National Institutes of Health: Buildings and Facilities Program

The Recovery Act directly provided $10 billion to the National Institutes of Health (NIH). This Implementation Plan focuses on the $500 million of funds for NIH's Buildings and Facilities program in the Recovery Act.

A. Funding Table

(Dollars in millions)

Program/ Project/Activity	Total Appropriated	FY 2009 Actual Obligations	FY 2010 Estimated Obligations
Buildings and Facilities	$500.0	$49.7	$450.3

B. Objectives

The Office of Research Facilities (ORF) is responsible for the planning, design, construction, acquisition, maintenance and operations of NIH facilities. The ORF's Buildings and Facilities (B&F) program provides safe, secure, sound, and healthy facilities to support NIH's scientific objectives.

To provide facilities that support state-of-the-art biomedical research, the ORF B&F program uses several processes in concert to anticipate and articulate NIH's facility needs. These processes include:

1. The strategic facilities planning process that focuses on long-term facility needs,
2. The annual Buildings and Space Plan to identify current and emerging facility requirements,
3. The design and construction program to deliver new facilities and major repairs and improvements to existing facilities, and
4. The Facilities Condition Assessment (FCA) program that validates the condition of existing facilities and helps develop a strategy to mitigate deficiencies.

The ORF B&F program objectives specifically support the HHS Strategic Plan Goal of advancing scientific and biomedical research and development related to health and human services.

The Recovery Act program is enhancing the capability of NIH to perform biomedical research by providing additional research space; improving NIH facility energy efficiency to reduce operating costs and refurbishing infrastructure condition to support existing scientific research programs. Moreover, the program is creating jobs for the local and national economies. The public will benefit from this program because of the economic improvements that result from jobs that are created when contracts are awarded. Additionally, these contract awards will contribute to enhancing the health of the Nation because they will result in improving the facilities that NIH uses to support biomedical research.

C. Activities

NIH originally planned to distribute Recovery Act Buildings and Facilities funds among five construction projects and several repair and improvement projects. However, the downturn in the construction market has increased competition among contractors, driving down overall construction prices. Because of this, many of these proposed projects are coming in under budget, which will enable NIH to accomplish more high-priority construction, repair, and improvement projects than originally anticipated with Recovery Act funds.

Recovery Act funds are being used to make contract awards on projects that will enhance NIH's ability to conduct biomedical research. The Recovery Act funds support the following projects:

1. **John Edward Porter Neuroscience Research Center Phase II (PNRCII) ($175.72 million)**: This project will complete the consolidation of researchers from 10 Institutes and multiple disciplines comprising most of the neuroscience research community at the NIH into one facility. The Center will support bench-to-bedside research by basic and clinical neuroscientists, engineers, mathematicians, and computer scientists under one roof. The achievement of future advances in translational Neuroscience research requires a cross-discipline approach that necessitates housing researchers from multiple Institutes and areas of scientific expertise in a central location as provided for by the PNRC complex. The PNRC II is being built using cutting edge energy efficient technologies, such as chilled beam technology, and employing many green features, including photovoltaic technologies and the use of local and low pollutant emitting materials. As a result, it is expected that the PNRC II will achieve both a Leadership in Energy and Environmental Design (LEED) certification at the Gold Level and a Green Globes certification of 3 Globes.

2. **Building 10 F Wing Renovations ($160.33 million):** Building 10, NIH's original Clinical Research hospital was completed in 1955 and the oldest wings are no longer capable of supporting biomedical research and training without extensive renovation.

   Phase A (The Anatomical Pathology Lab) - This is the first of a four phased project to convert mothballed patient care areas in Building 10 to laboratories and support space. This project converts 64,000 gross square feet of former patient care unit**s** on floors 2 through 5 to accommodate the NCI laboratory of Anatomical Pathology. This project allows for the immediate repairs and improvements that are required to retain lab accreditation. This project also provides for the installation of new utilities infrastructure required to support future renovation efforts in Building 10. When completed this project is expected to attain a 'Certified' level of compliance using the LEED rating system.

Phase B - The conversion of F Wing, Phases B1-B2, Floors 6-13 from hospital to laboratory space will support translational research for 9 of the 12 Institutes and Centers (ICs) that have Clinical Research programs in the new Clinical Research Center. When completed it is expected that this renovation will achieve a certified level of compliance using the Leadership in Energy and Environmental Design (LEED) rating system. Additionally, this renovation will decrease NIH's Backlog of Maintenance and Repairs by $80.4 million.

