LAMPIRAN A

PANDUAN TOPIK-TOPIK YANG BERKAITAN DALAM PENGURUSAN TENAGA ELEKTRIK DENGAN CEKAP

GENERAL

1.0 ENERGY SCENARIO

- Global energy trends
- Malaysia energy supply, consumption and forecasts
- Electricity industry structure in Malaysia

2.0 ENERGY POLICY AND LEGISLATION

- Existing energy and energy efficiency related policies ,laws and regulations
- Regulatory structure of electricity industry

3.0 UNDERSTANDING OF ENERGY PRICING AND ELECTRICITY BILLS

- Structure of energy pricing related to electricity supply
- Understanding of electricity tariff, electricity bills

MANAGEMENT

4.0 EFFICIENCT ENERGY MANAGEMENT

- Definitions
- Development and implementation of energy management system in an organization.
- Key components in energy management system.
- Plan Do Check Action (PDCA) cycle in energy management.
- Roles and duties of energy managers.
- Management of energy efficiency projects.
- Training and development in energy efficiency and energy management.

5.0 FINANCIAL

- Financial analysis for energy efficiency projects
- Financial sources/options
- Fiscal incentives for energy efficiency projects and products.

6.0 ENERGY EFFICIENCY STANDARDS AND LABELING

- The importance of energy efficiency standards and labeling.
- Energy performance standards and testing facilities to be referred and used.
- Classifications of energy efficient equipment.

7 .0 EFFECTIVE ENERGY EFFICIENCY/CONSERVATION PROJECT PROPOSAL AND PRESENTATION

- Preparation of an effective report and presentation to gain management supports/commitment

TECHNICAL/ENGINEERING

8.0 ENERGY AUDIT

- Definition
- Needs and types of energy audit
- Methods and approaches in energy auditing
- Energy audit equipment
- Criteria of an effective energy audit
- Roles and duties of energy auditors
- Identification of energy saving measures
- Energy audit reporting format and contents

9.0 MEASURING AND MONITORING EQUIPMENT

- Basic equipment for measurements and monitoring
- Energy management monitoring and control system (BMS, BAS and etc)

10.0 ENERGY PERFORMANCE MONITORING AND TARGETING

- Definitions.
- Elements of monitoring & targeting.
- Measurements energy efficiency project performance.
- Verifications of results from energy saving measures implemented.
- Data and information for energy intensity or energy consumption benchmarking/baseline such as Building Energy Index (BEI), Specific Energy Consumption(SEC) and etc.

11.0 FUNDAMENTALS OF ELECTRICAL SYSTEM

- Electricity basics- DC & AC currents
- Electricity generation, transmission and distribution structures and classifications
- Electricity units and conversion
- Electrical load and maximum demand
- Power factor and capacitors
- Transformers

12.0 ENERGY EFFICIENCY POTENTIALS

- Electric motors.
- Demand controls
- Compressed Air Systems.
- HVAC and Refrigeration Systems.
- Cooling Towers.
- Fans and blowers.

- Pumps and Pumping Systems.
- Lighting Systems.
- Office equipment.
- Controls and variable speed drives.
- New energy efficient solutions and technologies.
- Case studies/examples on energy efficient technologies applications/projects.

13.0 ANALYSIS AND PROBLEM SOLVING

Questions to be answered and exercises to be done by the participant covering:

- Topics covered in the program
- Calculation related to electrical energy
- Identifying energy saving potentials from given scenarios/problem statements through theoretical knowledge and calculations

13.0 ENERGY EFFICIENCY PROJECTS

Selection and implementation of energy efficiency projects covering:

- Selection criteria and process
- Project implementation plan
- Implementation of the project
- Effective project report preparation
- Effective presentation of project report