of normal power.

B. General Purpose Equipment (GPE)

GPE funds are used to replace worn-out or obsolete general-purpose equipment. These funds support Infrastructure activities such as (1) equipment for monitoring and control of effluents to the environment; (2) plant maintenance and monitoring equipment; (3) heavy equipment support; and (4) technological support, including computing, machine shop, and electronics support.

The FY 2004 Congressional Budget requested zero funding for GPE. Funding for the top twelve priority pieces of equipment totals $1.2M. Included are materials handling equipment and machine tools to be upgraded to current standards. Most of this equipment listed has outlived its normal design life and spare parts are limited/nonexistent.

C. Real Property Maintenance

Infrastructure operating funds for real property and non-programmatic maintenance (effort and material) of the site and facilities has averaged $13.9M annually. Current funding levels do not support "mission-ready" status or maintain pace with inflation.

ANL-W presently expends the majority of its maintenance efforts in preventative and corrective maintenance. This situation reflects the large amount of equipment that is still in operation well beyond its normal service life. Replacement of older equipment will alleviate the current need to continually perform urgent corrective maintenance. ANL-W can then focus on predictive and non-essential preventative maintenance, which will in turn,

preserve less critical equipment and thereby eliminate the situation where these systems are allowed to run to failure.

Annual system repairs to roofs, roads, sidewalks, and drainage systems are also required to maintain the physical infrastructure of the ANL-W site. An annual repair program to correct damage caused by winter weather conditions will rectify continual degradation, correct some sidewalk tripping hazards, and avoid the need for extensive replacement projects in the near future.

D. Line Items

This plan includes proposed Line Item Construction Project funding of $86M for the new Remote Treatment Project facility and $8M for a new multi-program office building.

1. Remote Treatment Project (RTP)

This project is required to maintain compliance with the INEEL Site Treatment Plan for disposal of legacy waste, and the State of Idaho Settlement Agreement. It includes the design and construction of a RTP facility located adjacent to and connected with the Hot Fuel Examination Facility (HFEF). The facility is essential for the segregating, characterizing, treating, and repackaging remote-handled mixed transuranic waste that has accumulated at ANL-W and the INEEL over the past forty years.

2. Multi-program Office Building

This project is for the design and construction of a new 40,000 square foot multi-program office building. The building will replace eight on-site "temporary" office buildings that presently house administrative, engineering, and DOE personnel. The temporary buildings are 13 - 26 years old. Modern system and component design will minimize the life-cycle costs and improve energy efficiency over the existing buildings.

VIII. PERFORMANCE METRICS AND CHANGE INDICATORS

Only $48,000 is requested in the 2004 Congressional Budget for GPP/GPE. ANL-W is planning to use this money to perform urgent corrective maintenance on the Steam and Condensate System. Maintaining this system with the funding allocated could be the only construed performance metric. If supplemental GPP/GPE funding is provided in FY 2004, ANL-W will review and revise this Plan based on the available funding level and the highest priority projects previously identified. Historical funding levels are shown in the following table.

Funding	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004
GPP	$0	$0	$0	$400K	$0	$48K
GPE	$0	$0	$0	$50K	$0	$0
RTP (Ops funding – Pre-Line Item)	$0	$0	$250K	$750K	$0	$0
Total	**$0**	**$0**	**$250K**	**$1,200K**	**$0**	**$48K**

APPENDIX 1
Infrastructure Priority Lists and Funding

Infrastructure Priority List and Application of Target Funding (FY04- FY10)

08/26/2003

LINE ITEM Listing

No.	Lab Priority	CAMP	Sponsor	PI Number	Title	Fund	TEC $K	Requested Funding $K						
								FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10
1	1	68.00	FAC-RTF	785-UA-41	Remote Treatment Project	LINE	86000	0	9700	19400	18600	28200	10100	0
2	2	40.00	NPS	IPR-2003-017	Mulitprogram Office Building	LINE	8000	0	0	0	0	0	1000	7000
					LINE ITEM Total $K:		$94,000	0	$9,700	$19,400	$18,600	$28,200	$11,100	$7,000

GPP Listing

No.	Lab Priority	CAMP	Sponsor	PI Number	Title	Fund	TEC $K	Requested Funding $K						
								FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10
3	1	70.00	NPS	750-UA-40	Industrial Waste Pond Remediation	GPP	1650	0	1650	0	0	0	0	0
4	2	64.50	FAC-PS	750-EB-2002-003-2	Replace the 2.4 kV Switchgear (Phase I) Bldg. # 768 & 754	GPP	1076	0	1076	0	0	0	0	0
5	3	64.50	FAC-PS	750-EB-2002-003-1	Upgrade 13.8 kV Switchgear (Phase II)	GPP	1573	0	1573	0	0	0	0	0
6	4	64.50	FAC-PS	754-EN-2002-005	Install Diesel for Deep Well Pump No.1 (2400V)	GPP	225	0	225	0	0	0	0	0
7	5	63.00	FAC-PS	750-MA-2000-007-1	Site Condensate and Steam Component Replacement Program	GPP	1216	0	0	608	608	0	0	0
8	6	64.50	FAC-FCF	765-FC-2002-017	FCF Stack Monitor System Upgrade	GPP	600	0	0	600	0	0	0	0
9	7	63.00	NTD-AL	752-AL-2001-002	Analytical Laboratory Suspect Waste Tanks Modification	GPP	44	0	0	0	44	0	0	0
10	8	60.00	FAC-PS	754-MA-2002-004	Replace Service Water Pumps & Controls	GPP	100	0	0	0	100	0	0	0
11	9	60.00	FAC-FCF	765-FC-2000-049	ETL Basket Redesign	GPP	111	0	0	0	111	0	0	0
12	10	60.00	FAC-FCF	765-3	Refurbish Hot Cell Radiation Shielding Windows	GPP	2982	0	0	0	0	982	1000	1000
13	11	54.00	FAC-HFEF	785-HF-2000-034	Replace Main Cell Chillers CH101A/B	GPP	300	0	0	0	0	0	300	0
14	12	53.00	FAC-HFEF	785-3	Upgrade Diesel Generators	GPP	250	0	0	0	0	0	250	0
					GPP Total $K:		$10,127	0	$4,524	$1,208	$863	$982	$1,550	$1,000