3. **Build-Out of Building 3 ($21.00 million)**: The build-out of Building 3 will transform an unused, vacant building into useable space that is able to provide offices for Scientific Directors and their administrative staff. Building 3 provides the best location given its close proximity to the clinical/research program which is largely located in Building 10, the Clinical Research Center, and the surrounding buildings. . Building 3 is eligible for designation as a historic building on the Federal Register as part of NIH's historic core; NIH considers this building to have historic relevance to the campus and regards its reuse a high priority. Studies showed that Building 3 could not be reoccupied as laboratory space, but could effectively be repurposed as office space– thus avoiding its demolition and the associated destruction of valuable building material with historical preservation status and the energy and resources required to erect a new building. The use/reuse of an existing facility is environmentally sensitive and conserves energy, and when completed, Building 3 will achieve a Silver Level of compliance using the Leadership in Energy and Environmental Design (LEED) rating system.

4. **Conversion of Building 7 ($6.22 million)**: This project at the Rocky Mountain Laboratories (RML) in Hamilton, Montana will convert formerly unused industrial space into laboratories that provide critical additional space for National Institute of Allergy and Infection Diseases (NIAID) research program. This building is part of the RML Historic District and this project preserves the historic nature of Building 7 while enhancing productivity by allowing research personnel to operate in close proximity to each other and existing animal facilities, Additionally the unoccupied space in Building 7 is currently heated during the winter in order to protect building systems; . following renovations, operational energy efficiency will increase because the heated space will be used. Additionally, as a result of this renovation activity, these labs will attain a Silver Level Leadership in Energy and Environmental Design (LEED) certification.

5. **The West Utility Tunnel ($22.30 million):** This project is a design/build effort that increases the size and capacity of the chilled water and steam distribution systems available to support future renovations in the F and Distal-Wings of Building 10. These F-Wing utilities will contribute to the continued certification and accreditation of the Anatomical Pathology Lab in Building 10 that is crucial to the mission of providing clinical pathology services to the NIH.

6. **Renovation of Building 4 ($11.30 million):** Building 4 is 67 years old and located on a historic site on NIH's Bethesda campus; it is a candidate for registration as a Historic Building. This interior renovation project leaves the building envelope intact and does not impact this building's historic status. This project allows for the design and renovation of the first and second floors so obsolete laboratories can be replaced and aging building systems can be improved to ensure compliance with current NIH and HHS Guidelines as well as regulatory codes and accreditation requirements. The renovation of Building 4 in order to house NIAID support functions will ensure efficiencies due to its proximity to the Clinical Research Center and NIAIDS's new research lab in Building 33. When completed this project is expected to attain a 'Certified' level of compliance using the LEED rating system for Commercial Interiors.

7. **Other R&I Projects ($103.13 million)**:A variety of smaller projects are aimed at improving the reliability and condition of NIH facilities such as:

	Amount
Rehabilitate Electrical Vaults	$43,822,000
Improve Building 12 Center for Information Tech Electrical Reliability	7,496,400
Repair Tube Nest and Condensate Lines, Bldg. 10	100,000
Building 10 Repair Laboratory Pathology HVAC	2,992,000
Correct Cell Processing Area Deficiencies	643,300
Barrier, Door and Security Repairs to Main JCAA Accreditation	2,194,000
Renovate Building 16A	2,150,000
Building 31 Emergency Generator for Life Safety Systems	4,780,000
Repair ACRF East Bldg. Fin Tube System	1,894,000
Repairs to Mechanical Systems in Bldgs. 1, 8, 8A, 31, and 45	303,300
Install Dedicated Electrical Feeder to RML	1,394,000
Bldg 12 Continuous Power Phase 3	8,000,000
Repair Cyclotron Exhaust System	4,386,000
Replace ACRF Lab/Clinic Air Handling Units	4,500,000
Replace Steam line and Manhole	4,000,000
Bldg 60 Chilled Water and Steam	3,500,000
Repair Roofs	6,743,000
Program Support Services Contracts	589,000
Project Contingency	3,642,000
TOTAL	$103,129,000

D. Characteristics:

The execution and completion of these projects is being accomplished via contracts awarded by NIH's Buildings and Facilities program for NIH campus Federal facilities. Awards are made through new competitive processes or, where appropriate, by tasks under existing contracts. When existing contracts are used, Recovery Act funds are separately identified in the contracts by use of a unique Treasury symbol and separate accounting numbers and codes. The intended recipients of these awards are construction contractors.

