CLPP Integrated SHEQ Management

Visit of Hong Kong Society for Quality
15th March 2003
Business Overview

- Integrated electricity generation, transmission and distribution business
- Supply to over 2 million customers
- Covering 80% of total area of Hong Kong
Power Supply System

- **Mix of Generation sources**
  - NG Combined Cycle units at Black Point Power Station
  - Coal, NG and Oil fired units at Castle Peak Power Station
  - Gas Turbines at Penny’s Bay Power Station
  - Nuclear units at Guangdong Daya Bay Nuclear Power Station
  - Pumped storage hydro units at Guanzhou Pumped Storage Power Station

- **Transmission & Distribution Network**
  - Operating at 400KV, 132KV, 66KV, 33KV, 11KV
Requirement of Sustainable & Integrated Management System

Capital intensive Assets

Complexity of activity over whole asset Life Cycle

Sound and effective Management System

High commitment in SHEQ

Regulatory Requirements Stakeholders Expectations
CLPP SHEQ Management Framework

- **PDCA-I principles fully applied**

**Act / Improvement**
- Stewardship of new initiatives and implementation of improvement actions are closely monitored to close the loop

**Check**
- Internal / External Audits against international standards and regulatory requirements
- Benchmarking with international best practice

**Plan**
- Policies, Rules and Standards defined
- Corporate / BG SHEQ Plans formulated with clear goals and performance targets
- Risks / Legal requirements

**Do**
- Effective Management Systems are in place, communicated and deployed
- Training and promotion programs organised to built up workforce competency and a sustainable SHEQ culture
Example:
In GBG 19 Management Systems developed under OIMS Framework

Objective
• Operations Integrity:
• SHE Excellence
• Regulatory Compliance
• Quality

Integrated Management Framework

Core Systems

• Design
• Engineering

Supporting Systems

• Risk Management
• Occupational Safety & Health
• Operational Safety (PTW)
• Environmental Management
• Contractor Management
• Emergency Response
• Incident Investigation & Analysis
• Document Management
• Personnel Placement
• Training & Authorization
• Regulatory Compliance
• Management of Change

• Decommissioning / Demolition

• Construction
• Commissioning

• Operations
• Maintenance

Objective
• Operations Integrity:
• SHE Excellence
• Regulatory Compliance
• Quality
OIMS Management System Characteristics

1. Scope & Objectives
2. Procedures
3. Responsibilities and Accountabilities
4. Verification and Measurement
5. Feedback Mechanism

System Quality Considerations

- Documentation
- Implementation (communication resources deployment, responsibilities etc)
- Verification of Status and Effectiveness
- Achievement of Objectives and Results
- Improvement

System Assessment

- Annual
- Internal / External

11 Elements
60 Expectations
GBG Integrated Audit 2002 successfully completed on 16 Oct

Achievements

✓ 19 GBG Management Systems assessed and all rated at level 3+ to 4 (4 being highest)
✓ F&IU SMS Audit for GBG completed with full compliance
✓ NOSA Grading Audit by new integrated protocol (CMB 253)
  • 5-Star (Platinum) for CPPS
  • 5-Star (Platinum) for BPPS
  • 5-Star (Platinum) for PBPS
  • 5-Star (Platinum) for GMD
  • 5-Star (Platinum) for Generation Business Group
✓ ISO14001 Certification retained for all Stations and GBG
  • BPPS
  • CPPS
  • PBPS
  • GBG
✓ OHSAS 18001 Certification for GBG

Congratulations!
# CLPP SHEQ Achievements/Awards (Examples)

<table>
<thead>
<tr>
<th>Safety &amp; Health</th>
<th>Environment</th>
<th>Quality</th>
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<tbody>
<tr>
<td>• OHSAS 18001 Certificates</td>
<td>• ISO 14001 Certificates</td>
<td>• ISO 9001:2000 Certificates</td>
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<tr>
<td>• HK Occupational Safety and Health Council Awards</td>
<td>• HK Awards for Industry – Environment Performance</td>
<td>• HK Award for Customer Service</td>
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<tr>
<td>• NOSA 5-Star Rating for all BGs and NOSCAR Awards for CLPP</td>
<td>• Best Environmental Report - Hong Kong Eco-business Awards 2000</td>
<td>• Customer Services Excellence Award</td>
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<td></td>
<td>• HK Eco-Business and Green Office Awards, WasteWi$e Scheme Gold Logo</td>
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Experience Sharing in Process Improvement – Integrated Audit

Background

• Numerous auditing requirement to satisfy business objectives, regulatory compliance, system assessment for continuous improvement, etc.

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<tr>
<th>System Assessment</th>
<th>Conformance and Verification</th>
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<tbody>
<tr>
<td>• OIMS Assessment</td>
<td>• F&amp;IU (SMS) Regulation Compliance Audit</td>
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<tr>
<td>• NOSA Audit</td>
<td>• OHSAS 18001 Certification Audit</td>
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• Pressing need for process streamlining and resources optimization

Benefit

• Numerous auditing requirements integrated in a single process

• Minimize interruption to normal business operation with manpower saving in both the audit team and the audited units.
Experience Sharing – Integrated Audit

Challenges

- Variety of audit protocol, requirements and focus
- Truly integrated audit vs ‘combined or simultaneous audits’
- Audit team formation and member skill mix
- Effective sharing of audit findings among audit members
- Independence of external auditors / certification bodies
- Balanced emphasis on system effectiveness review and compliance verification
- Design of detailed audit schedule for accomplishment of all objectives
- Logistics support (interviews, site verifications, documents review, etc.)
Experience Sharing – Integrated Audit

Planning

• Partnering
  – Feasibility study and trial run with external auditing partners

• Protocol Synergy Analysis
  – Detailed analysis of all auditing protocols and requirements to identify the common and specific areas.
  – Matrix mapping produced for identification of process synergy in audit team formation and detailed audit schedule.

• Audit Team Formation
  – Multi-disciplinary team with a mix of SHE expertise and other line/functional expertise (in Project Management, O&M Management, etc.)
  – Members from NOSA, ISO Certification agency, RSA, Managers from ExxonMobil and CLPP

• Familiarization and Alignment
  – Auditing parties in full perspective of audit process design, rationale with buy-in
  – Sharing and alignment between auditing parties and auditors
Experience Sharing – Integrated Audit

Implementation

• Audit Team Leader to oversee and manage the overall audit process for the workout of synergy, sharing and no-duplication principle

• Audit Team Daily Meeting to share audit findings and discuss planned work progress

• Joint evaluation with full team participation to ensure consistency and avoid misalignment in system assessment findings and recommendations
Experience Sharing – Integrated Audit

Post Audit Review

• Detailed post audit review to identify improvement opportunities

• Continuous Improvement

  – Optimum audit duration balancing on protocol requirements, workload on audit team/audited units and quality deliverables

  – Fully achieving the objective of sharing and learning of world best practices

  – Alignment of different time-frame requirements for various ISO/OHSAS surveillance / re-certification audits

  – Further integration opportunities in System documentation design
Quality Initiatives / Promotion in CLPP

Generation Innovation Team (GIT) Competition

GIT Webpage

QCC Convention

Customer Services Symposium

Quality Training
Thank You