Infrastructure Priority List and Application of Target Funding (FY04- FY10)

08/26/2003

GPE Listing

No.	Lab Priority	CAMP	Sponsor	PI Number	Title	Fund	TEC $K	Requested Funding $K						
								FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10
15	1	64.50	NTD-AL	752-AL-2003-001	Replace low beta counter	GPE	47	0	47	0	0	0	0	0
16	2	63.75	FAC-ZP	774-UA-33	Replace ZPPR backup air compressors	GPE	50	0	50	0	0	0	0	0
17	3	62.25	NPS-MH	783-UA-29	Drott 5 Ton Carry Deck Crane	GPE	106	0	106	0	0	0	0	0
18	4	62.25	NPS-MH	783-UA-28	Taylor 25 Ton	GPE	355	0	0	355	0	0	0	0
19	5	60.75	NPS-QC	782-UA-30	Replace Cordax measuring machine	GPE	80	0	0	80	0	0	0	0
20	6	52.00	NPS-MH	783-UA-32	Replace 1976 15 ton crane	GPE	225	0	0	0	225	0	0	0
21	7	50.00	FAC-FCF	765-FC-2001-010	Upgrade Gas Chromatograph Operating System	GPE	40	0	0	0	0	40	0	0
22	8	43.00	NPS-MH	783-UA-31	Case 580 Backhoe	GPE	85	0	0	0	0	85	0	0
23	9	40.00	FAC-FCF	765-FC-2001-038	Improved Decontamination Equipment	GPE	46	0	0	0	0	0	460	0
24	10	40.00	NTD-AL	752-AL-2001-001	AL Hot Cell Fan Replacement	GPE	60	0	0	0	0	0	60	0
25	11	40.00	FAC-HFEF	785-HF-1997-005	System 50 Test Fixture	GPE	50	0	0	0	0	0	0	50
26	12	40.00	FAC-FCF	765-FC-1999-020	5 Cask Can Cutter Interlock	GPE	54	0	0	0	0	0	0	54
					GPE Total $K:		$1,198	0	$203	$435	$225	$125	$520	$104
					GPP/GPE Total $K:		$11,325	0	$14,427	$21,043	$19,688	$29,307	$13,170	$8,104

APPENDIX 2
Infrastructure GPP/GPE Project Request Forms

CAS Field Report for 750-UA-40

Building	ETA/Task #	Title
750	UA-40	Industrial Waste Pond Remediation

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPP		Scott Lee	BOP	NPS	70.00	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Remediation of the Industrial Waste Pond which entails excavation and disposal at the soon-to-be-opened Idaho CERCLA Disposal Facility (ICDF).

Justification

existing condition: The Industrial Waste Pond was scheduled to be remediated in FY 2003-2004. The remedy calls for excavation and disposal at the Idaho CERCLA Disposal Facility (ICDF). DOE-EM has provided funding for previous remediation activities, but has deferred future funding to DOE-NE, the Principle Secretarial Office for ANL-Idaho. DOE-NE has not accepted the DOE-EM transitision proposal. Currently, no funding is available to pursue the remediation activities in FY 2003, and no funding has been requested/identified for FY 2004. The agreements and commitments in the ROD are legal and binding, with fines and penalties levied for noncompliance.

Importance

impact on operations/programs:Failure to remediate on the approved timeline will place ANL-Idaho in violation of the ROD and will incur fines outlined in the INEL Federal Facility Agreement and Consent Order of $10,000.00/week of delay, and will show a loss of ANL-Idaho's credibility with the State of Idaho.

regulatory/ S&H requirements: Record of Decision signed by DOE, EPA, State of Idaho. Site was agreed to be remediated in FY 2003-2004.

Alternatives

replacement parts availability: N/A

replacement parts recovery time: N/A

new, rent or lease availability: N/A

new, rent or lease recovery time: N/A

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$1,650,000	Other	$0	Other	$0	Other	$0
Total	$1,650,000	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 750-EB-2002-003-2

Building	ETA/Task #	Title
768	EB-2002-003-2	Replace the 2.4 kV Switchgear (Phase I) BLDG# 768 & 754

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPP	N. DUCKWITZ	L. HILL	BOP	FAC	64.50	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Replace the 2.4 kV switchgear.

Justification

existing condition: The 2.4 kV switchgear has been in service in excess of forty years. This is more than twice the replacement life (design life) contained in the DOE CAS Manual. The switchgear has been subjected to severe dust conditions as a result of the range fires in the mid-1990's. The switchgear circuit breakers have suffered from mechanical failures. Replacement components had to be custom manufactured. Additionally, the 2.4 kV switchgear is a single bus design; thus, any failure not confined to a circuit breaker compartment will cause shutdown of the entire 2.4 kV power system at ANL-W.

Importance

impact on operations/programs:The 2.4 kV switchgear is critical for the ANL-W site. Without it no operations/programs are possible. Specifically, the switchgear supplies power for the deep well pumps which supply domestic water via the 400,000 gallon water. Domestic water is used for a variety of purposes including fire suppression and make-up water for site steam. The water tank was sized to provide adequate fire protection to suppress a design basis fire in the facilities. However, it is not adequate to combat a range fire. Resupply of the tank is critical for fire protection of the ANL-W site in the event of a range fire. ANL-W uses steam for processes and space heating. Should the switchgear be out of service in the winter, freezing and subsequent water damage of many facilities are likely. Additionally, many facilities have wet pipe sprinkler systems that may be disabled.

regulatory/ S&H requirements: N/A

Alternatives

replacement parts availability: Existing circuit breakers that were used to support EBR-II reactor operations can be used for spares. No spares for other switchgear equipment are available.

replacement parts recovery time: Dependant on the nature of the failure and salvagability of existing equipment.

new, rent or lease availability: New equipment is available.

new, rent or lease recovery time: New equipment delivery time has been quoted as 14-17 weeks ARO. Recovery time would be 18 to 23 weeks.

