

NATIONAL ENERGY CONSERVATION AWARD - 2017 (Thermal Power Stations)

Award for Excellence in Energy Conservation and Management

OBJECTIVE

To give national recognition to the selected Thermal Power Stations (TPS) who have made systematic and serious attempts for efficient utilization and conservation of energy during the years 2014-15, 2015 -16 and 2016-17.

THE AWARDS

First and second prizes are proposed to be given in the form of Gold and Silver Plaque respectively. The third prize will be in the form of "Certificate of Merit". The performance of TPS would be judged through the questionnaire (format enclosed) which would be evaluated by an Award Committee.

ELIGIBILITY

The scheme is open to all Thermal Power Stations using coal, lignite, biomass, liquid and gas as fuel.

Criteria for Judging Merit

- a) Evaluation of the nominations will be done in two phases, based on the Evaluation and Weight age criteria as given in Part –I and based on the Evaluation and weightage criteria as given in Annexure-A
- b) In the first phase, evaluation will be made on the basis of the preliminary information, as required in Part - I and the best 10% of the participating TPS (subject to minimum of 4 units) would be short listed.
- c) These shortlisted TPS would then have to submit the details of the savings made and the projects implemented, as required in Part-II within 8 days from the date of intimation by BEE.
- d) The members of the Award Committee or their nominees may visit participating TPS for verification of data supplied, if felt necessary and it will be obligatory on the part of the participating TPS to provide necessary co-operation. The TPS have to bear all the expenditure in this connection.**
- e) The Committee's decision would be final and no appeal would be entertained.

Instructions for Filling up the 'Award Questionnaire'

- a) The data required for the questionnaire pertains to the accounting years 2013-14, 2014-15, 2015 -16 and 2016-17. If calendar year is the accounting year, then data should pertain to the years 2013, 2014, 2015 and 2016.

- b) The enclosed questionnaire is only a format and thus information sought should be separately computer printed or neatly typed or to be downloaded from the Bureau's Website: www.beeindia.gov.in.
- c) The answers to the questions should be precise and specific and should be supplied in total compliance with the questionnaire format. The deviations may lead to improper evaluation or the rejection of the nomination.
- d) The information sought under any head should be highlighted under the same and no separate annexure should be attached.
- e) Each and every query mentioned in the questionnaire needs to be answered. Even, if answer is 'NO' or 'NOT APPLICABLE' the same may be stated, instead of ignoring it.
- f) The questionnaire should be filled in by a competent and responsible person of the TPS. He/ she should be fully conversant with the energy terms and units, conversion / multiplying factors etc. The duly filled-in questionnaire should be signed by the Chief Executive of the TPS.

Submission of nomination

Filled in questionnaire should reach the office of

**Director General
Bureau of Energy Efficiency
4th Floor, Sewa Bhawan
R. K. Puram, New Delhi-110 066
Tel. No.: 011-2617 9699 (5 lines)
Fax No.: 011- 2617 8328, 2617 8352**

Latest by 28th September, 2017

Note:

1. The current year's Questionnaire is a revised version and contains some changes at appropriate places. Therefore, please do not use the last year's Questionnaire while submitting your application for consideration of Award
2. You may download the Questionnaire from www.beeindia.gov.in.
3. The filled in application can also be e-mailed at ecawards.2017@beenet.in, ecaward17@gmail.com and ecaward2017@rediffmail.com followed by submission of duly signed hard copy by post at BEE office address.

