Fan Coil and Advanced Control in IW

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Project Description

• **Description:**
  New installed fan coil units and control instrumentations will provide a test bed for demonstration of the benefits of comfort, energy and operation cost of advance control and user communication over the indoor thermal environment

• **Purpose:**
  – maintain comfort conditions
  – reduce the cost of operation
  – provide occupant interaction with the temperature control interface
Project Scope and Pilot Study

Fan Coil Units in 10 IW South Zone Offices

- 3 distinct type of LTG underfloor fan coil units
- 4-pipe coils and 5 speed fan
- Siemens control instruments
- Dedicated Siemens controller and control instruments for each room

Fan Coil Units in 2 IW South Zone Offices for Pilot Study

- Select room E2 and W3 for pilot study
- Install as LTG fan coil as 2 pipe system, connecting with existing mullion water supply and return
- Data acquisition hardware and control software purchased from National Instrument and other commercially available instruments
- Dedicated control for each room
Where We Stand

Finished Work:
– Preliminary Design
– Fan Coil Procurement
– Engineering Design
– Pilot Study Design

Next Step Work:
– Fan Coil Installation
  Commissioning and Performance Testing
– Operation and Research Experiments

Where we stand:
– Installing fan coil units in 2 IW south zone offices for pilot studies
– Preparing and installing control hardware for pilot studies
– Programming control, data acquisition and analysis software
Added Components

• Cisco IP Phone will provide communication between office occupant and fan coil, mullion and lighting operation and control system, including:
  - Real time data display e.g. environment parameters, control settings, energy consumptions;
  - Occupant control/override functions;
  - Report to facility management/operator functions;
  - Occupant satisfaction survey functions.

• Fan coil units by Broad Air Conditioning Co
  - Electro-static particle removal
  - Activated carbon VOC and odor removal