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$95,900	Engineering	$0
Material	$0	Material	$0	Material	$325,000	Material	$0
Drafting	$0	Drafting	$0	Drafting	$7,000	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$6,000	Plant Services	$0
MICE	$0	MICE	$0	MICE	$2,000	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$1,075,900	Other	$0	Other	$640,000	Other	$0
Total	$1,075,900	Total	$0	Total	$1,075,900	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 750-EB-2002-003-1

Building	ETA/Task #	Title
768	EB-2002-003-1	Upgrade 13.8 kV Switchgear (Phase II)

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPP	N. DUCKWITZ	L. HILL	BOP	FAC	64.50	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Upgrade 13.8 kV switchgear

Justification

existing condition: The 13.8 kV switchgear is the main power source to the ANL-W site and has been in service in excess of forty years. This is more than twice the replacement life (design life) contained in the DOE CAS Manual. The switchgear has been subjected to severe dust conditions as a result of the range fires in the mid-1990's. The 13.8 kV switchgear is a double bus design. All major facilities, except TREAT, have alternate feeds that can support facility operation at some level.

Importance

impact on operations/programs:The 13.8 kV switchgear is critical for the ANL-W site since all electrical power for the site is supplied by the switchgear. Loss of the entire switchgear would leave the site without power to operate the deep well pumps which are used to supply domestic water via the 400,000 gallon water tank. Domestic water is used for a variety of purposes including fire suppression and make-up water for site steam. The water tank was sized to provide adequate fire protection to suppress a design basis fire in the facilities. However, it is not adequate to combat a range fire. Resupply of the tank is critical for fire protection of the ANL-W site in the event of a range fire. ANL-W uses steam for processes and space heating. Should the switchgear be out of service in the winter, freezing and subsequent water damage of many facilities are likely. Additionally, many facilities have wet pipe sprinkler systems that may be disabled.

regulatory/ S&H requirements: N/A

Alternatives

replacement parts availability: No one manufactures replacement parts or has an inventory of new parts for this switchgear. The EBR-II generator output circuit breaker is no longer used and can be used as a spare for the other ten breakers. If surplus breakers can be located, an evaluation must be made for compatibility.

replacement parts recovery time: Unknown.

new, rent or lease availability: New equipment is readily available.

new, rent or lease recovery time: New equipment delivery time has been quoted as 14 to 17 weeks ARO. Recovery time would be 22 to 29 weeks.

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$86,500	Engineering	$0
Material	$0	Material	$0	Material	$450,000	Material	$0
Drafting	$0	Drafting	$0	Drafting	$10,000	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$4,000	Plant Services	$0
MICE	$0	MICE	$0	MICE	$2,000	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$1,572,500	Other	$0	Other	$1,020,000	Other	$0
Total	$1,572,500	Total	$0	Total	$1,572,500	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 754-EN-2002-005

Building	ETA/Task #	Title
754	EN-2002-005	Install Diesel for Deep Well Pump No.1 (2400V)

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPP	N. DUCKWITZ	N. DUCKWITZ	BOP	FAC	64.50	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Install a diesel generator backup power source for deep well pump no. 1 2400 vac.

Justification

existing condition: ANL-W currently has no means of pumping water from the wells after loss of normal power. The two most urgent cases are (1) to support fire fighting efforts in the event of a desert brush fire around the ANL-W site and (2) to supply water for the boilers for site heating in the event of a prolonged normal power outage. Both of these events are very credible based on recent experiences at ANL-W and elsewhere in the USA. During the brush fires several years ago, the ANL-W tank was nearly emptied after the fire required shutting down both sides of the normal power loop to ANL-W. Prolonged power outages due to system overloading are becoming more common with power deregulation.

Importance

impact on operations/programs:Loss of the normal power would leave the site without power to operate the deep well pumps which are used to supply domestic water via the 400,000 gallon water tank. Domestic water is used for a variety of purposes including fire suppression and make-up water for site steam. The water tank was sized to provide adequate fire protection to suppress a design basis fire in the facilities. However, it is not adequate to combat a range fire. Resupply of the tank is critical for fire protection of the ANL-W site in the event of a range fire. ANL-W uses steam for processes and space heating. Should the switchgear be out of service in the winter, freezing and subsequent water damage of many facilities are likely. Additionally, many facilities have wet pipe sprinkler systems that may be disabled.

regulatory/ S&H requirements: N/A

Alternatives

replacement parts availability: N/A

replacement parts recovery time: N/A

new, rent or lease availability: Leasing is not considered an option because economic value and economic life of the asset would constitute a capital lease (capital equipment money) under current OMB guidelines. Based on the capital equipment designation and critical application, the best business practice would be outright acquisition.

new, rent or lease recovery time: 3-4 Months for procurement and installation.

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$35,600	Engineering	$0	Engineering	$0	Engineering	$0
Material	$130,000	Material	$0	Material	$0	Material	$0
Drafting	$4,500	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$10,000	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$45,000	Other	$0	Other	$0	Other	$0
Total	$225,100	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 750-MA-2000-007-1

Building	ETA/Task #	Title
750	MA-2000-007-1	Site Condensate and Steam Component Replacement Program

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPP		M. HOWELL	BOP	FAC	63.00	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Replace/Repair the site steam and condensate system

Justification

existing condition: Significant portions of the ANL-W underground steam system are over 35 years old. Intermittent repairs of condensate return piping has increased dramatically in recent years. During the period from 1987 through 1999, there were 17 instances of localized repair or replacement - a rate of failure just under 1.5 per year. From 2000 to 2002, there were 11 occurrences of condensate line repair or replacement - a rate of almost 6 failures per year. Failed piping samples exhibit considerable evidence of pitting and corrosion on a widespread. 2002 also brought the first repair of steam line leakage. Portions of the steam and condensate loops have been abandoned, and a further increase in the rate of repair is expected. (Existing system is welded carbon-steel in Gilsilate insulation.)