National Energy Conservation Award-2017 (Thermal Power Stations)

“Award Questionnaire”

1	Name of the Thermal Power Station with complete postal address.				
2	Name of the State/ UT				
3	Type of Thermal Power Station (Please mark <input checked="" type="checkbox"/>)	<input type="checkbox"/> Coal / <input type="checkbox"/> Lignite / <input type="checkbox"/> Liquid Fuel / <input type="checkbox"/> Mixed Fuel / <input type="checkbox"/> Gas/ <input type="checkbox"/> Biomass Fuel Fired/ <input type="checkbox"/> Diesel <input type="checkbox"/> Combined Cycle Gas Turbines (CCGT) <input type="checkbox"/> Open Cycle Gas Turbine (OCGT) <input type="checkbox"/> Cogeneration Plants <input type="checkbox"/> Diesel Generating Sets <input type="checkbox"/> Others (Please specify)			
4.	Chief Executive's name & designation with mobile, telephone, fax nos. & e-mail.				
5	Name, designation, address, mobile, telephone, fax nos. & e-mail of Certified Energy Manager appointed or designated under EC Act				
6 (a)	Energy consumption in metric ton of oil equivalent (MTOE) in the current financial year 2016 -17				
6(b)	Whether ISO 50001 Energy Management System Certified (Yes/No)? If yes, please attach a copy				
Thermal Power Station Design (Coal / Lignite / Liquid Fuel / Mixed Fuel / Gas/ Biomass Fuel / Diesel Fired) Details (TPS of above type to submit Station Design Details information in this table)					
7	Particulars	Financial Year (Reference Year)	Financial Year	Financial Year	Financial Year
	Design details	2013-14	2014 -15	2015-16	2016-17
(a)	Capacity of the station (MW)				
(b)	Average Station Gross Heat Rate on GCV basis of the fuel used, (kcal/kWh)				
(c)	Station Net Heat Rate on GCV basis of the fuel used, (kcal/ kWh)				
(d)	Station Auxiliary Power Consumption (%)				
(e)	Station Secondary Fuel Oil Consumption (ml/kWh)				

8. Thermal Power Station Operating Details

(All type of Thermal Power Stations to submit detailed Operating information in this table)

8	Annual Operating Parameters	Financial Year (Reference Year)	Financial Year	Financial Year	Financial Year
		2013-14	2014 -15	2015-16	2016-17
8 (a)	Overall Station Generation (Million kWh/year)				
8 (b)	Overall Station PLF (%)				
<u>Coal/ Lignite/ Biomass Consumption (Million Metric Tonne) (Please specify the name of Fuel used)</u>					
8 (c)	Overall Station fuel consumption (Coal/ Lignite/Biomass Consumption) (Million Metric Tonne/ year)				
	Average Gross Calorific Value (GCV)of fuel (kcal/kg)				
	Overall Thermal energy used in the station due to the use of above fuel (Billion kcal/ year)				
<u>Oil Consumption (kL)(mention FO/ LSHS/ RFO/ Naptha/HSLS/HSD/other liquid fuel as applicable)</u>					
8 (d)	Overall Station Oil Consumption (kL/ year)				
	Average Gross Calorific Value (kcal/Litre or kcal/kg, please specify)				
	Overall Thermal energy used in the station due to the use of above fuel (Billion kcal/ year)				
<u>Gas Consumption at STP (Million Cubic Meter)</u>					
8 (e)	Overall Station Gas Consumption at STP (Million Cubic Meter)				
	Average Gross Calorific Value at STP (kcal/Cubic Meter)				
	Overall Thermal energy used in the station due to the use of above fuel (Billion kcal/ year)				
<u>Other fuels used (Please specify- Solid Waste/ Liquid Effluent/ Waste gas/ By product gas/ etc.) – Provide data on similar lines of coal / oil / gas, as applicable.</u>					
8 (f)	Overall Station Fuel Consumption (please specify units_____)				
	Average Gross Calorific Value (please specify units_____)				
	Overall Thermal energy used in the station due to the use of above fuel (Billion kcal/ year)				
8 (g)	<u>Gross Heat Rate on GCV basis (kcal/ kWh)</u>				
	Overall Station Gross Heat Rate on GCV basis (kcal/ kWh)				
* Note: Cogeneration Plants to mention Fuel Quantity used only for power generation					

