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विषय: Revision of Award Schemes recognizing the meritorious performance during the financial year 2013-14 onwards.

The revision of Award Schemes (Six numbers) recognizing the meritorious performance for the award year 2013-14 was approved by Ministry of Power vide letter No.6/1/2014- OM dated 03.12.2014. The following 6 revised award schemes are attached as '**Appendix-I**' for ready reference.

(माम चंद)
मुख्य अभियंता

Appendix-I

REVISION OF QUALIFYING PARAMETERS FOR COMPREHENSIVE PERFORMANCE AWARD SCHEME

PERFORMANCE AWARD SCHEME FOR THERMAL POWER STATIONS

3.0 NATURE OF AWARD

Maximum **Eight (8)** number awards consisting of one Gold Shield, **Three** Silver Shields and **four** Bronze Shields will be given to the highest ranking thermal power stations in recognition of their operational performance during the year. **One Gold shield will be given to that coal/lignite/CCGT station who obtains highest and more than 90% marks among the central/state/private sector. Three Silver shields will be given to those next higher ranking coal/lignite/CCGT stations that score minimum 80% marks among the central/state/private sector. Four Bronze shields will be given to those next higher ranking coal/lignite/CCGT stations that score minimum 70% marks among the central/state/private sector. While deciding the award, it will be ensured that two awards to the best performing power stations are given in each sector i.e. Central Sector, State Sector and Private Sector for Coal/Lignite based thermal power stations subject to scoring minimum 70% marks. In case of CCGT power stations of Central/State/Private Sectors total two combined awards will be given subject to scoring minimum 70% marks by the station.**

6.0 DATA REQUIREMENT

The Chief Executives of all Thermal Stations shall be required to furnish complete data in **prescribed formats** to the Nodal Officer of CEA as specified below:

S. No.	Parameter	Formats	
		Coal/ lignite based station	CCGT stations
1.	Station Heat Rate	Annexure-I (Coal/ Lignite)	Annexure-I (CCGT)
2.	Aux. Power Consumption	Annexure-II (Coal/ Lignite)	Annexure-II (CCGT)
3.	Peaking PLF	Annexure-III (Coal/ Lignite)	Not Applicable
4.	Sp. Secondary fuel oil consumption	Annexure-IV (Coal/ Lignite)	Not Applicable
5.	Plant Operating Availability	Not Applicable	Annexure-III (CCGT)

7.0 TIME SCHEDULE FOR SUBMISSION OF DATA

All Thermal Stations will send the above data to CEA **regularly on monthly basis starting from the month of April onwards. In** any case, the data must reach CEA latest by 2nd week of the following month for which the data is being reported upon.

**PARAMETERS FOR THERMAL POWER STATIONS PERFORMANCE
AWARD AND THEIR WEIGHTAGE**

Sl. No.	Parameters	Weightage (Marks)			
		Coal/lignite based Stations (Old)	<u>Coal/lignite based Stations (New)</u>	CCGT Stations (Old)	<u>CCGT Stations (New)</u>
1	Peaking PLF	50	<u>25</u>	50	<u>Not Applicable</u>
2	<u>Plant Operating Availability</u>		<u>Not Applicable</u>		<u>40</u>
3	Station Heat Rate	15	<u>35</u>	30	<u>35</u>
4	Sp. Secondary Fuel Oil Consumption	15	<u>15</u>	Not Applicable	<u>Not Applicable</u>
5	Auxiliary Power Consumption	20	<u>25</u>	20	<u>25</u>
	TOTAL	100	<u>100</u>	100	<u>100</u>

No. of Total Awards	Old	<u>New</u>
	Six (6)	<u>Eight (8)</u>
		<u>One Gold Shield</u> <u>Three Silver Shield</u> <u>Four Bronze Shield</u>