Importance

impact on operations/programs:Most operational facilities and office space is heated from centralized steam plant (freeze protection issue). Steam is also used in some processing appllications. Abandonment of some loops leave certain buildings vulnerable to single failure. System suffers from increasing loss of steam/condensate as failures are often not immediately apparent. These failures require an increased supply of make up water to generate steam. Existing reverse osmosis water supply has limited ability to overcome severe condensate leakage. Therefore, an ion exchange system is maintained as a backup. This ion exchange system requires a supply of caustic and acid for regeneration of resin beds (RCRA issue). Steam and/or condensate failures located under roadways can impact heavy equipment traffic by errosion of the road bed.

regulatory/ S&H requirements: DOE O 4330.4b and 433.1 require freeze protection of DOE Facilities.

Alternatives

replacement parts availability: Pre-insulated, water-spread limiting piping systems are readily available from several manufacturers.

replacement parts recovery time: Repair material is readily available and is currently being used.

new, rent or lease availability: Replacement with new is the only option.

new, rent or lease recovery time: Planned during summer months over two fiscal years.

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$1,215,000	Other	$0	Other	$0	Other	$0
Total	$1,215,000	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 765-FC-2002-017

Building	ETA/Task #	Title
765	FC-2002-017	FCF Stack Monitor System Upgrade

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPP		K. HANSON	FCF	FAC	64.50	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Replace FCF stack monitor system.

Justification

existing condition: Spare parts have become obsolete and are no longer supported by manufacturers. Failure of both monitors requires entry of FACILITY SECURE MODE, which essentially shuts down the facility. The current inventory and frequency of failures will support two to five years of operation. A new system design and qualification will take at least two years to complete to meet federal and state design standards and seismic qualification.

Importance

impact on operations/programs:The state permit to construct (Air permit) and the TSRs require at least one of the two monitors be operable to perform any contaminated/fissile material work in the facility. A loss of both channels will stop all project work in the facility including decontamination of the facility.

regulatory/ S&H requirements: State permit to construct and FCF Technical Safety Requirements require at least one monitor to be operable. One new channel could be installed and checked out (approximately three months) while the other independent existing channel will be left in service. Once the first new channel is installed and accepted the other channel can be installed.

Alternatives

replacement parts availability: Not available

replacement parts recovery time: N/A

new, rent or lease availability: New units are available. Leasing is not considered an option because due to the specific design requirements of the equipment.

new, rent or lease recovery time: 3-4 Months for procurement and installation

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$600,000	Other	$0	Other	$0	Other	$0
Total	$600,000	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 752-AL-2001-002

Building	ETA/Task #	Title
752	AL-2001-002	Analytical Laboratory Suspect Waste Tanks Modification

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPP	HOWELL, MAX L.	G. BERNARD	AL	NTD	63.00	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Install high pressure spray wands and increase size of viewing windows in the AL suspect waste tanks.

Justification

existing condition: The shape of the waste tanks do not provide a complete transfer of the characterized liquid to the Radioactive Liquid Waste Treatment Facility (the solids fall out of solution). Installation of the tank modification will ensure complete transfer of the characterized liquid.

Importance

impact on operations/programs:This is a resolution to an Idaho DEQ concern from a recent audit.

regulatory/ S&H requirements: Contents of the tank delivered to RLWTF must be represented by the sample used to characterize the waste water.

Alternatives

replacement parts availability: N/A

replacement parts recovery time: N/A

new, rent or lease availability: N/A

new, rent or lease recovery time: N/A

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$44,300	Other	$0	Other	$0	Other	$0
Total	$44,300	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 754-MA-2002-004

Building	ETA/Task #	Title
754	MA-2002-004	Replace Service Water Pumps & Controls

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPP	N. DUCKWITZ	N. MESSICK	BOP	FAC	60.00	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Replace service water pumps & controls

Justification

existing condition: ANL-W uses three 50 hp service water pumps in parallel to supply the site's potable water needs. This includes domestic use, fire water and cooling water for a few facilities. The pumps and control system were installed in 1981. The pumps use Peerless hydroconstant variable speed drives to maintain the set system pressure. These drives use a fluid coupling fluid which is then cooled with potable water and discharged to industrial waste. The controller recently failed and is being replaced on an emergent basis with an excess Allen Bradley SLC500 PLC controller. Additionally the flow measurement instrumentation, which provided the signal for securing the standby pumps, failed; and the standby pumps had to be switched to a timed operate/shutdown interval which unnecessarily cycles the standby pumps (I.e. secures and restarts them) when the demand requires more than one pump. Finally the discharge check valves for all three pumps have a history of repairs and leakage which results in flow loss and recirculation of water through the standby pumps.

Importance

impact on operations/programs:An upgrade is needed to optimize the system for energy and operational efficiency. Current variable frequency drive and control technology offer significnt opportunities for energy savings and more reliable performance. The proposed upgrade is to replace at least one pump with a modern pump using smart technology and a variable frequency drive control.. The remaining two pumps would be modified to eliminate the hydroconstant drive losses. Check valves for all three pumps would be replaced with new, leak tight check valves using new technology. The PLC controller will be evaluated for upgrade or replacement as necessary to operate the VFD pump and standby pumps. Flow instrumentation will be installed to provide the signals for securing the standby pupmp as well as providing immediate flow information that is needed for identifying system operating conditions (I.e. normal usage, indications of leakage, etc).

regulatory/ S&H requirements: N/A

Alternatives

replacement parts availability: N/A

replacement parts recovery time: N/A

new, rent or lease availability: New controllers are available.

new, rent or lease recovery time: 6-8 weeks.

