AGENDA ITEM SUMMARY

1. **NAME OF ITEM:** Updated Authorization for Central Heating Plant, UMF

2. **INITIATED BY:** Norman L. Fournier, Chair

3. **BOARD INFORMATION:**

   **BOARD ACTION:** X

4. **BACKGROUND:**

   This is a request pursuant to Board of Trustees Policy 701 and other applicable policies to update the authorization for the already approved Central Heating Plant project (#2100066) at the University of Maine at Farmington, including to allow the project to use biomass as its energy source rather than natural gas.

   The updated project is expected to: reduce energy costs in the first year by approximately $830,000; be cash flow positive starting in the first year; have a simple payback of 9.4 years; and, reduce carbon emissions by an estimated 3,400 tons annually compared with the status quo. This update does not include any change in the authorized total budget.

   This request for updated authorization follows the determination by the project’s natural gas partner that it will be unable to commit to the delivery of natural gas on which the project had been reliant. A copy of the recent notice to the University is included as Attachment I.

   This notice to the University followed the July 21, 2014, approval by the Board to increase the scope and cost of the project, and to authorize financing for the project. At that time, the University was very much still working toward a natural gas solution. The Board at that time “authorized the University of Maine System, on behalf of the University of Maine at Farmington, to increase the scope and approved maximum expenditure of $11 million to build a central plant and distribution system that is dual-fuel, which is natural gas with a #2 oil backup. Until the natural gas line is constructed, a bridge fuel will be engaged on a short-term basis. There will be capacity to add a biomass boiler after five years. The final term, including rate, associated costs and other terms, shall be negotiated by the University of Maine at Farmington in the best economic interest of the University, subject to review and approval by the University of Maine System Treasurer and General Counsel.”

   With the notice that natural gas would not be available as anticipated, UMF reevaluated its plan to advance the goals of improving energy efficiency, reducing energy costs and gaining other benefits such as carbon emission improvements.
UMF engaged its Project Team - consisting of Dirigo A/E (project management), Competitive Energy Services (energy consultant), Trane (RFP award contractor), UMF’s Sustainability Coalition and the UMF Energy Committee - to build on the already completed and still applicable engineering and designs for the project, including building energy models, equipment sizing, and piping system for a central heating plant fueled per the BOT approval.

With the collaborative effort of this Project Team and stakeholders, and following a recent campus dialogue initiative around this project, UMF now recommends and seeks approval to implement this project as a biomass (woodchips) solution, with liquid propane gas as a backup alternative fuel.

This recommendation is based on:

- Cost analysis of biomass and other fuels to determine savings and simple payback
- Operating costs and site logistics
- Engagement of local community members
- Examination of carbon footprint reduction and emissions permitting
- Fuel flexibility to accommodate future commodity market changes
- Tours and interviews with other operators of biomass central heating plants

The Project Team’s analysis as summarized above and detailed in Attachment II confirms that a biomass-fueled central heating plant for UMF is a viable and cost-effective investment for the University that will reduce heating oil consumption at Farmington by an estimated 360,000 gallons annually. Utilizing liquid propane gas as a backup fuel in the project will provide the capacity to accept natural gas should it ever become a viable energy source in this location.

The project team will be reviewing a schematic design-level cost estimate before the end of the year December, with a final confirmation of project cost due by the end of January to take advantage of a currently planned round of financing. The total project cost is expected to remain within the current Trustee-approved limit. Any further updates or changes would be re-visited with Trustees at the Board’s meeting in January if necessary.

Biomass woodchips present a cost-effective alternative to natural gas as a primary fuel, although the capital costs associated with utilizing biomass wood chips are substantially more than natural gas. Capital items such as a larger central heating plant footprint, chip handling systems, below grade chip storage bins and ash removal systems increase the bare cost of the fuel reflected in this table. When the substantially lower fuel costs are calculated along with the greater capital costs, the team has estimated that the simple payback and annual cash flow benefits are nearly the same as the previously approved natural gas option.

Lastly, UMF is committed to seeking alternative funding sources to offset the cost of the project and is working with Efficiency Maine, the United States Department of Agriculture, Northern Forests, and other organizations regarding grant options that could lessen the debt service burden of the project and further improve cash flows. No such funding is yet secured, but there does appear to be potentially greater opportunities for alternative funding to support a biomass project than would be the case with natural gas.
5. TEXT OF PROPOSED RESOLUTION:

That the Finance, Facilities and Technology Committee approve this recommendation to be forwarded to the Consent Agenda for Board of Trustee approval of the following resolution:

That the Board of Trustees authorizes the University of Maine System to enter such agreements as may be necessary to utilize biomass (wood chips) at the University of Maine at Farmington as a primary fuel source at the pending central heat plant project, with liquid propane gas as a backup energy source, subject to review and approval by the University of Maine System Treasurer of all terms and conditions, including all costs.