E. Delivery Schedule:

B&F will obligate a total of $500 million for these awards; $49.7 million of which was obligated in FY 2009 and the remaining $450.3 million is being obligated in FY 2010. Of the 15 original Building and Facilities ARRA projects , five projects – PNRCII, Building 10 F Wing, Building 3, RML Building 7, and the Electrical Vaults (under Other R&I), require awarding via newly competitive contracts. One project – the RML Installation of a Dedicated Electrical Feeder – was executed through collaboration with the local utility. Three projects in Building 10- The Tube Nest Condensate Line Repair, The Cell Processing Deficiency Corrections, and The Anatomical Pathology HVAC Repair- were awarded as task orders to existing contracts that had previously been awarded to participants in the 8(a) small disadvantaged business program (FAR 19). Existing competitive contracts can be used to implement the remaining projects.

The appropriate contract award mechanisms is still being determined for the new or additional projects; but, it is anticipated new awards will be made using processes similar to those that were employed when awarding the original 15 projects.
The following are key milestones already achieved by NIH's Recovery Act Buildings and Facilities Activities:

- 4/2009 – Began repairing electrical vaults and correcting cell processing area deficiencies
- 9/2009 – Started Building 12 Center for Information Technology improvements and began repairing the mechanical systems and the Building 10 laboratory pathology HVAC and tube nest and condensate lines.
- 11/2009 – Started the Building 7 conversion
- 3/2010 – Awarded contract to install RML dedicated electrical feeder and repair barrier doors and the ACRF fin tube system

Below are a few milestones that are planned as part of NIH's Recovery Act Buildings and Facilities Program:

- 5/2010 – The Porter Neuroscience Research Center Phase II construction contract and the Building 31 Emergency Generators installation contract will be awarded.

- 6/2010 - Contract awards will be made for the West Utility Tunnel, the Building 3 renovation and both Phase A (the Anatomical Pathology Lab) and Phase B of the Building 10 F Wing.
- 8/2010 – Award the Building 4 renovation contract
- 9/2010 - Award the contract for the Building 12 Continuous Power and Data Center Upgrade

F. Environmental Review Compliance

For every major action, Federal agencies are required to review projects for potential environmental impacts. NIH representatives follow the National Environmental Policy Act regulations to review the proposed action and determine whether the preparation of an Environmental Assessment (EA) or Environmental Impact Statement (EIS) is required before making a final decision regarding the project. In some cases, the review may result in the project being Categorically Excluded from further NEPA review.

For the 15 original ARRA projects/activities that made up NIH's Building and Facilities program 14 have received NEPA approval decisions and one awaits a SHPO decision. Categorical exclusions (CE) were issued for 12 projects, one project has a completed environmental assessment (EA) and there are two projects covered by a Master Plan completed Environmental Impact Statements (EISs).

Consistent with Recovery Act requirements, NIH reports compliance with environmental requirements on the NEPA ARRA 1609(C) report that is submitted to the Office of the Federal Environmental Executive.

G. Measures:

NIH is using the following measures for this program:

Outcome / Achievement [1/]	Units	Type	9/30/09	12/31/09	3/31/10	6/30/10	9/30/10	12/31/10	3/31/11	6/30/11	9/30/11	Program End
Percent of construction projects complete in accordance with 10% variance of contract schedules[2/]	%	TARGET	100	100	100	100	100	100	100	100	100	100
		ACTUAL	100	100	100							

Percent of construction projects complete in accordance with 10% variance of contract cost[3/ 4/]	%	TARGET	100	100	100	100	100	100	100	100	100	100
		ACTUAL	100	100	100							
Number of capital facility project awards completed. (cumulative)	#	TARGET	6	7	10	17	24	24	24	24	24	
		ACTUAL	6	7	10							
Condition Index (weighted average) of NIH facilities. This measure is designed to reflect the effect of ARRA activity on both the Target and Actual CI. [5/]	#	TARGET	74.5	74.5	74.5	77.3	77.7	77.7	77.7	77.7	77.7	77.7
		ACTUAL	74.1	74.1	74.1							
Reduction in the Backlog of Maintenance and Repairs. [6/]	$s M	TARGET	23.0	23.2	24.4	162.7	180.7	180.7	180.7	180.7	180.7	180.7
		ACTUAL	23.0	23.2	24.4							

1/ For all measures, performance targets and actuals reported here represent the total Building and Facilities ARRA program, which is comprised of both the initial 15 approved ARRA projects and the additional projects added during 3QFY10

2/ This measure derived by taking the total number of projects completed with a 10% or less variance to the contract schedule (based on the number of days in the period of performance) and dividing it by the cumulative number of projects completed.