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$100,000	Other	$0	Other	$0	Other	$0
Total	$100,000	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 765-FC-2000-049

Building	ETA/Task #	Title
765	FC-2000-049	ETL Basket Redesign

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPP		L. BUMB	FCF	FAC	60.00	

Reference #	Notes	Status
		Facility Management Concurran

Scope

ETL Basket Redesign

Justification

existing condition: Floor space is extremely limited in the Argon and Air Cells and in the Suited Entry Repair Area (SERA). Currently there are 6 pieces of equipment stored in these areas to transfer items between them. The redesign of the ETL basket will incorporate all of these pieces of equipment into one. This will significantly increase the usable floor space in the above operating areas. Also it will significantly reduce the time lost in shuffling equipment around during transfers and when staging items in the Argon and Air Cells and in the SERA. The current ETL Basket cannot be transferred into the SERA. This requires the equipment to be unloaded from the Decon Spray Chamber to the SERA rather than simply transferring the entire basket to the SERA. The new design will allow for transfer into the SERA.

Importance

impact on operations/programs:The stands that are currently being used are not easily decontaminated and provide a significant radiation exposure source to workers. The new ETL Basket will be designed to be more easily decontaminated thus reducing exposure. The existing transfer equipments can continue to be used until the new one is fabricated.

regulatory/ S&H requirements: The stand will be fabricated at ANL-W. Total engineering and fabrication time is expected to be 20 weeks.

Alternatives

replacement parts availability: N/A

replacement parts recovery time: N/A

new, rent or lease availability: N/A. ETL Basket to be manufactured by ANL-W

new, rent or lease recovery time: N/A

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$111,000	Other	$0	Other	$0	Other	$0
Total	$111,000	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 765-3

Building	ETA/Task #	Title
765	3	Refurbish hot cell radiation shielding windows **

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPP			FCF	FAC	60.00	

Reference #	Notes	Status
		Facility Management Concurran

Scope

refurbish hot cell radiation shielding windows at the fuel conditioning facility (fcf)

Justification

existing condition: The shielding windows in use at FCF are approximately 40 years old. Currently at least 16 of the 27 shielding windows in the facility require some form of refurbishment. Many of these windows have multiple oil leaks and show sign of dergadation in the optical quality. In order to refurbish these windows it is necessary to remove the window tank units from wall of the hot cell. Removal of the tank units will greatly reduce the amount of shielding and therefore will require an evaluation of personnel exposure and the design and fabrication of temporary shielding. In addition the floor loading will be required to be analized and the fabrication and installation of temporary floor supports to accomatadate the weight of the tank units has they are removed from the wall and transferred to a designated area for refurbishment. Removal of the tank units will require the design and fabrication of speciality equipment so that the work may be performed in a safe and efficient manner. In order to minimize the down time and personnel for the work stations it will be necessary to design and fabricate a new window tank unit which can be installed as soon as the faulty one is removed. The faulty window tank unit can then be fully refurbished and used as a replacement for the next window to be worked on.

Importance

impact on operations/programs:Loss or degradation of optical quality of these windows will greatly inhibit hot cell operations. Several of the worst windows in the facility are located at major workstations which support work at the Cathode Processor and the Mark IV and Mark V Electrofiners. Oil leaks add to the continous degrdation of the window tank units and introduces a slipping hazard to the operating areas.

regulatory/ S&H requirements: N/A

Alternatives

replacement parts availability: N/A

replacement parts recovery time: Refurbishment of a window may take any where from a week to several months depending on the extent of repairs required.

new, rent or lease availability: N/A. Windows must be refurbished.

new, rent or lease recovery time: N/A

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$2,982,000	Other	$0	Other	$0	Other	$0
Total	$2,982,000	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 785-HF-2000-034

Building	ETA/Task #	Title
785	HF-2000-034	Replace Main Cell Chillers CH101A/B

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPP	L. BUMB	M. HOWELL	HFEF	FAC	54.00	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Replace main cell chillers CH101A/B

Justification

existing condition: The existing York 50 ton Liquid Chillers (model LC50W, mfg date 1970) are used to cool the main cell atmosphere of argon gas. One unit is always on line while the other unit provides additional cooling capacity on demand. Weekly the lead unit is swapped with the backup unit to provide uniform run time. Chiller CH101B has a history of failure (compressor replaced twice and rebuilt twice since 1989). These units and associated spare parts are no longer manufactured. Spare parts availability is limited to the remaining parts inventory from York International. These units currently use Freon 502 which is only available as a reclaimed resource as the industry phases out this product.

Importance

impact on operations/programs:The preferred method for cell pressure and temperature control is by providing a means of cooling the recirculated argon gas. Without the ability to cool the argon gas, pressure and temperature control must be achieved through a feed and bleed process (I.e., add argon from a storage tank/exhaust argon from the cell to the atmosphere) which significantly increases argon gas usage.

regulatory/ S&H requirements: N/A

Alternatives

replacement parts availability: Limited quantity and selection available with 1-2 week lead time.

replacement parts recovery time: Recovery time of 1 day to 2 weeks (depending on nature of part replacement).

new, rent or lease availability: New units are available. Leasing is not considered an option because economic value and economic life of the asset would constitute a capital lease (capital equipment money) under current OMB guidelines. Based on the capital equipment designation and critical application, the best business practice would be outright acquisition.

new, rent or lease recovery time: Approximately four months from time of contract award date and permission to procure units.

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$300,000	Other	$0	Other	$0	Other	$0
Total	$300,000	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 785-3

Building	ETA/Task #	Title
785	3	Upgrade Diesel Generators

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPP	H. HOUSER	C. HAMMOND	HFEF	FAC	53.00	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Upgrade diesel generators

Justification

existing condition: Existing units consist of one standby 200 kw unit and one backup 60 kw unit. 200 kw unit is approximately 50 years old nad parts availability is limited. Backup unit is approximately 35 years old. Engine manufacturer maintains parts but control panel manufacturer does not support unit in any way or maintain parts. In addition, load studies have shown potential backup load to be near maximum on one phase limiting any expansion of equipment on backup emergency power.

