



## Sharing of Experience on developing the National document on Energy Efficiency Guidelines & Best Practices in Indian Datacenter

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# O&M

- Sudeep Palanna

Facilities, Texas Instruments India

Chairman- Core group O&M



# Agenda

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- Team
- Brainstorming
- Consensus
- Documentation and training
- Change
- MIS
- Credits
- Q&A

# Team



- Mr. Sudeep Palanna , Texas Instruments
- Mr. Kiran Kumar, CtrlS
- Mr. Anand Vanchi, Intel
- Mr. Ranen Chattopadhyay, Wipro Ltd
- Mr. Vijayanand Martin Gokavi, Wipro Ltd
- Mr. Jitender, Wipro Ltd
- Mr. Rishi Mehta, Tata Communications
- Mr. S Ramachandran, TCS
- Mr. Radhakrishna, INFOSYS
- Mr. Salender Tomer, HP
- Mr. Manu Kumar, HP
- Mr. Muthu Swamy, MIC Electronics Ltd
- Mr. Shailesh Zarkar, CtrlS
- Mr. T.S. Shankar, Cisco
- Mr. Sharfoddin Mohammed, Wipro Ltd
- Mr. Ravi Meghani, Wipro Ltd
- Mr. Santhosh Srihari, Wipro Ltd
- Mr. Karthikheyana DS, Wipro Ltd
- Mr. Sanjesh K. Gupta, Wipro Ltd
- Mr. Sudhir Setty, Intel

# Brainstorming



- O&M - Beginning and the End ?
- Maintenance – Preventive, Predictive, Condition based
- Energy vs. reliability
- Manual vs. Automated techniques
- Change management
- Load optimization /Capacity management
- Technical Resources and Training
- CFD analysis
- Cable management
- Periodic Audits
- Design Information/Technical documentation
- 5S – Housekeeping
- Benchmarking and MIS
- Operation Strategy

# Consensus



Focus on 20% of the activities that can drive 80% of the benefits

- Design Data, Documentation
- Manpower/ Training
- Change Management
- Metering and Monitoring
- Benchmarking and MIS
- Datacenter Strategy

# Documentation and Training



- Design Information
- Technical Documents
- As built drawings
- Access to Technical experts
- Training of operators on various systems
- Documented processes and procedures

Each Individual must clearly understand the impact of his/her actions on energy KPI

# Change



**Know what's weird? Day by day, nothing seems to change, but pretty soon...everything's different.**

- Calvin from Calvin and Hobbes

- Change is inevitable, Manage it systematically
- Strategy team for managing change
- Have a database of existing condition
- Compare with design and existing
- Evaluate the effects of change and act on it
- Know the change and document
- Optimize the placement of new machines
- 5S after any change

# MIS

Grab management attention



Most important tool that drives energy actions

- Information should be in a structured manner
- Consumptions and Energy KPI should be trended
- Compared against industry benchmarks
- Periodic Audit reports
- Drive continuous improvement
- Compliance to industry best practices
- Develop Energy strategy based on MIS to drive Capital investment decisions



# Credits

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- All core group members and the parent organizations
- CII for the initiative and co-ordination
- BEE for the guidance and drive.

Thank you



Q&A

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