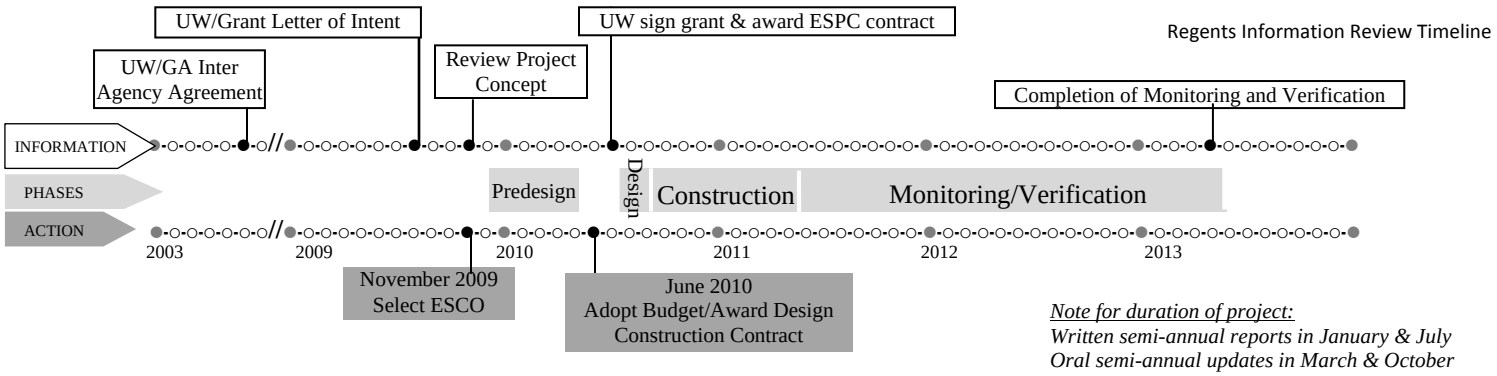
VII. STANDING COMMITTEES

B. Finance, Audit and Facilities Committee

Smart Grid Project – Review Project Concept and Select Energy Services Contractor



RECOMMENDED ACTION:

The purpose of this presentation is to provide background information about the UW's role in the Pacific Northwest Smart Grid Demonstration Project and to request approval of the use of McKinstry Essention as an Energy Services Contractor (ESCO) for the project. We will return in June 2010 at the completion of the Directed Engineering Study (DES) to present project final project scope, budget and funding plan and request approval to proceed with the project.

BACKGROUND:

This project supports a federal American Recovery and Reinvestment Act grant application to the Department of Energy (DOE) known as the "Pacific Northwest Smart Grid Demonstration Project". The Battelle Memorial Institute is the lead applicant submitting for this grant. If the grant is awarded in December 2009, the UW will be a sub-award grantee to the application and will participate as one of 13 regional "Demonstration Test Sites".

PROJECT OBJECTIVES AND SCOPE:

The Pacific Northwest Smart Grid Demonstration Project objective for the UW Smart Grid project is to create a smart micro grid for a non-utility owned electricity grid. The smart micro grid will:

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1) Install meters and equipment to accumulate energy consumption from two dorms totaling at least 500 rooms and two academic or research buildings to enable active management at end uses and investigate demand response opportunities.
2) Standardize and modernize campus building energy management infrastructure. Upgrade existing electrical building meters to smart meters on up to 200 Seattle campus building. Tie building electric meters, 33 building management systems and 12 building lighting systems together on a common communications platform and facility manager-user interface.
3) Install software to demonstrate the feasibility of integrating the campus central boilers, central chillers, and electrical generators into the campus wide smart grid metering network.
4) Install smart grid metering technology into two UW owned 26kV substations that feed the Seattle campus.
5) Scope items 1 through 4 provide an integrated smart metering test site to address two critical concepts potentially limiting smart grid technology
   a) the interface to the end users
   b) system security, especially micro grid security.

CONTRACTING STRATEGY:

We are requesting approval to award a DES contract to McKinstry. If the DOE grant is awarded and the DES identifies a cost effective scope of work, then we will return with a request to sign a contract with McKinstry to design and construct the UW grant scope of work.

RCW Section 39.35C authorizes the UW either on its' own or through the Department of General Administration (GA) to use Energy Savings Performance Contracting (ESPC) as the preferred method to implement energy saving projects in the State.