Importance

impact on operations/programs:Facility has limited egress only lighting in event of loss of power without standby generator. In the event of loss of power, some experiments may be affected and ability to place facility in a safe status could be limited. Emergency power maintains facility exhaust system and ensures facility containment is maintained.

regulatory/ S&H requirements: Life Safety Code (NFPA 101) requires adequate lighting for egress. In as little as one hour, emergency battery lights would fail and portable lighting would be needed.

Alternatives

replacement parts availability: Limited--long lead time and special fabrication required. Many parts for 60 kw control.

replacement parts recovery time: Parts that are available--one day to four weeks

new, rent or lease availability: New diesel generators are available. Leasing is not considered an option because economic value and economic life of the asset would constitute a capital lease (capital equipment money) under current OMB guidelines. Based on the capital equipment designation and critical application, the best business practice would be outright acquisition.

new, rent or lease recovery time: New diesel generator could be procured and installed in 2-3 months.

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$250,000	Other	$0	Other	$0	Other	$0
Total	$250,000	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 752-AL-2003-001

Building	ETA/Task #	Title
752	AL-2003-001	Replace low beta counter

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPE		G. BERNARD	AL	NTD	64.50	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Purchase low beta counter

Justification

existing condition: Twenty-five plus year-old low beta counter not operable or repairable. This instrument is obsolete and the manufacturer no longer supports spare parts.

Importance

impact on operations/programs:Lost capability to perform low beta measurements for compliance, programs, and infrastructure. Alternate methods to perform this capability requires a 16-20 hours count per sample vs 10 minutes count per sample with the low beta counter. This alternate method introduces additional error due to relative closeness to background levels. (signal to noise ratio)

regulatory/ S&H requirements: Low beta measurement required for regulatory complaince i.e. EBR-II/FCF stack monitoring.

Alternatives

replacement parts availability: Not available

replacement parts recovery time: N/A

new, rent or lease availability: New

new, rent or lease recovery time: 45 days

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$47,000	Other	$0	Other	$0	Other	$0
Total	$47,000	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 774-UA-33

Building	ETA/Task #	Title
774	UA-33	Replace ZPPR backup air compressors

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPE		S. Mousseau	ZPPR	FAC	63.75	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Replace ZPPR backup air compressors

Justification

existing condition: Undersized: The two backup air compressors do not meet the demands of facility. During main air compressor outages, work must be suspended in both FMF and ZPPR; EML work is also limited during these outages. ZPPR mound ventilation valves go to fail position because of inadequate air flow, preventing cooled air from entering the facility. ZPPR has obligation to maintain specific temperatures for the RPS program. The primary air compressor is also undersized, but would be sufficient as the backup to a new, larger air compressor. The undersized primary and the two, original-installation backup compressors are currently supplying FMF, EML, Building 710 and the entire ZPPR facility, which includes buildings 775 and 776.

Importance

impact on operations/programs:Failure precludes access to ZPPR buildings 775 and 776 as doors are pneumatic operated. Access is also affected to FMF. Backup air compressors are inadequate to supply the required air pressure to open doors or maintain ZPPR ventilation valves in operable positions

regulatory/ S&H requirements: CAMs as required by the Radiation Control Manual and negative ventilation must be maintained in buildings 775 and 776 as required by the ZPPR SAR

Alternatives

replacement parts availability: Parts are available.

replacement parts recovery time: 2 to 3 weeks

new, rent or lease availability: N/A

new, rent or lease recovery time: N/A

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$50,000	Other	$0	Other	$0	Other	$0
Total	$50,000	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 783-UA-29

Building	ETA/Task #	Title
783	UA-29	Drott 5 Ton Carry Deck Crane

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPE		G. Russell	M/H	NPS	62.25	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Drott 5 Ton Carry Deck Crane

Justification

existing condition: Because of its small size, the Drott is used for hoisting and rigging operations inside buildings where no overhead crane capabilities exist. This is also the only crane with a flat deck made specifically for pick and carry operations. The Drott crane division is out of business.

Importance

impact on operations/programs:Failure of this crane will impact the following: FCF HUP shipments (the only crane that fits under the door while carrying a suspended load), handling and movement of the ALP-7 cask, L&O sample casks, SPF sodium process support, EML construction, SCMS hoisting and rigging support, handling equipment in and out of the EBR-II reactor building freight door, as well as lifting floor hatches in FCF and ZPPR.

regulatory/ S&H requirements: None

Alternatives

replacement parts availability: Many of the replacement parts can only be found in salvage yards.

replacement parts recovery time: Unknown

new, rent or lease availability: Leasing is not considered an option because economic value and economic life of the asset would constitute a capital lease (capital equipment money) under current OMB guidelines. Based on the capital equipment designation and critical application, the best business practice would be outright acquisition. Rental Price is 325.00/day. 7-10 days availability.

new, rent or lease recovery time: 60-90 days ARO (new).

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$106,090	Other	$0	Other	$0	Other	$0
Total	$106,090	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 783-UA-28

Building	ETA/Task #	Title
783	UA-28	Taylor 25 Ton

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPE		G. Russell	M/H	NPS	62.25	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Taylor 25 Ton

Justification

existing condition: Equipment is used for fuel transfer, virtually all cask handling, RSWF operations, cargo container handling and heavy lifting operations. Equipment is currently functional and is passing load tests however, based on age of equipment, increased frequency of maintenance/downtime and the facility/operations support role it plays at ANL, it should be replaced before it fails. Failure would result in unacceptable operations downtime

Importance

impact on operations/programs:Inability to support operations/programs such as those discussed above would result in unacceptable delays.

regulatory/ S&H requirements: None

Alternatives

replacement parts availability: Fair.

replacement parts recovery time: Off-the-shelf to 120 days dependant on component

new, rent or lease availability: New equipment is available. Leasing is not considered an option because economic value and economic life of the asset would constitute a capital lease (capital equipment money) under current OMB guidelines. Based on the capital equipment designation and critical application, the best business practice would be outright acquisition. Renting is not an option.

new, rent or lease recovery time: N/A

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$355,136	Other	$0	Other	$0	Other	$0
Total	$355,136	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 782-UA-30