3/ This measure derived by taking the total number of projects completed with a 10% or less variance to contract cost (based on the dollar value of the contract award) and dividing it by the cumulative number of projects completed.

4/ This measure excludes performance on Line Item projects and only reports cost variance for the R&I projects

5/ The Condition Index is the ratio the cost of needed facility repairs to the replacement value of the facility. Many ARRA projects lead to a reduction in the cost of needed facility repairs. This measure tracks the impact that ARRA projects have on NIH's condition index.

6/ Many ARRA projects lead to a reduction in the cost of needed facility repairs. This measure tracks the impact that ARRA projects have on reducing NIH's Backlog of Maintenance and Repairs.

H. Monitoring/Evaluation

All Recovery Act programs are assessed for risk to ensure that appropriate internal controls are in place throughout the entire lifecycle of the program. These assessments are done consistent with the statutory requirements of the Federal Manager's Financial Integrity Act and the Improper Payments Information Act, as well as OMB's circular A-123 "Management's Responsibility for Internal Control" (including Appendices A, B & C).

NIH's risk management process fits within the overall governance structure established at HHS to address Recovery Act program risks. The HHS Risk Management and Financial Oversight Board provides executive leadership and establishes accountability for the risk assessment process related to internal controls over financial reporting, and the HHS Senior Assessment Team ensures that risk assessment objectives are clearly communicated throughout the Department. NIH's Senior Assessment Team in coordination with the NIH Risk Management Program carries out comprehensive annual assessments of its Recovery Act programs to identify risks and develop strategies to address them, including those associated with selecting recipients, awarding and overseeing funds, and achieving program goals. It meets quarterly to monitor and assess the effectiveness of mitigation strategies and identify emerging risks.

In addition, NIH has presented its high level risks to the Recovery Act Implementation Team. Chaired by the Deputy Secretary and comprised of senior policy officials from throughout the Department, the Implementation Team convenes monthly to monitor progress in carrying out Recovery Act programs and address the obstacles and risks that could impact on their success.

In addition, the NIH Office of Management Assessment (OMA) and the Office of Financial Management (OFM) have established the NIH risk management framework for identifying, assessing, and testing of operational and financial risks and internal controls associated with implementing Recovery Act requirements. OFM and OMA conduct risk and control assessments in compliance with the statutory requirements of the Federal Managers' Financial Integrity Act, the Improper Payments Information Act, and OMB's Circular A-123 *Management's Responsibility for Internal Control*. OMA works with NIH offices that are responsible for implementing programs receiving Recovery Act funding to: identify and score the Recovery Act risks, assess

controls related to the identified Recovery Act risks, remediate controls as needed, monitor the inventory of the Recovery Act risks, and report on the risks and controls to leadership. OFM uses its existing process for assessing internal control over financial reporting related to using and tracking Recovery Act funds and take into account any control deficiencies.

NIH uses a Facility Project Approval Agreement (FPAA) form to document risk and put into place measures to manage it. The FPAA process involves 1) clear scope identification; 2) economic analysis of alternatives; 3) identification of best acquisition methodology; 4) sustainability; 5) identification of risk areas such as historic preservation, utilities limitations, environmental issues and other factors that could cause cost escalations or jeopardize construction schedules.

Contracts funded with Recovery Act appropriations are monitored by an Integrated Project Team (IPT) of federal acquisition and project management professionals who have obtained and maintain certification as Contracting Officers (COs) or Contract Officer Technical Representatives (COTRs). For larger projects, this team meets weekly with the contractor to review progress.

For the Recovery Act “line item” projects (PNRCII, Building 10 F wing, Building 3, and RML Building 7) NIH has established an Executive Steering Committee (ESC) for each of these projects that is comprised of members of the IPT and senior ORF and NIH management. The ESC provides close monitoring by senior management of progress and associated corrective actions.

