

DISTRICT COOLING SEMINAR

DESCRIPTION

This series of technical seminars is about the District Cooling System , benefits, components, fundamentals, water softening sizing, life cycle cost analysis, maintenance cost calculation, operating cost, district cooling pipe thickness calculation, pipe heat gain calculation, selection of alternative fresh air handling unit using package unit, testing and commissioning.

COURSE OBJECTIVES:

After successful completion of this module, participants should be able to understand, learn and have a knowledge about principles, benefits, components, fundamentals, analysis, estimation and calculation of District Cooling System.

COURSE OUTLINE:

1. District Cooling Overview
 - 1.1 Introduction of District Cooling System
 - 1.2 Benefits of District Cooling
 - 1.3 Components that comprise District Cooling System
 - 1.4 Possible Water Chiller layouts
 - 1.5 Calculation of most economical pipe sizes
2. Fundamentals of District Cooling System
 - 2.1 Pump Head Calculation
 - 2.2 Expansion Tank Sizing
 - 2.3 Sizing of Pressurization System
 - 2.4 Cooling Load calculation by Block Load for different types of buildings
 - 2.5 Project cost estimation of the District Cooling System

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- 2.6 Operating cost calculation
- 2.7 Maintenance cost calculation
- 2.8 Pump head calculation of piping loop
- 2.9 Life Cycle Analysis
- 2.10 Energy Cost Analysis
- 2.11 Psychrometric Analysis
- 2.12 District cooling pipe thickness calculation
- 2.13 Pipe heat gain calculation
- 2.14 Water Softener sizing
- 2.15 Life Cycle cost analysis
- 2.16 Desert cooler calculation
- 2.17 Selection of alternative fresh Air Handling
Unit using package until in lieu of 100%
- 2.18 Testing and Commissioning
- 2.19 Project Handling over

PSME LECTURER

CESILIO B. CHAVIT, PME ,FPSME

- Twenty (27) years of continuous and extensive practice in the field of design and construction in heating, ventilating and air-conditioning, refrigeration, plumbing and firefighting system engineering, testing, commissioning, operation and maintenance to include chilled water system (variable or constant flow system), water piping network, stairwell pressurization systems, sewage piping network, hot and cold water distribution system, steam lines, boiler, sewage and water treatment plan, fire sprinkler, swimming pool, fountain, potable water booster system, lift station, cold storage, freezer room, storm water disposal system and medical gases. Involved also in the preparation of budget costing, quantity estimate and project supervision. In addition, I was also involved in trouble shooting existing mechanical system, design schemes and value analysis to come up with optimum operation and costs. As instructor for five years in a state university, I was responsible for teaching major engineering subjects conducted research for alternative energy source, improved and locally fabricated agricultural equipment and system

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- Passed Board Examination for Mechanical Engineer (1979), PRC License No.0018447-96
- Passed Board Examination w/ PRC for Professional Mechanical Engineer, PRC License No.0004324
- Most Outstanding Mechanical Engineer in Riyadh, K.S.A. in the field of Design, Construction and Consulting given by Philippine Society of Mechanical Engineers November 2009.
- Technical Seminar Lecturer for HVAC Design, Fire Fighting, Plumbing and swimming pool and fountain design. For Philippine Society of Mechanical Engineers.
- Awardees as Best Technical Director and Technical Committee Chairman for National Middle East Philippines Society of Mechanical Engineers given in Manila, Philippines last October 27, 2011.
- Awardees as Technical Lecturer for Sustainable Mechanical System given by United Architects of the Philippines.
- 5. One of the recipients of 2016 PSME National Award for TOME in Consultancy 35 WORK LOAD.