Building	ETA/Task #	Title
782	UA-30	Replace Cordax measuring machine

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPE		S. Havlovick	QC	NPS	60.75	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Replacement of existing cordax measuring machine

Justification

existing condition: The machine is 25 years old and currently unable to maintain original factory tolerances. When the machine was new it had a tolerance capability of 0.0003 and now it will only go as low as 0.001. Precision inspection effort is being duplicated on complex components because the machines limited accuracy is in question. Similar inspections using mechanical methods could take four times as long. This instrument is used daily at ANL-W to perform various dimensional measurements. ANL-W currently has one qualified operator who is very familiar with the problems and limitations associated with this machine. If this operator is unavailable to perform measurements, an alternate may be called in and possibly missinterpret the data.
A modern Cordax Measuring devise would be smaller - freeing up vital space in our dimensional laboratory. Current state of the art technology would include additional features and increased capablities. It would enhance our dimensional inspection capability to be more precise when applying geometric tolerences to precision components, expanding our level of expertise to accomodate technical challenges for the future.

Importance

impact on operations/programs:The tolerance difference has prevented the QCI group from using this piece of equipment for complex jobs. They have had to rely on alternate methods when engineers have specified increased dimensional tolerances on fabricated items. Mechanical methods increase inspector time, reduce turn over rates and introduce the potential for operator error as additional steps are required. We may not be able to perform QC to the low tolerance levels called out in the RPS (Mound) work.

regulatory/ S&H requirements: ANL-W QAP/ASME NQA-1, Basic Requirement 12, -Control of Measuring and Test Equipment; defines conditions affecting measurement control. If equipment is consistently found to be out of calibration, it shall be repaired or replaced.

Alternatives

replacement parts availability: Parts are not stocked by the manufacture or maintenance personnel.

replacement parts recovery time: Five days for the more frequently requested parts and longer for exotic parts of the machine. There is also an estimated 20 hour calibration required after each time the machine recieves maintenance.

new, rent or lease availability: It would be approximately $74,000 for a new machine. We have no knowledge of a lease or rental option.

new, rent or lease recovery time: A new machine would free up our inspector of approximately 25% of his/her time.

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$74,000
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$2,500
MICE	$0	MICE	$0	MICE	$0	MICE	$1,000
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$0	Other	$0	Other	$0	Other	$2,000
Total	$0	Total	$0	Total	$0	Total	$79,500
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 783-UA-32

Building	ETA/Task #	Title
783	UA-32	Replace 1976 15 ton crane

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPE		G. Russell	M/H	NPS	52.00	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Replace 1976 15 ton crane

Justification

existing condition: There are currently two Galion cranes at ANL-W, a 15-ton capacity and a 12.5-ton capacity. Both cranes were brought in from the Excess Warehouse at CFA at different times. The 15 ton crane was picked up to replace the 12.5 ton that was being used for liner relocations, fuel deposits, and retrievals at the RSWF. Both cranes were excessed at Central because they were at the end of their service lives. We have kept both cranes because one is always out of service for repairs. Replacing the 15-ton Galion would allow the elimination of the 12.5-ton Galion also, freeing up valuable shop time. The Galion crane is the workhorse at Argonne. Because of it's small size and high lifting capacity it can get in places that the Grove 50-ton crane cannot. This crane has been used in several 2-crane operations involving the placement of liquid nitrogen and liquid argon tanks around the site.

Importance

impact on operations/programs:This equipment is used in fuel handling operations and inability to support programs would result in unacceptable delays.

regulatory/ S&H requirements: None

Alternatives

replacement parts availability: Parts are available

replacement parts recovery time: Immediate to 90 days

new, rent or lease availability: Leasing is not considered an option because economic value and economic life of the asset would constitute a capital lease (capital equipment money) under current OMB guidelines. Based on the capital equipment designation and critical application, the best business practice would be outright acquisition.

new, rent or lease recovery time: 30 to 120 days

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$225,101	Other	$0	Other	$0	Other	$0
Total	$225,101	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 765-FC-2001-010

Building	ETA/Task #	Title
765	FC-2001-010	Upgrade Gas Chromatograph Operating System

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPE		R. CHARLES	FCF	FAC	50.00	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Upgrade the gas chromatograph operating system

Justification

existing condition: The existing gas chromatograph uses a DOS-based computer operating system. This system needs to be upgraded to a Windows operating system, which would simplify maintenance and provide improved factory support. The manufacturer has converted all new gas chromatograph units to the Windows system.

Importance

impact on operations/programs:Failure of the DOS based system will impact the ability to monitor the Argon Cell Atmosphere for purity (I.e., O2, H2, H2O, etc.). The purity levels are required to (1) handle pyrophoric materials and (2) meet the guidelines for the research for Spent Fuel Treatment (electrorefining).

regulatory/ S&H requirements: N/A

Alternatives

replacement parts availability: Software support is not available.

replacement parts recovery time: N/A

new, rent or lease availability: New software is available off the shelf.

new, rent or lease recovery time: 1-2 weeks.

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$40,000	Other	$0	Other	$0	Other	$0
Total	$40,000	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 783-UA-31

Building	ETA/Task #	Title
783	UA-31	Case 580 Backhoe

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPE		G. Russell	M/H	NPS	43.00	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Case 580 Backhoe

Justification

existing condition: There are currently two Case 580C loader/backhoes in use at ANL-W, one with a straight stick backhoe and the other with an extending backhoe. Both loader/backhoes were obtained from the Excess Warehouse at CFA. The straight backhoe is a 1977 model and the extending backhoe is a 1978 vintage. Both loader/backhoes were excessed at Central because they were at the end of the service life. We have kept both units in order to guarantee that one will function when needed. Replacing of the 580C loader/backhoe with a new piece of equipment would allow for elimination of the second unit, freeing up shop time, and downsizing of our equipment fleet. A new unit with a quick disconnect on the backhoe side of the machine would minimize down time when changing attachments. Because of the age and use, the current units have excessive swing in the backhoe attachments, making smooth controlled operation virtually impossible. Hydraulic leaks, blow-bys, etc., constantly cause the operators to reset the machinery because the hydraulic systems are not holding. The loader/backhoe is the primary piece of equipment used for excavation of utilities at ANL-W. The units are used for excavation of waterlines, steam lines, condensate lines, cathodic protection systems at RSWF, and various other grounds work within the facility.