CRITERIA FOR ASSIGNING MARKS

Parameter (1) (Old)	Parameter (1) (New)	Criteria for Coal/lignite based stations (2) (Old)	Criteria for Coal/lignite based stations (2) (New)	Criteria for CCGT stations (3) (Old)	Criteria for CCGT stations (3) (New)	Remarks (4)
Peaking P.L.F.	Peaking P.L.F.	National Avg. 0 PLF ≥ 90% PLF 50	≤ National Avg. 0 PLF ≥ 90% PLF 25	National Avg. 0 PLF ≥ 90% PLF 50	Not Applicable	<ul style="list-style-type: none"> • Marks on pro-rata basis for values in between. • Generation during morning & evening peak hours (4 hours each) to be extrapolated for the day and averaged over the year
	<u>Operating Availability</u>		<u>Not Applicable</u>		< National Avg. 0 PLF ≤ 80% of 0 Op. Avail. Max.Op.Avail. 40	<ul style="list-style-type: none"> • <u>Marks on pro-rata basis for values in between.</u> • <u>At least National Average PLF is necessarily required to ensure running of Plant</u>
Station Heat Rate	Station Heat Rate	Deviation of 20% 0 and above from Design Station Heat Rate Minimum deviation 15 from Design Station Heat Rate	Deviation of 20% 0 and above from Design Station Heat Rate <u>Minimum deviation 35 from Design Station Heat Rate</u>	Deviation of 20% 0 and above from Design Station Heat Rate Minimum deviation 30 from Design Station Heat Rate	Deviation of 20% 0 and above from Design Station Heat Rate <u>Minimum deviation 35 from Design Station Heat Rate</u>	<ul style="list-style-type: none"> • Marks on pro-rata basis for values in between.
Sp. Secondary Fuel Oil Consumption	Sp. Secondary Fuel Oil Consumption	Compliance with 0 Normative value Maximum 15 improvement from Normative value achieved during the year by any station	Compliance with 0 Normative value Maximum 15 improvement from Normative value achieved during the year by any station	Not Applicable	Not Applicable	<ul style="list-style-type: none"> • Marks on pro-rata basis for values in between. • Norms for stations having different unit sizes shall be worked out on weighted average basis
Aux. Power Consumption	Aux. Power Consumption	Compliance with 0 Normative value Maximum 20 improvement from Normative value achieved during the year by any station	Compliance with 0 Normative value <u>Maximum 25 improvement from Normative value achieved during the year by any station</u>	Compliance with 0 Normative value Maximum 20 improvement from Normative value achieved during the year by any station	Compliance with 0 Normative value <u>Maximum 25 improvement from Normative value achieved during the year by any station</u>	<ul style="list-style-type: none"> • Marks on pro-rata basis for values in between. • Norms for stations having different unit sizes shall be worked out on weighted average basis

Note: for coal/lignite based stations with units of 200 MW and above and central sector CCGT stations, the normative values for various operational parameters shall be as per CERC's notification, as applicable. for lower unit sizes of coal/lignite based stations and other CCGT stations, the normative values shall be as determined by CEA.

EARLY COMPLETION OF THERMAL POWER PROJECTS AWARD
SCHEME FOR THE YEAR 2013-14

3.0 NATURE OF AWARD

- i) Award Scheme is meant for only Coal/Lignite based thermal power projects.
- ii) The thermal power projects shall be categorized as follows for the purpose of this Award Scheme:
 - Category A - Unit size of 660 MW & above (Super critical units)**
 - Category B - Unit size of 500 MW / 600 MW**
 - Category C - Unit size of 200/210/250 /300/350 MW**
- iii) There shall be **three (3) (Gold, Silver, Bronze) awards** in each Category of thermal units i.e. in all; there shall be **nine (9) (Gold, Silver, Bronze) awards** for thermal power projects.

4.0 ELIGIBILITY

The thermal power projects that will be covered under the Award Scheme are as under:

- a) All Coal / Lignite based power projects with unit size of 200 MW and above will be eligible for participation in this Award Scheme.
- b) The thermal units that have been completed within the "Reasonable Time Schedule" will be eligible for the Award.
- c) The Award Scheme will cover the thermal power projects, unit-wise which were commissioned during the financial year 2013-14.

5.0 EVALUATION CRITERIA

- i) Each category of eligible thermal units would be graded separately in ascending order of their ratio of actual completion period to the Reasonable Time Schedule.
- ii) The thermal unit having the lowest ratio of actual completion period to the reasonable time schedule in each category of projects would be declared as the "**Best Executed Project of the Year**".
- iii) The thermal unit having the second lowest ratio of actual completion period to the reasonable time schedule in each category of projects would be declared as the "**Second Best Executed project of the Year**".
- iv) Similarly the thermal unit having the third lowest ratio of actual completion period to the reasonable time schedule in each category of projects would be declared as the "**Third Best Executed project of the Year**".

