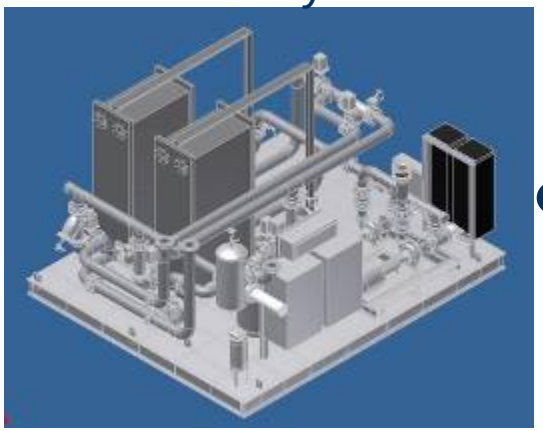
Embassy Construction Program HVAC Challenges

- Make it simple to install and maintain
- Make it more Life Cycle Cost efficient
- Make it smaller to conserve floor space
- Maximize reliability
- Maintain security
- Be environmentally responsible

Ongoing Initiatives

Finished System



3D (BIM) Concept drawing of CHW system

- Methods to reduce time on-site using skid mounted, pre-tested HVAC systems that are delivered and hooked up instead of built on site
- Implement BIM methodology for mechanical systems (Autodesk Inventor)

Ongoing Initiatives

Large Screw type Air Cooled Chiller

High Efficiency Compressor

- Reduce water usage – air cooled chillers save over a million gallons of water per post per year compared to water cooled systems
- Particle and gas filtration improve Indoor Air Quality and reduce airborne threats simultaneously.
- Continue cooperative redesign of major equipment with manufacturers to reduce size and cost while maintaining or improving operation

Ongoing Initiatives

Heat Recovery Chiller

- Meet Energy Policy Act of 2005 and President's executive order regarding energy efficiency of Federal buildings by installing state of the art systems
- Target highest efficiency for maximum operating hours

Ongoing Initiatives

- Minimize use of proprietary systems/components to maximize maintainability (COTS maintenance parts, BACNet compatibility)
- Expand training for on-site personnel
- Explore secure internet communications to allow monitoring Critical Infrastructure operation and status an to facilitate remote troubleshooting