Contact: Sheila Doyle

REGISTER OF UNIVERSITY OF IOWA
CAPITAL IMPROVEMENT BUSINESS TRANSACTIONS

Actions Requested: Consider approval of:

1. Permission to proceed with project planning for the **Power Plant – Combustion Turbine Electric Generator** project.

2. Schematic designs and project descriptions and budgets for the **Oakdale Environmental Management Facility – Construct New Facility** project ($7,971,029) and the **Hydraulics Wave Basin Research Facility – Construct New Facility** project ($3,398,348), both major capital projects as defined by Board policy.

   a. Acknowledge receipt of the University's final submission of information to address the Board's capital project evaluation criteria (see Attachments A and B);

   b. Accept the Board Office recommendation that the projects meet the necessary criteria for Board consideration; and

   c. Approve the schematic designs and project descriptions and budgets with the understanding that these approvals will constitute final Board approval and authorization to proceed with construction.

3. Project descriptions and budgets for the **Oakdale Campus – Electrical Generation Upgrade** project ($6,725,000) and the **Pomerantz Family Pavilion – Replace Gas Boiler** project ($2,898,979).

4. Revised project budget for the **UIHC Autopsy Suite Relocation** project ($2,990,000).

Executive Summary: The **Power Plant – Combustion Turbine Electric Generator** project would install a natural gas-fired, combustion turbine generator, with supporting infrastructure, to replace an existing diesel generator, which may be relocated, at the main Power Plant. The gas-fired unit would provide a centrally-located turbine for generating emergency electrical back-up power in lieu of individual building diesel units. The generator would provide greater reliability, reduce greenhouse gas emissions through the use of natural gas, and offer additional options during times of electrical curtailment or peak load shaving, which would reduce the University's purchased electricity costs.

The estimated project cost of $3,500,000 would be funded by Utility System Replacement and Improvement Funds.

The **Oakdale Environmental Management Facility – Construct New Facility** project (formerly the Regulated Waste Management Facility project) would construct an addition to the existing Waste Storage Facility on the Oakdale Campus and modernize a portion of the facility's existing space. The project would allow the University to consolidate and streamline its waste management operations, which are currently housed in three obsolete structures on the Oakdale Campus. The project would enhance the efficiency of the waste management operations, improve compliance with regulatory requirements, and provide safer, year-round handling of the waste materials.

The project budget of $7,971,029 would be funded by the sale of Utility System Revenue Bonds. The University anticipates (based on a five-year average of waste collection statistics) that approximately 35 percent of the total costs of operating the facility (operations and debt service) will be allocated to organized research and recovered through the Facilities and Administrative rate charged to externally-funded projects. The University further anticipates that an additional 35 percent of the facility's costs will be recovered through fees charged directly to UIHC, Facilities Management, and other large volume users of the facility, with all remaining costs, including those resulting from hazardous waste streams from academic buildings and related programs, charged to the General Fund.

The **Hydraulics Wave Basin Research Facility – Construct New Facility** project would construct a research building for use by the IIHR – Hydroscience and Engineering to support new University research in ship hydrodynamics, as well as field research in fluid mechanics, and water and air resources. The facility would provide a state-of-the-art laboratory with a wave basin (an open pool of water) to simulate the hydraulics of oceans and other large bodies of water. The facility would be constructed on the Oakdale Campus.

The major emphasis of experiments conducted within the facility would be to determine the impact of various ocean conditions on sea-going vessels. The majority of the experiments would be conducted in conjunction with the Office of Naval Research of the U.S. Navy.

The project budget of $3,398,348 would be funded by Master Lease financing supported by the College of Engineering and IIHR sponsored research.

The **Oakdale Campus – Electrical Generation Upgrade** project would install two new generators at the Oakdale Power Plant to provide electrical power to the Oakdale Campus. The generators would be capable of utilizing either natural gas (for back-up electrical power) or renewable biogas (for primary power), and would be sized to support the construction of the State Hygienic Laboratory and the planned construction of other buildings at the Oakdale Campus.