* For computing fuel consumption for power generation following relation may be used

$$1. \text{ Fuel consumption for process} = \frac{\text{Steam quantity used for process} \times (\text{Enthalphy of steam} - \text{Feed water temperature})}{\text{Boiler efficiency} \times \text{G.C.V of fuel}} \quad (\text{Specify unit})$$

$$2. \text{ Fuel consumption for power generation} = \text{Total fuel consumption} - \text{fuel consumption for process (specify unit)}$$

8	Annual Operating Parameters (continued)	Financial Year (Reference Year)	Financial Year	Financial Year	Financial Year
		2013-14	2014 -15	2015-16	2016-17
8 (h)	Net Heat Rate on GCV basis (kcal/ kWh)				
	Overall Station Net Heat Rate on GCV basis (kcal/ kWh)				
8 (i)	Auxiliary Power Consumption of Gross Energy Generated (%)				
	Overall Station Auxiliary Power Consumption (%)				

9. Annual Energy savings achieved and investment made due to implementation of Energy Efficiency improvement measures

9	**Annual Energy savings achieved and investment made due to implementation of Energy Efficiency improvement measures	Financial Year	Financial Year	Financial Year
		2014 -15	2015-16	2016-17
9 (a)	Electrical Energy Savings (Million kWh/ year)			
9 (b)	Electrical Energy Savings (Lakh Rs/ year)			
9 (c)	Coal / Lignite Savings (Million Tonnes/ year)			
9 (d)	Oil Savings (KL/ year)			
9 (e)	Gas Savings (Million M ³ at STP/year)			
9 (f)	Other fuel savings (Please specify and also mention units)			
9 (g)	Total fuel savings (Million kCal/ year)			
9 (h)	**Total fuel savings (Lakhs Rs/ year)			
9 (i)	Total annual energy savings (Lakhs Rs/ year) 9(b) + 9(h)			
9 (j)	Investment made on energy conservation measures (Lakhs Rs/ year)			

Note: Annual energy savings to be worked out based on the difference in the energy consumption before implementation of the project and energy savings achieved after implementation of the project in the identified area/ equipment in the reference year. The overall energy savings of all the implemented projects to be mentioned in the appropriate column. The energy savings achieved to be only the first year annual savings and should not include the savings achieved due to implementation of the projects in the previous years.

I solemnly declare that to the best of my knowledge the information given in the Award Questionnaire (National Energy Conservation Award-2017) thereto is correct and complete

.....

(Signature of the Chief Executive)

Name and Designation of Chief Executive _____

Organization Seal.....

Date:

Place:

PART-II (To be submitted after intimation by BEE)
NATIONAL ENERGY CONSERVATION AWARD - 2017
(THERMAL POWER STATIONS)
"Award Questionnaire"

1	Name of the Thermal Power Station							
2	Type of the Thermal Power Stations							
3	Complete address of TPS location (including Chief Executive's name & designation) with mobile, telephone, fax nos. & e-mail							
4	Name, designation, address, mobile, telephone, fax nos. & e-mail of responsible person who could be contacted in connection with the application for Award							
5	Please provide details in the following format on major energy efficiency improvement projects/ measures including in-house R&D efforts, technology innovation, energy substitution and renewable energy systems commissioned during the year 2014 -17 giving energy savings achieved. (please also fill-up the Part II - Annexure for the Energy Conservation Measures implemented during the year 2014 -17).							
Year of Commissioning of the projects		Project description	Achievement of Annual energy savings in 2014 -17					Investment incurred on the project Rs. (Lakhs)
			Electricity (Lakhs kWh)	Fuels*			Total savings (Rs. Lakhs)	
			Coal (tonnes)	F.Oil (kL)	Gas (lakh Nm ³)	Total fuel (MTOE)		
		(i) Please list the projects title names which were implemented during the year (ii) Please mention the achievement of energy saving against each projects in the suitable columns.						
2014-15	1							
2015-16	1							
2016-17	1							

* Delete or add fuels as the case may be

I, Solemnly declare that to the best of my knowledge the information given in the Award Questionnaire (National Energy Conservation Award-2017) thereto is correct and complete.

