Penn State AE Senior Thesis- Draft Presentation Outline

3-23-10

- I. Defense Information Systems Agency Headquarters Facility Intro (4 slides)
 - a. Introduction- Name, Option, Building Name
 - b. Presentation Outline-Order of Presentation
 - c. DISA HQ Background-Location, Construction Dates, Size, Method, Owner
 - d. DISA HQ- Building Map, Description, Architectural Program
- II. Existing Mechanical Summary (7 slides)
 - a. Central Utility Plant
 - b. Main Street/Service Corridor- Circulation, Piping Distribution Orientation
 - c. Central Cooling Plant-Configuration, Design, Size, Service, Schematic
 - d. Central Heating Plant-Configuration, Design, Size, Service, Schematic
 - e. General Office Spaces-UFAD System, Design Goals
 - f. TE Lab-Background, System, Server Loading
 - g. Common Building-Overhead System
- III. Design Objectives- Mechanical Depth (7 slides)
 - a. TE Lab Space Redesign-Rational, My design Goals
 - b. Alternative Description
 - i. New System Design- Built Up Chiller Plant/Water Cooled Server Racks
 - ii. Size-New plant Size plus downgraded Central Plant/Piping Size
 - iii. Schematics-New Plant Schematics
 - iv. Details-Water Cooled Server Racks
 - c. Analysis- Cost, Energy Analysis, Overall Feelings, Recommendation
- IV. Rainwater Breadth (5 slides)
 - a. Reason, Observations
 - b. System Description-Rainfall, Roof Area
 - c. Results- Yield of Catchment, Potential Usage
 - d. Design of Collection/Distribution Piping/Storage Tanks
 - e. Schematics of System (Elevation/Plan Schematic)
 - f. Recommendation
- V. Acoustic Breadth (3 slides)
 - a. Issue-Problem, Goal
 - b. Diagrams, Observations on Noise Problem
 - c. Analysis-Calculations, Results
 - d. Recommendation
- VI. Conclusion- Wrap Up, Final Recommendation, Thank You, Q &A (1 slide)