

<b>Energy Saving and other Alternatives</b>
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**1.0 Purpose**

The purpose of this procedure is to define the energy saving measures as adopted a special feature for the projects identified by the Management.

**1.1 Application**

This procedure is applicable to the projects wherever feasible entrusted to KSPH&IDCL by the client organization.

**2.0 Responsibility**

Responsibility lies with the Executive Engineer (Electrical)

**3.0 Terms and definitions**

**Energy saving and other alternative measures** – Measures taken to provide maximum ventilation, harvest solar power & wind energy, minimize the power consumption, etc.

**4.0 Procedures**

Appropriate procedures for Energy saving and other alternatives shall be identified and applied to all the projects as far as feasible that are taken up by **KSPH&IDCL**. The appropriateness of the procedure for energy saving will be studied in depth by the concerned engineers during the planning phase of the project and approvals shall be obtained from the competent authorities after working out the feasibility and the cost benefit of the proposal. Depending on the resource availability, the appropriate procedures may be adopted in one or more phases. The details of the selected procedures as are being adopted in various phases will be documented as part of the project documentation.

The following Energy saving possibilities will be examined:

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- (1) Orientation of building keeping Sun movement path in view to get maximum day light
- (2) Provide large size openings for day light harvesting to be maximised
- (3) Use of passive architecture to bring down temperature and minimise use of air conditioners.
- (4) Re-cycle waste water for non-potable uses
- (5) Use of alternative natural source of Energy such as Solar, Wind, etc
- (6) Use of Hand pumps instead of Energy pumps.

**5.0 Documentation structure****5.1 Lighting**

Sl. No.	Activity	Description	Responsibility	Reference Documents.
1.	Preliminary reconnaissance	Type of lighting to be implemented	AEE / AE	
2.	Preparation of proposal	As per the site condition & usage of the areas Luminous will be calculated & designed	AEE / AE	
5.	Execution of work	Carry out the scheme as per the specifications	EE / AEE / AE	Contract documents.
6.	Post construction activity	Effectiveness of the work carried out to be studied	AEE / AE	

**5.2 Timer and occupying sensor**

Sl. No.	Activity	Description	Responsibility	Reference Documents.
1.	Initiation	Provision to be made for optimising the level of power consumption	EE.	
2.	Execution of work	To carry out the scheme as per the specifications	EE / AEE / AE	IMSP 14 & Contract documents.
3.	Post construction activity	Effectiveness of the work carried out to be studied to know the objective achieved	AEE / AE	

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**5.3 High efficiency motors and power factor**

Sl. No.	Activity	Description	Responsibility	Reference Documents.
1.	Initiation	Provision to be made for providing proper power factor	EE.	
2.	Execution of work	Depending upon the yield, discharge, head & actual requirement of water suitable motors to be proposed and To carry out the scheme as per the specifications	EE / AEE / AE	IMSP 14 & Contract documents.
3.	Post construction activity	Effectiveness of the work carried out to be studied to know the objective achieved	AEE / AE	

**6.0 Reference**

- a) ISO 9001: 2008 Clause Number 7.3
- b) ISO 14001:2004 Clause Number 4.4.6

<b>Approved by : Managing Director</b>
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