The project budget of $6,725,000 would be funded by the sale of Utility System Revenue Bonds.

The **Pomerantz Family Pavilion – Replace Gas Boiler** project would replace the existing emergency boiler in the UIHC Pomerantz Pavilion with a larger natural gas boiler with greater capacity to provide emergency steam for UIHC in the event of a power outage. The existing emergency boiler does not produce the sufficient quantity or pressure of steam to serve the UIHC's needs, or to feed into the campus steam distribution system. The new boiler would also have sufficient capacity to provide steam to the distribution system during periods of maximum campus power loads.

The project budget of $2,898,979 would be funded by Utility System Revenue Bonds.

The UIHC Autopsy Suite Relocation project is renovating space in the General Hospital, and constructing a service garage, to provide a modern, academic autopsy/forensic pathology facility. Upon completion of the project, the Autopsy Suite will relocate from its current location in the basement of the Medical Laboratories Building, which suffers from a number of space and safety deficiencies.

The revised budget of $2,990,000, an increase of $190,000, is necessary to correct underground utility conflicts at the garage construction site which were not evident prior to construction. This will require the redesign and rerouting of three steam lines and two water mains, and development of a new steam vault.

The budget increase would be funded by University Hospitals Building Usage Funds.

Details of Projects:

Power Plant – Combustion Turbine Electric Generator

Project Summary

	Amount	Date	Board Action
Permission to Proceed with Project Planning		June 2008	Requested

Oakdale Environmental Management Facility – Construct New Facility

Project Summary

	Amount	Date	Board Action
Initial Review and Consideration of Capital Project Evaluation Criteria		Nov. 2005	Received Report
Permission to Proceed with Project Planning		Nov. 2005	Approved
Architectural Agreement (Architects Smith Metzger, Des Moines, IA)	$ 377,500	Nov. 2006	Not Required
Program Statement		Jan. 2008	Approved
Final Review and Consideration of Capital Project Evaluation Criteria		June 2008	Requested
Schematic Design		June 2008	Requested
Project Description and Total Budget	7,971,029	June 2008	Requested

The design booklet is included with the Board's meeting materials.

The proposed addition, which would consist of 12,084 gross square feet (8,191 net square feet) would be constructed to the immediate east of the existing Waste Storage Facility. The administrative offices would be located along the north wall of the addition, and the majority of the remaining space would house secure storage areas for chemical and flammable materials. The addition would also include an enclosed loading dock at the connection point with the existing facility to provide a centrally-located entry point for the building.

The project would also renovate 2,392 net square feet of space at the east end of the existing facility adjacent to the new loading dock. The renovated space would provide secure storage areas for radioactive and infectious materials. The remainder of the existing building (5,883 net square feet) would not be renovated.

The addition would be constructed of concrete panels for the secure storage areas, and corrugated metal panels for the administrative office area. This is consistent with the exterior of the existing Waste Storage Facility, which includes concrete block and metal siding.

The square footages in the schematic design are identical to the approved building program.

Building Program

Addition			
Material Handling Support	3,366		
Chemical/Flammable Materials	3,352		
Administrative and Support	1,473		
Addition Total		8,191	nsf
Renovation			
Radioactive Waste Storage – Liquid	626		
Corrosive Treatment/Wet Room	592		
Empty Drum Storage	567		
Radioactive Dry Waste Processing	389		
Analysis/Radioactive Laboratory	218		
Renovation Total		2,392	nsf
Total Net Assignable Space		10,583	nsf
Total Gross Square Feet		15,613	gsf
Net-to-Gross Ratio = 68 percent			

The University anticipates receiving construction bids in January 2009, with construction completion in May 2010.

