UNIVERSITY OF SOUTHERN INDIANA

DATE: June 11, 1996

TO: C. Combs
P. Clark
J. O'Daniel
T. Kern
B. Baker

FROM: Richard W. Schmidt
Vice President for Business Affairs and Treasurer

SUBJECT: Finance Committee Meeting - June 26, 1996

The Board of Trustees Finance Committee will meet on Wednesday, June 26, 1996 at 10:00 a.m. in Room A100 in the Wright Administration Building.

The agenda items are:

1. Review the architect's proposal (Attachment 1) and approve the budget for the Technology Center renovation. The budget will be mailed or faxed to you after the bids are opened on June 20.
2. Review the modified proposal for Performance Contracting (Attachment 2).
3. Discuss a transfer of funds to the VEBA Trust account.
4. Discuss the transfer of the Murphy Auditorium property (Attachment 3).
5. Discuss a donation to University Center Project and Change Orders.
6. Discuss rental of off-campus apartments and related furniture purchases.

If you have any questions, please call me at 812/464-1849.

c: C. Brinker
R. Hoops
S. Standley
S. Helfrich
M. Whipple

BOT Correspondence/Finan.626/jsa

Business Affairs
8600 University Boulevard • Evansville, Indiana 47712-3596 • 812/464-1849 • FAX 812/464-1956

Attachment 1
Finance Committee
June 26, 1996

VEAZEY
PARROTT &
SHOULDERS

May 2, 1996

Mr. Richard W. Schmidt
Vice President for Business Affairs and Treasurer
University of Southern Indiana
8600 University Boulevard
Evansville, Indiana 47712-3596

ARCHITECTS
ENGINEERS
PLANNERS

Michael R. Shoulders, AIA
Charles E. Parrott, AIA
Scott C. Veazey, AIA
Thomas H. Durkin, PE
Fred T. Pendley, Jr., PE
Jackie B. Wynn, AIA
Charline Buente, AIA
Michael J. Buente, AIA
Richard A. Anderson, Jr., AIA
Martin L. Truesdell, AIA

Dear Mr. Schmidt:

We are pleased to submit this proposal for **full architectural and engineering** services for the interior renovations to the Technology Building; and for **schematic design** of the Art Studio(s) expansion at the Technology Building. As discussed previously, we prefer to quote a lump-sum, not-to-exceed fee for both projects. You would be billed on the basis of the attached hourly rate chart only for actual hours worked.

For the Technology Building interior renovations, we propose to provide full architectural services, including bidding and construction contract administration for the lump-sum, not-to-exceed price of Nineteen Thousand, Seven Hundred Fifty Dollars and no cents..**($19,750.00).**

For the Art Studio(s) expansion of the existing Technology Building, we propose to provide schematics only (two options), for the lump-sum, not-to-exceed price of One Thousand, Nine Hundred Seventy-Five Dollars and no cents..........................**($1,975.00).**

If this proposal meets with your approval, please sign and return the original to me, and retain the copies for your files.

We appreciate the opportunity to be involved in this important project at U.S.I.

Sincerely,

VEAZEY, PARROTT & SHOULDERS

Michael R. Shoulders, AIA
President

ACCEPTED BY:______________________________

DATE:________________________

528 Main Street ■ Suite 400 ■ Evansville, IN 47708 ■ 812-423-7729 ■ FAX 812-425-4561

Attachment 2
Finance Committee
June 26, 1996

ENERGY SYSTEMS GROUP INC.

&

JOHNSON CONTROLS

UNIVERSITY OF
USI
SOUTHERN
INDIANA

CHILLED WATER SYSTEM

CHILLED WATER SYSTEM

Existing System

The existing chiller system consists of three (3) chillers and three (3) cooling towers that total 2,100 rated tons of cooling. The full load requirements of the campus total approximately 2,000 tons. Current building projects will increase the campus load by approximately 230 tons. The current setup would not allow for adequate cooling for the entire campus even if all the equipment was operating as new.

