ENHANCING ELECTRICAL SAFETY AND COMPETENCY PRACTICES IN INDUSTRY

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BRIEF HISTORY OF SAFETY AND COMPETENCY LEGISLATION

- Legislation on safety and competency initially were through state enactments mostly in Perak and Selangor to mining, plantation and relevant industries.

- Records indicate initial legislation on boilers were as early as 1890 and for electrical well before 1914.

- Federal Laws on electrical came into force through The Electricity Ordinance 1949 and The Electricity Regulation 1951.

- Legislation in safety and competency in this country is well established and is in great detail. Changes have been made to ensure such laws remain relevant to the changing environment.
BRIEF HISTORY OF SAFETY AND COMPETENCY LEGISLATION

- Mining, plantation and relevant activities together with the initial “Independent Power Producers” (IPP’s) was the first wave for industrial development in this country.

- Manufacturing industries commencing in the 1960’s is in fact the second wave of industrial development.

- Malaysia is therefore fortunate in having well defined laws on safety, health, welfare, competent control and well trained manpower available when the second wave of industrial development started in this country, an advantage many Afro-Asian countries lacked.

APPROACH IN SAFETY AND COMPETENCY CONTROL IN UNDERDEVELOPED AND NEWLY DEVELOPING COUNTRIES

- Compliance
- Authority (ENERGY COMMISSION)
- Enforcement
- Little contribution from stakeholders
APPROACH IN DEVELOPED COUNTRIES

Authority Responsible
(ENERGY COMMISSION)

Legislation and
Enforcement

Stakeholders active participation and contribution to compliance

ROLE OF STAKEHOLDERS IN ENFORCEMENT & COMPLIANCE
ROLE OF CONSULTANTS IN ENHANCING ELECTRICAL SAFETY

- Appropriately qualified and designed to comply with legislation
- Consultants
- Answerable also to OSHA in accordance to Section 60, OSHA

ROLE OF ELECTRICAL CONTRACTORS IN ENHANCING ELECTRICAL SAFETY

- Appropriately qualified to install, test & commission to comply with legislation
- Electrical Contractors
- Answerable also to OSHA in accordance to Section 60, OSHA
ROLE OF SUPPLY AUTHORITY IN ENHANCING ELECTRICAL SAFETY

APPROVAL IN WRITING FOR WIRING, REWIRING AND EXTENSION required from public license

REGULATION 11, ELECTRICITY REGULATIONS 1994

Supply Authority (TNB, SESB)

ROLE AND AUTHORITY OF DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH (DOSH) IN ENHANCING ELECTRICAL SAFETY

DOSH has authority in safety under OSHA

Including Electrical Safety Section 2, OSHA

DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH (DOSH)
Responsibilities of Installation Owner in Enhancing Electrical Safety

Installation Owner

- Responsible to ensure appropriately qualified persons are employed to design, install, test, commission and operate.
- Answerable not only under Electricity Supply Act but also to OSHA.
- Also to relevant various other legislations.

Contribution of Insurance Agencies in Enhancing Electrical Safety & Competency Control

Insurance Agencies

- Non compliance to legislation can result in refusal for insurance or invalidate insurance liability.
ROLE OF COMPETENT PERSON IN ENHANCING ELECTRICAL SAFETY

Ensure work is carried out in accordance to Electricity Act and Regulations

Competent Person

Also ensure consultants & contractors employed are qualified and registered and undertake work in compliance with legislation.

RIGHT OF WORKERS AT INSTALLATION WHICH CAN CONTRIBUTE TO ELECTRICAL SAFETY

Can refuse to work on installation not in compliance with legislation.

Employment Legislative Protections for workers (Employment Act & Industrial Relations Act)

Can resign on constructive dismissal and claim for wrongful dismissal and seek compensation under Section 20, Industrial Relations Act.

Any order by management inconsistent with legislation will be construed as unreasonable. (Employment and Industrial Relations Act)
CONTRIBUTION OF AGENCIES TO ELECTRICAL SAFETY

Codes of Practice, Standards and Procedures

SIRIM & Others

CONTRIBUTION OF NGOs TO ELECTRICAL SAFETY

To ensure compliance to Safety, Health and Welfare Legislation and practice.

TRADE UNIONS (CONSUMER ASSOCIATION) AND PROFESSIONAL INSTITUTION, etc
ISO CERTIFICATION AND NON COMPLIANCE TO SAFETY & COMPETENCY LEGISLATION

Requires Compliance to Safety, Health, Welfare and Legislation.

Mostly not complied. Validity of ISO certification questionable.

Issuance of ISO Certification

OBLIGATION OF OWNERS TO COMPLY WITH REQUIREMENT FOR PRODUCT WARRANTY AND DEFECT LIABILITY

Non-compliance to Competency Control in Operation and Maintenance can invalidate manufacturer liability.

Owners may have little legal right for claim on product warranty and defect liability.

Assurance of Product Warranty and Defect Liability by Manufacturer.
Employers are experiencing difficulties in employing Electrical Chargeman.

**SHORTAGE**

In many cases, position and salary does not fit into Organisation structure.

Suggestion look into the possibilities of Issuing specifically plant restricted certificates for operation works.

Include knowledge on Programmable Logic Control System (now becoming standard in installations).

**STATUS AND ACTION TO ENSURE COMPLIANCE TO STATUTORY REQUIREMENTS BY 2020 - MALAYSIA AS A DEVELOPED NATION**

AUTHORITY (ENERGY COMMISSION) MUST ENCOURAGE ACTIVE PARTICIPATION OF STAKEHOLDERS

ACTIVE PARTICIPATION OF STAKEHOLDERS
CONFLICTING PROVISIONS

• There are provisions within the Electricity Regulations 1994 which can and has led to conflicting interpretation.

• There are also conflicting requirements, since change of prime movers from steam engines to electric motors, of the Factories and Machinery (Persons in-charge Regulations) which need to be reviewed to ensure compliance with competency control and safety legislation.

• The above conflicting provisions will affect implementation of the new Renewable Energy Act 2011 simply because biomass, biogas projects involve systems, plant and equipment coming under the Electricity Supply Act and the Factories and Machinery Act. This will have to be resolved.

• ICEM has and will take up this matter with the relevant authorities to enable effective compliance.

ENERGY MANAGEMENT AND SAFETY

• Competency control is about safety, reliability and energy efficiency management of the system, plant or equipment.

• Energy Management activities can interfere with safety.

• Energy Management must therefore remain the responsibility of those responsible for the design, installation, operation and maintenance of the system, plant and equipment.

• ASEAN Energy Management Scheme (AEMAS) agreed upon at the ASEAN Ministerial meeting in Phnom Penh in June 2005 allows for all stakeholders to be involved in Energy Management. Hopefully AEMAS will be implemented soon.

• Hopefully the AEMAS will be adopted for implementation soon.
CONCLUSION

• Energy Commission and competent persons cannot, acting in isolation, enhance electrical safety and competency practices in industry without the active participation and support of all relevant stakeholders.

• This is the approach adopted in Developed Nations, NGOs play a positive role.

• This approach will lead to less legislation, more codes of practice and standards in the management of safety, health, welfare and competency control and thus less direct enforcement process.

• The process of change must take into account the administrative and financial liability that industries will have to encounter. This change must be managed through structured approach - conduct workshops and seminars for stakeholders. Conflicting legislations must be amended.

• We cared for competency - safety, reliability and efficiency since 1890 and 1935 respectively - well before some so called now advanced countries.

• Active participation of stakeholders is CRITICAL to enhance safety.