Project Budget

Construction	$ 6,398,885
Planning and Design	1,272,144
Contingencies	300,000
TOTAL	$ 7,971,029

Source of Funds: Utility Enterprise Revenue Bonds

Hydraulics Wave Basin Research Facility – Construct New Facility

Project Summary

	Amount	Date	Board Action
Initial Review and Consideration of Capital Project Evaluation Criteria		Sept. 2006	Approved
Permission to Proceed		Sept. 2006	Approved
Architectural Agreement (Neumann Monson Architects, Iowa City, IA)	$ 527,000	Feb. 2007	Not Required
Program Statement		May 2008	Not Required
Final Review and Consideration of Capital Project Evaluation Criteria		June 2008	Requested
Schematic Design		June 2008	Requested
Project Description and Total Budget	3,398,348	June 2008	Requested

The design booklet is included with the Board's meeting materials.

The wave basin (measuring 20 meters wide, 40 meters long and 3 meters deep) would occupy the majority of the building space. A workshop, an office with storage area, restrooms, and a mechanical room would be located along the west wall.

The facility would consist of a pre-engineered metal building with concrete masonry units and corrugated metal siding.

The square footages in the schematic design are identical to the approved building program.

Building Program

Wave Basin Pool (20 meters x 40 meters x 3 meters)	9,400		
Service Access Area for Pool	3,500		
Support Space (restroom, storage, shop)	600		
Offices	200		
Total Net Assignable Space		13,700	nsf
Total Gross Square Feet		15,570	gsf
Net-to-Gross Ratio = 88 percent			

The University anticipates commencing construction in November 2008, with scheduled completion in September 2009.

Project Budget

Construction	$ 2,765,071
Planning and Design	475,917
Contingencies	157,360
TOTAL	$ 3,398,348

Source of Funds: Master Lease Financing

Oakdale Campus – Electrical Generation Upgrade

Project Summary

	Amount	Date	Board Action
Permission to Proceed		Dec. 2007	Approved
Project Description and Total Budget	$ 6,725,000	June 2008	Requested

Project Budget

Construction	$ 5,483,374
Planning and Design	875,050
Contingencies	366,576
TOTAL	$ 6,725,000

Source of Funds: Utility System Revenue Bonds

Pomerantz Family Pavilion – Replace Gas Boiler

Project Summary

	Amount	Date	Board Action
Project Description and Total Budget	$ 2,898,979	June 2008	Requested

Project Budget

Construction	$ 2,303,130
Planning and Design	365,749
Contingencies	230,100
TOTAL	$ 2,898,979

Source of Funds: Utility System Revenue Bonds

University Hospitals – Autopsy Suite Relocation

Project Summary

	Amount	Date	Board Action
Initial Review and Consideration of Capital Project Evaluation Criteria		Nov. 2005	Received Report
Permission to Proceed with Project Planning		Nov. 2005	Approved
Architectural Selection (HLM Design USA, Iowa City, IA)		Feb. 2006	Approved
Architectural Agreement (HLM Design USA, Iowa City, IA)	$ 254,200	March 2006	Not Required
Program Statement		Aug. 2006	Approved
Initial Review and Consideration of Capital Project Evaluation Criteria		Sept. 2006	Approved
Schematic Design		Sept. 2006	Approved
Project Description and Total Budget	2,800,000	Sept. 2006	Approved
Construction Contract – Phase 1 Selzer Werderitsch, Iowa City, IA	391,200	Nov 2006	Not Required
Construction Contract – Phase 2 McComas-Lacina Construction	1,638,400	June 2007	Not Required
Revised Project Budget	2,990,000	May 2008	Requested

Project Budget

	Initial Budget Sept. 2006	Revised Budget May 2008
Construction	$ 2,152,000	$ 2,405,000
Design, Inspection & Administration	448,000	500,000
Contingency	200,000	85,000
TOTAL	$ 2,800,000	$ 2,990,000
Source of Funds: University Hospitals Building Usage Funds		

Oakdale Environmental Management Facility – Construct New Facility

Evaluation Criteria

Since the project meets the Board's definition of a major capital project, the University has provided the following information in response to the Board's evaluation criteria.

Institutional Mission/Strategic Plan: The University's Health Protection Office (HPO) manages high-risk, highly regulated waste materials generated on the University of Iowa campus. This service manages discarded or byproduct materials from routine activities within the healthcare, research, academia, outreach, construction/renovation and facility operations. Though essentially invisible to the University and surrounding community, waste management is a primary infrastructure activity that promotes ongoing institutional missions.