However, the largest chiller, a 1,000 ton Carrier unit, was installed in 1969 and has a lower capacity due to its age. The result of this limitation is a scenario in which the cooling needs of the campus exceed the maximum capacity of the equipment installed. Upon completion of the University Center expansion, this difference will be magnified.

The existing distribution system consists of two 125 horsepower chilled water pumps that continually circulate chilled water to all the buildings on campus. A main supply line runs from the Physical Plant building past the Health Professions, Science Center, Administration, Orr Center, Library and University Center. Branch lines then continue to the Technology Building & Physical Activities Center (PAC). The chilled water return line follows the same path back to the Physical Plant.

Currently, construction is underway for a new addition to the tunnel between the Physical Plant and the take-off point to the Technology & PAC buildings and is nearly complete. Piping in this tunnel will allow the campus to be supplied by a loop that travels continuously throughout the campus rather than to a specific location and back.

CHILLED WATER SYSTEM

Each building is equipped with its own pump package that circulates water through the cooling coils serving the air handling units. Individual building systems are connected to the main loop via supply and return piping. The way the main pumping package is set up, pressure in the supply line is maintained high enough to reach the farthest point in the system. This can cause the building pumps to "freewheel" allowing chilled water to circulate through the coils even when the space temperature is satisfied.

Proposed System

A new, 800,000 gallon thermal storage system will be installed near the Physical Plant. When combined with the other Physical Plant modifications in future phases, this tank will provide the campus with a future available capacity of 2,100 tons of chilled water. This insulated, above ground, cold water storage structure will be installed near the cooling tower for the Trane chiller. It will be approximately fifty-two feet in diameter and 35 feet in height. The thermal storage system will charge at a rate of 1,440 gallons per minute for 8.3 hours providing additional cooling capacity of 1,000 tons for phase one. The computerized automation system will monitor all of the campus cooling requirements and either store the extra chilled water capacity or export it to the campus loop for immediate use.

The computerized building automation system will monitor the required chilled water flow rates in the buildings and speed up or slow down the new pumping systems by way of variable frequency drives installed in these systems. The proposed distribution systems will vary the flow as required to match the existing load in each building. This will create "system diversity" which will allow less installed tonnage to serve more connected load with less circulating water.

CHILLED WATER SYSTEM

System performance and operating efficiency is greatly improved by the capability of diversification. Diversification is defined as the ability to provide no more capacity than The requirements of the sum of the individual loads of the system at any given moment. If the required capacity can be directed to the load, then greater connected load can be served with less than the sum of the maximum design loads installed.

For example: If the Library is aligned to receive chilled water, it always receives the same amount of chilled water. This is the case whether there is only one person or one hundred people occupying the facility. If only the flow required to serve the load is provided, that is, if the load is able to be diversified, the remaining or difference is available to serve other loads in the system. Diversity not only allows more facilities to be served with less chilled water but also allows the chillers to operate more efficiently due to a higher overall system temperature difference and lower system flow. Presently, all buildings on Campus are "wild" or "constant" flow like the Library.

In order to obtain true, diversified chilled water flow throughout the campus, it is important that the valve types and temperature control systems in each of the buildings are operating as they were designed. These systems will all be checked and tested to make sure they are operating properly. All of the existing control equipment for the chilled water system will be repaired, cleaned and/or replaced as necessary.

UNIVERSITY-OWNED APARTMENTS

METER CONSOLIDATION

Existing System

Currently, all 407 of the University-owned student apartments are metered separately for electric service and are on a residential, all-electric rate with Southern Indiana Gas & Electric Company (SIGECO). Originally, all of the apartments were billed separately by SIGECO, and the residents were responsible for paying the bills. Various problems developed under this arrangement over the years, and recently the University has begun paying all the bills associated with these accounts.

While this residential all-electric rate is lower than other residential rates, it is still considerably more expensive overall than a commercial rate.

Proposed System

The service will be re-configured and re-wired to one meter, and the individual apartment accounts consolidated into one larger account per building. This will allow the University to take advantage of a reduced commercial rate as well as greatly simplify its accounting procedures.

