Carnegie Mellon University
School of Architecture
Center for Building Performance and Diagnostics
5000 Forbes Avenue, 415 MMCH
Pittsburgh PA, 15213-3890

On Thursday, 17 May 2007, 10:30 am to 2:30 pm in the IW, Prof Reinhard Radermacher, Director of UMD's Center for Environmental Energy Engineering, and his colleague Dr Joseph Orlando, Director of the Mid-Atlantic CHP Center, will be here. They have come to set a direction and establish a scope for a preliminary study of an energy supply system for CMU's BAPP. The University of Maryland, UMD, has $50 k from our DOE/ABETI contract for their work on this study through December 2007.

All are invited to attend this meeting. A proposed Agenda for this meeting follows.

Agenda

10:30 Welcome, Introductions Volker Hartkopf, David Archer

10:45 Architectural Design of the BAPP Azizan Aziz, Aviva Rubin

11:30 Estimated Power (Lighting, Plug, Equipment), Cooling, Heating, Ventilation Load Profiles for the BAPP Chaoqin Zhai, Khee Poh Lam

12:15 Lunch and Organized Discussion of an ESS for the BAPP: Group Suggestions for

- Energy Sources for the BAPP: solar (pv, thermal); renewable fuel(s) (bioDiesel, ethanol, waste); grids (power, steam, chilled water heated water, natural gas)
- Power Generation Units: solar pv; gas turbine; internal combustion engine (spark, Diesel); Stirling engine; boiler + steam turbine; high temperature fuel cell (solid oxide, molten carbonate)
- Cooling Units: absorption chiller (LiBr, NH3, solid desiccant); vapor compression
- Heating Units: solar thermal direct; recovered heat from power generation
- Hydronic Space Cooling/Heating Units: radiant (facade based, panels floor, ceiling); convective (fan coils)
- Ventilation Unit: DOAS, enthalpy exchanged, conditioned temperature and humidity

- Energy Storage: geothermal piles (isothermal source, storage); building mass; water pool, phase change, central

- Energy Rejection: cooling tower, air. low temperature heat utilization

1:45 Deliverables: flow diagram(s), system + alternatives; equipment descriptions, selection, sizing, cost; operations description; layout; installation cost, operating cost, environmental impact, efficiency, reliability, teaching/development .

2:00 Response Reinhard Radermacher, Joseph Orlando..