Decision of CEA in each case shall be final.

5.1 DATE OF START OF THE PROJECT

The date of start (Zero date) of the unit shall be the date of Letter of Award (LOA) for the main plant equipment / date of last statutory clearance (like Environmental / Forest / wild life because of which work could not be started) whichever is later.

5.2 DATE OF COMPLETION OF THE PROJECT

The date of completion of generating unit shall be taken as the date of commissioning of the unit as per CEA definition for the purpose of the award scheme.

5.3 REASONABLE TIME SCHEDULE

The time period as indicated below shall be considered as the “Reasonable Time Schedule” for completion of the unit from its date of start:

a) Reasonable Time Schedule for Green Field Projects

<u>Unit size of 660 MW & above</u>	- <u>45 months for first unit of the project.</u> <u>Subsequent units at an interval of 6 months each.</u>
Unit size of 500 / <u>600</u> MW	- 41 months for first unit of the project. Subsequent units at an interval of 6 months each.
Unit size of 200 /210/ 250/ <u>300/ 350</u> MW	- 31 months for first unit of the project. Subsequent units at an interval of 4 months each.

b) Reasonable Time Schedule for Extension Projects.

<u>Unit size of 660 MW & above</u>	- <u>43 months for first unit of the project.</u> <u>Subsequent units at an interval of 6 months each.</u>
Unit size of 500/ <u>600</u> MW	- 39 months for first unit of the project. Subsequent units at an interval of 6 months each.
Unit size of 200 /210/ 250/ <u>300/ 350</u> MW	- 29 months for first unit of the project. Subsequent units at an interval of 4 months each.

Number of Total Awards with Categories

Categories	Old	New
Category –A	--	<u>3</u>
Category –B	3	3
Category –C	3	3

AWARD SCHEME FOR EARLY COMPLETION OF HYDRO POWER PROJECTS

5.1 DATE OF START

The date of start (Zero Date) of the project for the purpose of award scheme shall be the date of award (LOA date) for generating unit or major civil works whichever is earlier, **subject to statutory clearance. Otherwise, the date of last statutory clearance shall be taken as date of start (Zero Date) of the project.**

5.2 DATE OF COMPLETION

The date of successful synchronization of the Generating Unit **with the grid and achieving full rated capacity in case of purely run-of-river stations and achieving full rated capacity or the design capacity corresponding to prevailing reservoir level in case of storage power stations shall be taken for the purpose of this Award Scheme.**

5.3 REASONABLE TIME SCHEDULE

The time schedule as specified by concerned authority shall be the reasonable time schedule **(considering the time of delay due to unforeseen circumstances)** reckoned for the purpose of their scheme.

5.4 UNFORSEEN CIRCUMSTANCES

The delay in completion of the project for the reasons beyond control of the project authorities, mentioned hereunder, may be deducted from the overall/ actual time of completion.

- Earthquakes resulting in stoppage of construction works.
- Floods and cyclones causing damage to constructed works.
- Geological problems leading to delay in construction works.
- Other such contingencies, which may be considered, appropriate by Central Electricity Authority (CEA).

POWER TRANSMISSION SYSTEM AVAILABILITY AWARD SCHEME

3.0 ELIGIBILITY CRITERIA AND NATURE OF AWARD

There will be three awards **with two in Category-I and one in Category-II** as given below:

Category-I - The scheme is open to all Central and State transmission Licensees except those in the states of North-Eastern Region, Sikkim, Uttarakhand, Himachal Pradesh and Jammu & Kashmir. The scheme is also open to private / joint venture (JV) transmission licensees in these states with transmission lines in excess of 2,000 circuit kms.

- i) Best transmission system availability award for transmission system of 220 kV and above; and
- ii) Second Best transmission system availability award for transmission system of 220 kV and above.

Category-II - The scheme is open to all transmission Licensees in the special category States of North-Eastern Region, Sikkim, Uttarakhand, Himachal Pradesh and Jammu & Kashmir who have predominantly 132 kV transmission System. The scheme is also open to private/JV transmission licensees in these States **with transmission lines in excess of 2,000 circuit kms.**

- iii) Best transmission system availability award for transmission system of 132 kV and above.