APARTMENT ATTIC INSULATION

Existing Complex

There are currently 32 apartment buildings in three main complexes adjacent to the campus. The top floor apartments have a total area of approximately 206,600 square feet in contact with the attic and roof. By comparison, this area is almost one and a half times greater than the total square footage of the Health Professions Building, the largest building on campus. The attics are vented and generally approximate outside air temperatures. Most buildings have 4 to 5 inches of blown insulation in the attic, so the potential for heat loss or gain to each apartment is great.

Originally, tenants paid for their own utilities and individual heating and cooling bills had little financial impact on the University. Difficulty with students paying bills on time recently led the University to accept the responsibility of paying utility bills at the apartments, and bear the burden of heating and cooling all the units.

Proposed Complex

We propose to add 6 inches of Owens-Corning ThermaCube Plus™ loose fill insulation. This thickness has an R-value of 14.0. By adding this blown insulation, heat transfer resistance will more than double, so heat losses and gains will be cut in half. Seasonal heat transfer was analyzed with and without additional insulation and the resulting annual conservation will save the University thousands of dollars and result in a relatively quick payback on all materials and labor.

ELECTRIC MOTORS

ELECTRIC MOTORS

Existing Motors

Electric motors consume significant amounts of electrical energy to operate fans and pumps. Energy consumption can be reduced considerably by replacing the existing standard motors with high-efficiency motors.

High-efficiency motors will perform the same function as standard motors, but are constructed differently to improve efficiency by reducing losses in the conversion of electrical energy to mechanical energy. For example: magnetic losses are reduced by using thinner, higher quality steel lamination in the stator and rotor core. The air gap between the rotor and stator is minimized by manufacturing to higher tolerances. More copper is used in the stator windings to reduce resistive losses. Motors with internal fans are already equipped with smaller and more efficient fans.

Proposed Motors

The best applications for high-efficiency motors are generally those in which the motor runs at least eight hours per day. In some cases, the savings in electrical energy consumption will immediately justify replacement. However, high-efficiency motors are not cost effective when the premium cost cannot be recovered during the normal life of the motor due to limited hours of operation. As a result, the best candidates tend to be large motors that run often and consume a great deal of electrical energy.

All existing motors at the University were surveyed for condition, efficiency and run time. The seven (7) motors with the best conditions for energy efficient applications will be replaced with high-efficiency motors in the following buildings:

- Science Center
- Wright Administration Building
- Orr Center
- Library
- University Center
- Technology Building

LIGHTING SYSTEMS

BUILDING LIGHTING

Existing Systems

The lighting systems in the Science Center, Administration Building and University Center consist of several different varieties and ages including fluorescent tubes, incandescent bulbs, high intensity discharge (HID) lamps, and exit lights. With the exception of a few areas that have recently been renovated or retrofitted, all of the existing lamps and ballasts are inefficient and outdated in comparison to other options available.

The fluorescent lighting generally consists of four and eight foot fixtures. These fixtures will contain from one to four lamps and one ballast for every two lamps. These light systems are T-12 technology, meaning the lamps are 1 1/2 inches in diameter and use a magnetic core and coil ballast to operate.

The four foot fluorescent fixtures are equipped with four foot T-12 lamps. These lamps are a combination of 40-watt standard and 34-watt energy saving lamps. The fixtures also have a T-12, magnetic core and coil ballast powering the lamps. The ballast, if replaced in the last few years, may be an energy saving model. Most of the existing four foot systems use the 34-watt lamp and standard magnetic ballast. This is one of the least efficient four foot fluorescent combinations available. It is important to note that any time a T-12 energy saving lamp or ballast is utilized, a corresponding decrease in light level will occur. This is not the case with newer fluorescent technology.

