**MEMO:**

Date: November 30, 2005
To: Mayor Cieslewicz and Madison City Council Alders
From: Sherrie Gruder, Chair Sustainable Design & Energy Committee
RE: Resolution on The Natural Step and Commissioning/Retrocommissioning training

The Sustainable Design & Energy Committee made several recommendations to the city council that support the core building blocks to achieve the objectives in *Building a Green Capital City: A Blueprint for Madison's Sustainable Design & Energy Future*, which has been officially adopted by the City Council. The Committee strongly supports the resolution in order to improve the efficiency, effectiveness and overall sustainability of city programs, finances and operations. Background on the two programs in the resolution- The Natural Step sustainability framework and commissioning and retrocommissioning- are provided in this memo.

**The Natural Step**: The first action recommended in the *Blueprint* to establish a Madison sustainable city program is to adopt a guiding principle on sustainability. The Natural Step (TNS) fits this need; it is a science-based approach to develop ecologically, economically and socially healthy communities for the long-term. It has been well demonstrated to be effective through the experience of more than 75 municipalities in Europe and Canada, as well as many multi-national and local businesses. And it has been adopted by the American Planning Association as its official objectives for planning for sustainability. The city of Madison has the opportunity to be among the first in the US to use this overarching framework as a compass to guide and catalyze its decisions and actions toward a sustainable future.

The TNS framework promotes a shared understanding city goals and objectives and facilitates development of strategic pathways for how to operate and implement sustainably based initiatives, strategic planning, operations and actions. Training city staff and elected officials in TNS will help staff at all levels and across departments to work together using a common language and an approach that will improve our effectiveness at a time when we're challenged by financial burdens, environmental and community equity issues. TNS will help us balance all aspects and address these issues jointly and in a comprehensive way. TNS won't require the city to go back and redo what we've already done but it will guide us as we inventory existing programs and build on the plans and programs we have already established.

Madison already has a familiarity with and interest in TNS. Five hundred citizens have been trained in TNS for Communities through Sustain Dane study courses (with 120 of them recently meeting to share their insights); 300 community members attended a presentation on TNS at Olbrich last year that had 40 organizational sponsors; 20 City staff attended a brown bag presentation; and a number of city and county organizations have been studying examples of how other municipalities around the world have used TNS to achieve greater sustainability and how those lessons can be applied here in Madison.

What it means for the City to adopt TNS is that:

- Staff, administration and officials would be trained in TNS

- TNS would be used as the context for decision makers to determine the most sustainable actions or policies on any issue.

The training recommended by the Sustainable Design and Energy Committee in TNS would occur over a 6-month period and use a train-the-trainer model.

NOTE: Just last week the City of Whistler in British Columbia, Canada, was awarded first place at the International Awards for Liveable Communities for its long-term sustainability plan, which is a leading example of the application of the Natural Step framework in the community planning context.

**Retrocommissioning**

The Blueprint recognizes that the energy and operational/maintenance savings opportunities in City of Madison facilities and operations need to be measured, analyzed, identified and strategically improved. In addition to saving energy, this will generate substantial fiscal savings for the City.

Commissioning (for new buildings) and retrocommissioning (for existing buildings) are systematic methods of identifying operational and maintenance improvements for buildings, and for ensuring their continued optimized performance over time. Retrocommissioning may include recommendations for capital improvements, but the primary focus is on using O&M tune-up activities and diagnostic testing to optimize the building systems. Reasons to commission and retrocommission buildings include: bringing equipment to its optimal operational state; reducing energy and demand costs; increasing equipment life; improving indoor air quality; reducing staff time spent on complaints and emergency calls; increasing occupant satisfaction; and improving facility operation and maintenance.

The Sustainable Design and Energy Committee determined that building capacity in-house to achieve the benefits of commissioning/retrocommissioning would be the most cost effective approach. By training the appropriate city staff in commissioning and retrocommissioning, they will be able to analyze and carry out the energy and cost saving retrofits and avoid hiring engineering consultants on every building project. (Typically, commissioning costs run 1-1.5% of construction costs or $40,000 on a $4million building, for example).