4.0 ELEMENTS TO BE CONSIDERED FOR DETERMINING AVAILABILITY

A transmission Licensee shall be eligible to participate as a single nominee either in category-I or category-II awards given below, and accordingly, the licensee shall submit the relevant data in respect of the entire transmission system owned by it in the country.

Category-I

All 220 kV and above AC transmission systems with elements up to the Low Voltage sides of the transformers shall be considered for determining the Transmission System Availability.

Category-II

All 132 kV and above AC transmission systems with elements up to the Low Voltage sides of the transformers shall be considered for determining the Transmission System Availability

5.0 EVALUATION CRITERIA

Transmission System Availability for all Transmission Licensees' of Inter-State Transmission System shall be calculated as per Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 notified on 19-01-2009 by CERC and effective from 01-04-2009. The relevant extracts of CERC Tariff Regulations 2009, Appendix- 'IV' are enclosed at Annexure I.

Transmission System Availability for other transmission Licensees' system shall also be calculated in line with the above referred CERC Regulations.

6.0 DATA REQUIREMENT

The utilities participating in the award scheme shall submit Transmission system availability of their system during the financial year along with the transmission element data and outage data for the transmission system in the prescribed proforma as per Annexure-II and III to the respective Regional Power Committees (RPCs). **The requisite data pertaining to Transmission Licensees of the States shall be submitted to CEA through RPC after certification of the data by respective SLDC.**

ENVIRONMENT MANAGEMENT AWARD SCHEME FOR COAL BASED THERMAL POWER STATIONS

Annexure – ‘A’

PARAMETERS FOR ENVIRONMENT MANAGEMENT AWARD AND THEIR WEIGHTAGE

SNo	Parameter (Old)	Marks Weightage (Old)	Parameter (New)	Marks Weightage (New)
1	Specific CO ₂ emission in kg CO ₂ / kwh	15	Specific CO ₂ emission in kg CO ₂ / kwh	15
2	Suspended Particulate Matter (SPM) emission at Stack (in mg/Nm ³)	25	Suspended Particulate Matter (SPM) emission at Stack (in mg/Nm³)	
a)			<u>Based on % Deviation from notified norm</u>	<u>15</u>
b)			<u>Based on actual value</u>	<u>10</u>
3	% of ash utilization	25	% of ash utilization	
a)			<u>% fly ash utilization</u>	<u>20</u>
b)			<u>% bottom ash Utilization</u>	<u>5</u>
4	Effluent Discharge	6	Effluent Discharge	6
5	Measures taken to conserve water in the power station	10	Measures taken to conserve water in the power station	10
6	ISO 14001 certification	5	ISO 14001 certification	5
7	Measures taken outside plant area for better environment	5	Measures taken outside plant area for better environment	5
8	House Keeping	9	House Keeping	
			<u>Green belt</u>	<u>5</u>
			<u>House Keeping</u>	<u>4</u>
	TOTAL	100	TOTAL	100

CRITERIA FOR ASSIGNING MARKS

Parameter	Criteria for Coal/lignite based stations		Parameter	Criteria for Coal/lignite based stations		Remarks	
	Old	Old		New	New		New
1. Specific CO ₂ emission	Minimum Deviation from Design specific CO ₂ emission	15	Specific CO ₂ emission	Minimum Deviation from Design specific CO ₂ emission	15	Marks on pro-rata basis for values in between 0 to +6.5 %	
	Deviation of more than 6.5% over and above the Design specific CO ₂ emission	0		Deviation of more than 6.5% over and above the Design specific CO ₂ emission	0		
2. Suspended Particulate Matter emission (at Stack)	Maximum negative % deviation (improvement)	25	Suspended Particulate Matter emission (at Stack)			The negative % deviation (improvement) from notified limit would be calculated for each unit. The average of these deviations would be taken as deviation for the station as a whole. The highest negative % deviation (improvement) from the notified norm would be given maximum marks and others would be given marks on pro-rata basis.	
	Even one unit exceeding the notified limit in any month	0					
				<u>a) Based on % Deviation from notified norm</u>	<u>Maximum negative % deviation (improvement)</u>		<u>15</u>
				-	<u>Even one unit exceeding the notified limit in any month</u>		<u>0</u>
		<u>b) Based on actual value</u>	<u>Minimum SPM level</u>	<u>10</u>	<u>The minimum SPM level (in absolute terms) will be awarded maximum marks and others would be given marks on pro-rate basis</u>		
			<u>Above notified norm</u>	<u>0</u>			