The University of Iowa has identified the need to replace its aging waste management facilities, located on the Oakdale Campus. The project also supports current University Strategic Plan goals and objectives, by "streamlining the operations of the regulatory and administrative offices that govern and support the research enterprise."

This project would renovate the east portion of the existing Waste Storage Facility and construct a new addition immediately adjacent to this structure. This will consolidate and improve the University's environmental management operations, which are currently housed in three obsolete structures on the Oakdale Campus. The west portion of the existing Waste Storage Facility will remain as is and continue to be used for radiological and biological waste handling.

Other Alternatives Explored: Several alternatives were examined as part of the planning of this project. They included: relocating the facility to the Iowa City campus; relocation to other off-campus locations; relocation to the current Oakdale laundry facility; and outsourcing of waste management operations. All were rejected due, primarily, to code limitations tied to the hazardous nature of the waste, site constraints, space and equipment limitations, and the lack of fiscal savings.

Site capacity studies completed in 2002 (Rietz) and 2004 (OPN/CUH2A) revealed that a partial re-use of the existing Oakdale Waste Storage Facility (Building #378), in combination with new construction would provide a modernized facility while appropriately addressing fiscal interests.

Impact on Other Facilities and Square Footage: The new facility will replace HPO's chemical storage facility (Building #244, 2,480 square feet) and offices in the Oakdale Superintendent's Building (Building #235, 2,840 square feet). The biohazardous waste management program, previously managed by Facilities Management through the Oakdale Waste Transfer Station, will be incorporated into Oakdale Waste Storage Facility (Building #378, 500 square feet) currently used for the management of radioactive waste. These facilities will be de-commissioned and prepared for demolition.

Financial Resources for Construction Project: The project will be funded through Utility Enterprise Improvement Bonds. The bonds will finance project costs with the bond payments to be derived from hazardous waste fees and charges based upon utilization.

Financial Resources for Operations and Maintenance: Operating costs of the facility are to be supported from hazardous waste fees and charges based upon utilization.

External Forces: Compliance with fire, health and safety laws/codes will be fully addressed with this project.

Hydraulics Wave Basin Research Facility – Construct New Facility

Evaluation Criteria

Since the project meets the Board's definition of a major capital project, the University has provided the following information in response to the Board's evaluation criteria.

Institutional Mission/Strategic Plan: This facility will allow IIHR - Hydroscience & Engineering (IIHR) (formerly the Iowa Institute of Hydraulic Research) to maintain and enhance its status as a world leader in hydraulic research. The demand for wave-basin research is increasing with significant grant opportunities becoming available to study hydrodynamics of sea-going vessels. The construction of the wave basin facility will provide a state of the art laboratory to simulate the various changes in oceanic conditions. This facility will also contain a modernized fluid dynamics teaching laboratory which supports undergraduate required core engineering courses. In addition, the project will provide opportunities for undergraduate and graduate students to work on projects that they can use as part of their Honors studies, graduate thesis/dissertations, and projects associated with organized student professional club activities. The project will keep UI faculty members at the forefront in their fields of expertise through both basic and applied research projects.

Other Alternatives Explored: IIHR requires a state of the art wave basin facility if it is to compete in the next emerging phase of hydraulic research – ocean wave studies and ship hydrodynamics. There are no other options available for conducting this research except for the construction of a wave basin.

Impact on Other Facilities and Square Footage: None

Financial Resources for Construction Project: The project will take advantage of immediate funding opportunities with the federal government and United States Navy, advancing an already strong relationship in this field of research.

Financial Resources for Operations and Maintenance: The source of funds to cover the associated operating and maintenance costs will be indirect cost recoveries earned from grant and contract activities taking place within the Wave Basin Research Facility.

External Forces: In order for the IIHR to remain a viable partner in federal government and United States Navy studies, their research facilities must be able to serve the grantor's needs. Extensive hydraulic research is planned in the area of ship hydrodynamics. The University must have adequate facilities if it intends to continue to participate in these federal grant programs.