H. Transparency

NIH will be open and transparent in all of its contracting and grant competitions and regulations that involve spending of Recovery Act funding consistent with statutory and OMB guidance. All Recovery Act funds must be awarded separately from the normal appropriation funds. The projects funded with Recovery Act money will comply with both existing NIH reporting requirements and the reporting requirements outlined in the Recovery Act. NIH ensured that recipient reporting required by Section 1512 of the Recovery Act and OMB guidance was made available to the public on Recovery.gov by October 10, 2009 and that recipient reports required by Section 1512 of the Recovery Act are submitted and reviewed for material omissions and significant errors that would mislead or confuse the public. Recovery Act recipients must report on a quarterly basis and NIH will inform recipients of their reporting obligation through standard terms and conditions, grant announcements, contract solicitations, and other program guidance. NIH will provide technical assistance to grantees and contractors and fully utilize Project Officers to ensure compliance with reporting requirements.

NIH has a link to Recovery.gov on its website.

I. Accountability

To ensure that managers are held to high standards of accountability in achieving program goals under the Recovery Act, NIH will build on and strengthen existing processes. Senior NIH and Building and Facilities officials will meet regularly with senior Department officials to ensure that projects are meeting their program goals, assessing and mitigating risks, ensuring transparency, and incorporating corrective actions. The personnel performance appraisal system will also incorporate Recovery Act program stewardship responsibilities for program and business function managers.

The NIH Office of Management Assessment and Office of Financial Management are coordinating efforts to ensure that existing risk management processes are fully used as NIH implements the provisions of the Recovery Act. Terms and conditions of award notices will also be amended so that awardees are fully aware of the reporting requirements associated with these funds. Any NIH facilities projects that exceed OPDIV approval authority, the project scope, budget, and schedule will be documented in an FPAA, HHS Form 300.

The monitoring activities described in the monitoring section will ensure that NIH management and the Integrated Project Team are aware of deviations of contract performance from requirements. If such deviation from requirements occurs, the Integrated Project Team will use a variety of tools outlined in the Federal Acquisitions Regulations to promote correction by the contractor. These tools range in severity from approving smaller progress payments than requested to formal cure notices, and if necessary as a last resort, termination of the contract for default.

J. Barriers to Implementation

NIH anticipates no significant barriers to implementation.

K. Federal Infrastructure Investments

All projects will incorporate the requirements of the HHS Sustainable Buildings Implementation Plan dated December 2008. To monitor and ensure that energy and “green” building requirements are effectively incorporated into all of NIH’s federal infrastructure investments funded by Recovery Act, NIH is documenting the specific project methodologies to be employed in the HHS Project Sustainable Buildings Checklist. This Sustainability tracking tool is a requirement of the HHS Form 300 – Facility Project Approval Agreement, which is required for projects which fall above given cost thresholds. NIH is using the Sustainable Buildings Checklist even for projects which fall below the FPAA thresholds in order to document the features that are evaluated for lifecycle cost effectiveness. Use of this Checklist also documents compliance with Executive Order 13423, EPAct 2005, and the EISA2007. The NIH operates mainly energy intensive facilities that have no industry baseline so we are working closely with USGBC and Labs 21 on the most appropriate strategies. All six ARRA funded building construction /renovations projects are designed to meet or exceed the Leadership in Energy and Environmental Design (LEED) certification level. Three projects (Bldg 4 and Phases A and B of Bldg 10) that will achieve a

LEED certification level involve the complicated task of renovating a portion of an older occupied building . Two projects where NIH is renovating unoccupied historic structures (RML Bldg 7 and Bldg 3) will result in LEED certifications at the Silver level. One ARRA project is for the construction of a new building (PNRC II) that, when completed, will reach the Gold level of LEED certification as well as achieve a Green Globes certification level of 3 Globes.

Summary of Significant Changes:

- Modified portfolio (Section C. Activities) due market – proposals were lower than anticipated allowing for additional dollars
  - Added: West Utility Tunnel ($22.3M); Renovation of building 4 ($11.3M)
  - Revised/added verbiage on PNRCII, Bldg 10, 3, and 7
  - Added projects to Other R&I table: Bldg 12, Repair Cyclotron Exhaust System, Lab/clinic, Steam line, repair roof, etc.
- Updated program measures (Section G. Measures)
- Revised delivery schedule (Section E. Delivery Schedule)
- Revised federal infrastructure investment (Section L. Federal Infrastructure Investments)