The eight foot fluorescent fixtures consist of eight foot T-12 lamps and magnetic core and coil ballasts. The eight foot lamps will generally be one of two types. The lamps come in three light level (lumens)/power input (watts) designations - Standard and High Output

BUILDING LIGHTING

(HO). Each of these lamp types also has an energy saving option. For example: the standard T-12 eight foot lamp requires 75-watts and the energy saver lamp requires 60-watts.

Incandescent bulbs are present in several areas. These lamps range in size from 60-watts to 300-watts. These light systems are the largest energy waster among light services and have a life expectancy of only 1,000 hours. They should be used only in specific applications where other alternatives will not suffice. In most cases, these lamps will be replaced with some form of fluorescent technology.

Exit signs are equipped with a mixture of standard incandescent lamps and compact fluorescent lamps. These fixtures operate 24 hours per day, so the inefficiencies associated with incandescent lamps are magnified. Exit signs that contain incandescent lamps are both an energy waster and a high maintenance cost item.

Proposed Systems

Four foot fluorescent lighting systems will be converted from T-12 to T-8 technology. Energy efficient T-8 fluorescent lamps in combination with electronic ballast will be used. The T-8 lamps are only 1 inch in diameter and contain three rare earth phosphors to provide true-color light quality. High Color Rendering Index (CRI) and high temperature lamps will be selected to achieve improved color recognition and visual perception. These lamps, unlike their T-12 counter parts, do not lose light output to a significant degree throughout their rated life.

Solid state electronic ballasts will operate the lamps. These ballasts operate much cooler than T-12 magnetic ballasts and have a longer life expectancy. The electronic ballasts

BUILDING LIGHTING

operate at a high frequency (25,000 Hz) compared to magnetic ballasts (60 Hz). This enables the T-8 lamps to provide a light level equivalent to the 40-watt, T-12 lamps at an energy consumption of only 32-watts. These ballasts not only have lower internal power losses and operating advantages, but can operate up to four fluorescent lamps each. This reduces energy loss per lamp and maintenance costs in the future.

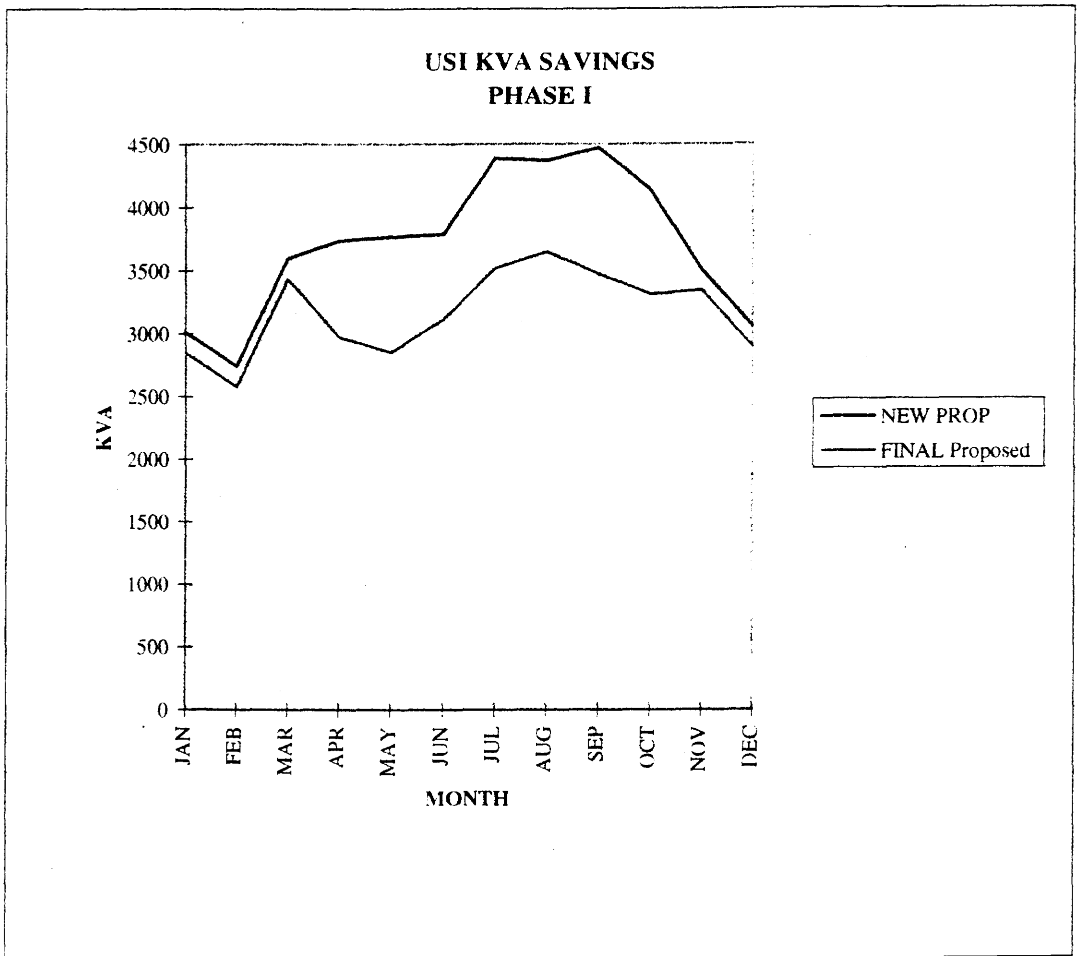
Standard eight foot fixtures which contain the 75-watt or 60-watt T-12 lamps and magnetic ballasts will be converted to T-8 technology. Solid state electronic ballasts and 59-watt, T-8, high CRI, high temperature lamps will be used in these applications to achieve energy savings, improved light quality, and similar light level output.