Importance

impact on operations/programs:Inability to support operations would result in delays

regulatory/ S&H requirements: None

Alternatives

replacement parts availability: Parts are available. Renting is an option for $225.00/day with a 2-3 day availability.

replacement parts recovery time: OTS to 60 days

new, rent or lease availability: New Equipment is available

new, rent or lease recovery time: 60 to 120 days

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$84,946	Other	$0	Other	$0	Other	$0
Total	$84,946	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 765-FC-2001-038

Building	ETA/Task #	Title
765	FC-2001-038	Improved Decontamination Equipment

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPE	TBD?	SCOTT, LESTER W.	FCF	FAC	40.00	12/3/2002

Reference #	Notes	Status
		Facility Management Concurran

Scope

Existing high pressure spray system is ineffective

Justification

existing condition: Current decon operations requires several (3-4) washes to get the levels below the limits. Each wash cycle also requires an associated radiological survey & analysis. The average time for this is 2 mhrs plus drying time for each wash cycle. Each wash cycle generates 15-18 gallons of waste water.

Importance

impact on operations/programs:Reduced cost of operation and waste water treatment.

regulatory/ S&H requirements: N/A

Alternatives

replacement parts availability: N/A

replacement parts recovery time: N/A

new, rent or lease availability: Most parts are commercially available. Others will require fabrication at ANL-W.

new, rent or lease recovery time: N/A

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$17,300	Engineering	$0	Engineering	$0	Engineering	$0
Material	$5,000	Material	$0	Material	$0	Material	$0
Drafting	$8,000	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$7,500	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$4,000	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$4,000	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$0	Other	$0	Other	$0	Other	$0
Total	$45,800	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 752-AL-2001-001

Building	ETA/Task #	Title
752	AL-2001-001	AL Hot Cell Fan Replacement

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPE	HOWELL, MAX L.	BERNARD, GORDEN R	AL	NTD	40.00	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Replace hot cell booster fans with axial fans.

Justification

existing condition: Existing fans last only five years before they need to be replaced. Existing fans do not put out the required flow rate.

Importance

impact on operations/programs:The only impact is the relative short life of the fans. The newer vaneaxial fans will have a significantly longer service life (estimated at 20 years).

regulatory/ S&H requirements:

Alternatives

replacement parts availability: Parts (fan) are available at a cost of $5500.00 each.

replacement parts recovery time: 4-6 weeks

new, rent or lease availability: New vaneaxial fans are available.

new, rent or lease recovery time: 4-6 weeks

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$59,600	Other	$0	Other	$0	Other	$0
Total	$59,600	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 785-HF-1997-005

Building	ETA/Task #	Title
785	HF-1997-005	System 50 Test Fixture

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPE	JOHANSEN, RONALD C.	HITZ, MICHAEL R.	HFEF	FAC	40.00	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Design & install test fixture in the HRA

Justification

existing condition: Currently there is no fixture available. The system 50 manipulators must be transferred to the Cell for installation and checkout (4 hrs). Any problems encountered during checkout would require the manipulator to be decontaminated and transferred back to the repair facility (8-12 hrs). The above represents the effort of two technicians. The test fixture will reduce the total time to 45 minutes (for two technicians).

Importance

impact on operations/programs:Reduced down time and cost for System 50 manipulator repairs.

regulatory/ S&H requirements: N/A

Alternatives

replacement parts availability: N/A

replacement parts recovery time: N/A

new, rent or lease availability: Item will be manufactured by ANL-W.

new, rent or lease recovery time: N/A

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$50,000	Other	$0	Other	$0	Other	$0
Total	$50,000	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003

CAS Field Report for 765-FC-1999-020

Building	ETA/Task #	Title
765	FC-1999-020	5 Cask Can Cutter Interlock

Funding type	Engineer/Project Manager	Contact/Requester	Facility	Division	CAMP	Completion Date
GPE		HANSON, KIRBY J.	FCF	FAC	40.00	

Reference #	Notes	Status
		Facility Management Concurran

Scope

Remove the feed/clamp permissive interlock. (10/00 via FCF want worked FY01)

Justification

existing condition: The cutter interlock doesn't work for warped cans. Currently, temporary modifications are required to shim the cutter in order to obtain proper fit up for cutting operations.

Importance

impact on operations/programs:Potential impact for retrieval of fuel assemblies from RSWF. Typical cutting operation takes 2 hours. The last operation required an additional 3 days to obtain a proper fit up.

regulatory/ S&H requirements: N/A

Alternatives

replacement parts availability: Cutter was manufactured by ANL-W.

replacement parts recovery time: N/A

new, rent or lease availability: N/A

new, rent or lease recovery time: N/A

Requester Estimate		Conceptual Design Estimate		Detail Design Estimate		Actual Cost	
Engineering	$0	Engineering	$0	Engineering	$0	Engineering	$0
Material	$0	Material	$0	Material	$0	Material	$0
Drafting	$0	Drafting	$0	Drafting	$0	Drafting	$0
Machine Shop	$0	Machine Shop	$0	Machine Shop	$0	Machine Shop	$0
Plant Services	$0	Plant Services	$0	Plant Services	$0	Plant Services	$0
MICE	$0	MICE	$0	MICE	$0	MICE	$0
MRG	$0	MRG	$0	MRG	$0	MRG	$0
Other	$53,400	Other	$0	Other	$0	Other	$0
Total	$53,400	Total	$0	Total	$0	Total	$0
Requester		Conceptual Design Engineer		Detail Design Engineer			

Approved: Signature on file **Date:** March 28, 2003