In June 2003, the UW established an Inter-Agency Agreement with GA to utilize the ESPC program for state facilities. The GA ESPC program provides a means to install energy conservation measures in publically owned facilities with capital outlay provided through a loan secured by future energy savings. The GA maintains a register of ESCO contractors and provides assistance to state agencies in procuring ESPC services. In September, 2003 the GA advertised for an ESCO to provide ESPC services on the UW campus. McKinstry was selected for the UW ESCO contract.

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McKinstry, established in Seattle in 1960, is a full-service mechanical and electrical design and contracting firm with over 1,600 employees. McKinstry has the expertise and capability to deliver consulting, construction, and energy management services. McKinstry has successfully completed a number of projects at the UW, Seattle campus, including the Chemistry Building ESCO and UW Tower Lighting ESCO.

PROJECT SCHEDULE:

June 2003	UW and GA sign Inter Agency Agreement to perform ESPC contracts
Aug 2009	UW signs letter of intent with Battelle Memorial Institute to participate in Pacific Northwest Smart Grid Demonstration Project
Nov 2009	UW initiates DES
Dec 2009	Notification of award of Pacific Northwest Smart Grid Demonstration Project grant to Battelle Memorial Institute
May 2010	Complete DES
Jun 2010	Regent Approval of UW participation in Pacific Northwest Smart Grid Demonstration Project
Jul 2010	UW commits to participate in Pacific Northwest Smart Grid Demonstration Project
Jul 2010	UW signs ESPC contract for design and construction
Sep 2010	Construction Start
May 2011	Construction Completion
May 2013	Completion of Monitoring and Verification

PROJECT BUDGET & FUNDING:

Project funding will come from a variety of sources. The total cost of the project is projected to be $8.945 million. While not yet finalized, funding for the project will be supplied from the following sources. The federal grant will fund $4,472,500. SCL will contribute $700,000 in utility rebates and in-kind services. Spirea (software vendor) will contribute $647,000 in-kind services, McKinstry will contribute $560,000 in in-kind services. The UW will contribute $831,000 in in-kind services and will finance $1,734,500 through the State Treasury Lease Purchase Program. Repayment will be provided by ESCO savings.

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UW Smart Grid Budget/Funding Breakdown			
Category	Cost	Contingency	Total
1. Project Management	TBD	TBD	TBD
2. Design	TBD	TBD	TBD
3. Construction	TBD	TBD	TBD
4. Monitoring and Verification	TBD	TBD	TBD
TOTAL	TBD	TBD	$8.945M

PROJECT RISKS:

Dominant risks for the Smart Grid project at the grant application stage are in the formation of relationships with grant partners and partner performance after a deal is struck.

The UW quickly identified and applied for this grant in order to meet DOE deadlines. While the concept of the project is outlined in the grant application, a number of detailed grant partner relationships have to be negotiated in order to proceed if the grant is successful.

It is the University's intention to use its existing ESCO relationship with McKinstry which was set up through the GA ESPC program, to design and build the majority of the project. The UW is currently investigating whether the GA ESPC contract meets federal purchasing requirements. If the GA ESPC program does not meet the requirements, the UW is only committed to pay for the DES which is a cost of $117,000.

The DES has not yet been conducted. The DES will specify expected energy savings and total cost of the project. The UW is counting on finding sufficient energy savings through the audit to pay the financing of the project through the State Treasury Lease Purchase Program. The energy rebates anticipated from SCL are also dependent upon the energy savings achieved after the project is installed. The UW carries the risk that the SCL program will remain the same during the design and construction period and that rebates will ultimately be funded.

After a grant award, performance of other partners to supply in-kind services may affect the total liability of the UW.

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A more detailed risk analysis will be performed during the DES and the above mentioned risks will be fully identified and addressed before the project requests full Regent approval in June 2010.

In the event that Battelle Memorial Institute is not awarded the Pacific Northwest Smart Grid Demonstration Project, the UW has included study of a much smaller project in the scope. This smaller scope would be limited to installation of electric meters, communications system and low cost energy savings measures that will be adequate to fund the DES and smaller project through a State Treasury Lease Purchase Program. If the ESCO cannot identify a smaller project that can be paid through the State Treasury Lease Program, then there will be no charge for the DES to the UW.