Incandescent lamps will be replaced with energy efficient compact fluorescent lamps (CFL). These lamps will replace incandescent lamps of 200-watts and less. CFLs typically use about 1/3 the energy cost of a standard incandescent lamp and have a rated life expectancy approximately ten times that of standard incandescents.

Exit signs containing incandescent lamps will be retrofitted with either an LED retrofit kit or compact fluorescent lamps, depending on the type of exit fixture. Typically, this means replacing two 20-watt lamps that have 1,000 hour life expectancy with two 0.9-watt lamps that have a 25 year life expectancy. This will achieve energy savings as well as maintenance savings.

Areas that are currently overlit will be delamped. This procedure of delamping 50% of the existing bulbs, removes one-half of the energy consumption of a particular fixture. Reflectors will be installed into the fixtures to redirect light more effectively. This arrangement will provide light levels at or above Illuminating Engineering Society's recommended levels.

APPENDIX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FINAL Proposed

OPERATIONAL AND CAPITAL SAVINGS

Thermal Storage

Savings associated with the elimination of the existing 1000 ton chiller and its Preventive Maintenance contract.

Annual Savings = $12,000 / year

Associated savings of the reduced life cycle cost per year of the 400 and 763 ton chillers currently on site. The thermal storage will reduce run time hours of the existing chillers, resulting in a life extension.

Annual Savings = $2,600 / year

Avoided Capital Savings by eliminating the need to replace the 1,000 ton chiller is as follows:

1,000 tons x $547.1 per ton[1] = $547,100
$547,100 ÷ 10 year life of agreement = $54,710

Annual Savings = $54,710 / year

Chemical savings due to elimination of 1000 ton cooling tower use.

Annual Savings = $3,000 / year

Meter Consolidation

Accounting labor savings associated with the reduction of SIGECO bills from 440 to 32. The formula used is as follows:

2 min./bill ÷ 60 min./hr. X 12 mo./yr. X $12/hr. = $4.80/bill
(440 - 32) bills eliminated x $4.80 per bill = $1,958

Annual Savings = $1,958 / year

Total Annual Savings = $164,268

[1] Cost obtained from Means Estimating Tables as follows in this Appendix.