Parameter	Criteria for Coal/lignite based stations		Parameter	Criteria for Coal/lignite based stations		Remarks	
	Old	Old		New	New		New
3. % of ash utilization	Maximum Utilization % but above National Average	25	% of ash utilization			Marks on pro-rata basis for values between National average and Highest value. In case the station is using coal with weighted average ash content of 25% or below, Full Marks would be allocated only if ash utilization is 100% and zero marks shall be given if ash utilization is less than 100%.	
	Below National Average	0		a) Fly Ash	<u>Maximum fly ash Utilization %</u>		<u>20</u>
				<u>Below National Average</u>	<u>0</u>		
			b) Bottom Ash	<u>Maximum bottom Ash Utilization %</u>	<u>5</u>		<u>Marks on pro-rata basis for values between maximum and minimum value.</u>
				<u>Zero utilization</u>	<u>0</u>		
4. Effluent Discharge	Meeting the notified Limit	6	Effluent Discharge	Meeting the notified Limit	6 <u>(2 marks for each parameter)</u>		
	Not meeting the notified limits	0		<u>Not meeting the notified limits in any month</u>	<u>0</u>		
5. Measures taken for water conservation		10	Measures taken for water conservation		10	2 (two) marks would be given for each measure taken as listed. Expert committee shall decide on marking if any measure other than listed has been taken by the station	
6. Valid ISO 14001 certification	Yes.	5	Valid ISO 14001 certification	Yes.	5		
	No	0		No	0		

Parameter	Criteria for Coal/lignite based stations	Parameter	Criteria for Coal/lignite based stations	Remarks
Old	Old	New	New	Common
7. Measures taken outside plant area for better environment during the year	5	Measures taken outside plant area for better environment during the year	5	CEA team shall allot the marks based on the details provided by the station.
8 House Keeping	9	<u>House Keeping</u>	<u>Green belt</u> <u>5</u> <u>House Keeping</u> <u>4</u> <u>Total</u> <u>9</u>	CEA team shall visit the selected stations (based on total marks scored in the parameters SNo. 1 to 7) and decide the marks to be allotted.

PERFORMANCE AWARD SCHEME FOR NUCLEAR POWER STATIONS

3.0 NATURE OF AWARD

Three (3) number awards consisting of one Gold, Silver and Bronze Medal will be given to the highest ranking nuclear stations in recognition of their operational performance. The magnitude of total no. of Awards can be altered by the Award Committee.

4.0 ELIGIBILITY

The scheme shall cover all nuclear stations.

S.N.	Station	Units	Capacity
1	TAPS	1&2, 3&4	2x160MW, 2x540MW
2	RAPS	1&2, 3&4, 5&6	1x100MW+1x200MW, 2x220MW, 2x220MW
3	MAPS	1&2	2x220MW
4	NAPS	1&2	2x220MW
5	KAPS	1&2	2x220MW
6	KGS	1&2, 3&4	4x220MW

Note: RAPP, unit-1, 100MW, is under S/d since 09.10.2004.

5.0 EVALUATION CRITERIA

The parameters to be evaluated and the criteria for assigning marks are given at Annexure-IA & IB. Date received from all stations shall be processed and marks assigned as per above marking scheme. Total score shall be considered for ranking.

Annexure-IA

PARAMETERS FOR NUCLEAR POWER STATIONS PERFORMANCE AWARD AND THEIR WEIGHTAGE					
Broad Category	Parameter	Weightage	Parameter	Weightage	Criteria for assigning marks
	Old	Old	<u>New</u>	<u>New</u>	<u>New</u>
Operational Performance	PLF	100	<u>PLF</u>	<u>70</u>	<u>0-1</u>
			<u>Availability</u>	<u>30</u>	<u>0-3</u>
	Total	100	<u>Total</u>	<u>100</u>	

Criteria for Assigning Marks				
Sl. No.	Criteria	Parameters	Weightage	Marks
Operational Performance				
	0-1	PLF (%)	70	
		≤National average	0	
		≤85	70	
		Marks on pro-rata basis for PLF values in between		
	0-3	Availability (%)	30	
		≤National average OPERATING availability factor of nuclear plants	0	
		≤95	30	
		Marks on pro-rata basis for availability values in between		
	Total		100	