(Signature of the Chief Executive)

Date: _____
 Place: _____

Name & designation of the Chief Executive
 Mobile No.
 Organisation Seal

DOCUMENTS ATTACHED:

1. Copies of Certificate pertaining to statutory requirements such as safety and pollution control for the period 2014 -17 are enclosed.
2. A brief write up of the unit (not more than 3-4 pages) along with photographs depicting equipment / locations where energy efficiency activities have been undertaken and a CD containing the same is attached (Sample writeup may be seen at www.beeindia.gov.in)

Note: The Part-II and Part-II-Annexure to be kept ready and to be dispatched immediately after the intimation sent by BEE

(To be submitted along with Part –II after intimation by BEE)

Energy Conservation Measure implemented in 2016-17

(To be filled up separately for each Energy Conservation Measure implemented and to be e-mailed at ecawards.2017@beenet.in, ecaward17@gmail.com; ecaward2017@rediffmail.com)

ID to be filled by BEE	Title of the measure		Sector...TPS		
Year: 2016 -17			Technology		
Description of the energy conservation measure:					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
Agency that executed the project (with complete address and email):					
Total investment, Rs.			Year of implementation:		
First year energy cost savings, Rs.					
First year other savings, Rs.					
On annual basis	Electricity (kWh)	Coal (Tonnes)	Gas (Nm ³)	Oil (kL)	Other
Energy consumption before					
Energy consumption after					
Energy tariff, Rs/ kWh/ Tonnes/ Nm ³ / kL ...					
Plant/ Establishment complete address:				We authorise Bureau to use this information for dissemination	
Contact person who could be contacted for more information:				Signature	
				Date	

Note: Please submit this sheet separately for each Energy Conservation Measure implemented in 2016 -17 and a CD containing the above information may be enclosed.

NATIONAL ENERGY CONSERVATION AWARD – 2017		
Evaluation and weight age criteria – THERMAL POWER STATIONS		
Sr. No.	ITEM	Max 50 marks
1	ENERGY SAVINGS – ELECTRICAL & THERMAL	
i	% saving in Electrical Energy over preceding year	(10 marks)
ii	% saving in Thermal Energy over preceding Year	(10 marks)
2	STATION GROSS HEAT RATE IMPROVEMENT	
	% improvement in Station Gross Hear Rate during 2014-17	(15marks)
3(a)	% AUXILIARY CONSUMPTION REDUCTION	
	% reduction in Auxiliary Consumption over previous year (2014-17)	(8 marks)
3(b)	ISO 50001 EnMs Certification	(2 marks)
4	Comparison of % deviation of Operating Station GHR from the Design GHR Parameters with the best reported deviation values among the participating TPS	(5 marks)

Note:

1. For all the evaluation criteria, if the difference between the first and second unit in the particular criteria is more than 10% in the percentage score, then the second best unit will be awarded 20% less marks than that of the first unit and prorate will start from that unit onward. Similarly, if the difference between second and third unit is also found to be more than 10% ,the above methodology will be followed till the completion of the evaluation criteria of all the units
2. Award Committee reserve the right to modify the Evaluation & Weightage criteria, if the application of the above criteria may not be feasible due to certain peculiar characteristics of the reporting units, the modified criteria shall be uniformly applied to all the participating units.
3. If it is found that the GHR improvement / Auxiliary Consumption reduction is exceptionally high mainly due to increased capacity utilization and is affecting the weight age of other units, Award Committee reserve the right to modify the Evaluation & Weight age criteria for that sector.
4. The weightage criteria for three years i.e. 2014-15, 2015-16 and 2016-17 will be the ratio of 30:30:40