Attachment 3
Finance Committee
June 26, 1996

LAW OFFICES OF
HAWLEY, HUDSON & HAWLEY
309 MAIN STREET · P. O. BOX 716
MT. VERNON, INDIANA 47620
TELEPHONE (812) 838-4495
FAX (812) 838-9445

K. RICHARD HAWLEY
HENRY C. HUDSON
MARC E. HAWLEY

BETH A. (NIEHAUS) FOLZ

June 5, 1996

Mr. Bob Rust
University of Southern Indiana
8600 University Avenue
Evansville, IN 47712

Dear Bob:

In acquiring property from organizations, it is important to determine the nature of the organization and the procedures that type of organization must follow in order to transfer title to real estate. I have learned that The New Harmony Workingmen's Institute (Institute) was authorized by Indiana statute in the early 1900's and that in 1953, the Institute elected to be classified as a Class II Public Library under Indiana law. As a Class II Public Library, the Institute is, by definition, a political subdivision. As a political subdivision, it is subject to certain rules with respect to disposition of real estate. Fortunately, Indiana Code 36-1-11-8 provides that a transfer from one governmental entity to another may be made upon any terms that the two entities agree provided that both adopt a substantially identical resolution.

You indicated that the USI Board of Trustees had approved and executed the Agreement previously furnished. I suspect the action of the Board in approving that Agreement was sufficient to meet the requirement for resolution. You may want to keep a copy of the Board minutes with the Agreement in the acquisition file.

I have prepared and enclosed a brief resolution for the Institute to adopt to support the approval of the Agreement. The Institute should adopt this resolution at one of their regular meetings and should furnish you an executed copy of the resolution with or before the delivery of the deed.

We are searching the title. When the title search is complete, we will prepare a deed for the Institute to sign. The By-Laws provide that deeds are to be signed by the President and attested by the Secretary.

JUN 7 1996

Please call if you have any questions.

Very truly yours,

HAWLEY, HUDSON & HAWLEY

Hank Hudson

Henry C. Hudson

HCH:tkb
Enclosure

RESOLUTION OF THE NEW HARMONY WORKINGMEN'S INSTITUTE

WHEREAS, The New Harmony Workingmen's Institute (Institute), by its members, has determined that it is in the best interest of the Institute to convey the property known as Murphy Auditorium to the University of Southern Indiana (USI).

NOW, THEREFORE, BE IT RESOLVED, that the Agreement for Conveyance of Murphy Auditorium in the form attached hereto is approved.

Dated this ____ day of ______________________, 1996.

THE NEW HARMONY WORKINGMEN'S INSTITUTE

By: ____________________________________
Printed: _______________________________
Office: President

ATTEST:

____
Printed: ____________________
Office: Secretary

6-6-96

Note: A similar resolution from the USI Board of Trustees accepting transfer of the property should be approved at the July 1996 meeting.

RAR

UNIVERSITY OF USI SOUTHERN INDIANA

DATE: June 24, 1996

TO: C. Combs
P. Clark
J. O'Daniel
T. Kern
B. Baker

FROM: R. Schmidt Dick

SUBJECT: Finance Committee Meeting

This is a reminder that the Board of Trustees Finance Committee will meet on Wednesday, June 26, 1996 at 10:00 a.m. in Room A100 in the Wright Administration Building.

Enclosed is the proposed budget for the Technology Center renovation project, which will be reviewed for approval at the meeting.

The Capital Improvement Budget Request for 1997-99 will also be discussed. Copies of the budget request will be available for your review.

c: C. Brinker
R. Hoops
S. Standley
S. Helfrich
M. Whipple

BOTCorrespondence/Finan2.626/jsa

Memorandum

TECHNOLOGY CENTER RENOVATION PROJECT BUDGET

GENERAL CONSTRUCTION	**$ 96,481.76**
MECHANICAL AND ELECTRICAL CONSTRUCTION	**$ 59,120.00**
ARCHITECT AND ENGINEERS FEES	**$ 21,725.00**
CONTINGENCY	**$ 20,000.00**
TOTAL PROJECT BUDGET:	**$197,326.76**

June 24, 1996