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भारत सरकार  
Government of India  
विद्युत मंत्रालय  
Ministry of Power  
केंद्रीय विद्युत प्राधिकरण  
Central Electricity Authority  
पी.डी.एम एवं एल.एफ प्रभाग

**Public Notice**

Central Electricity Authority has prepared draft revised guidelines for retirement & up-rating / de-rating of generating units. The draft guidelines have been hosted on website [www.cea.nic.in](http://www.cea.nic.in) for seeking comments from stakeholders including public.

In this regard, all stakeholders are requested to send their comments in the enclosed format on the draft guidelines to PDM&LF division, CEA through email [cepdm-cea@gov.in](mailto:cepdm-cea@gov.in) latest by 02.03.2024.

सोवरन  
02/02/2024  
(Sovaran Singh)  
निदेशक

**Format for submitting comments**

Sr. No.	Para no. of draft guidelines	Proposed draft guideline by CEA	Comments on the draft guideline /Suggested draft guideline	Justification for the Comments/ Suggested draft guideline
1.				
2.				
3.				
4.				

# Draft Revised Guidelines for Retirement & Up-rating / De-rating of Generating Unit(s)



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Central Electricity Authority  
New Delhi  
February 2024

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# **Draft Revised Guidelines for Retirement & Up-rating / De-rating of Generating Unit(s)**

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## **1. Background:**

Improving efficiency of thermal power stations is one of the effective method to reduce CO<sub>2</sub> emissions, which is being achieved by various schemes introduced by the Government of India such as adopting super critical/ultra-super critical technology for coal-based generation. Also efficiency improvement measures through Renovation and Modernization (R&M) of old and inefficient units is being undertaken and units in which R&M is not possible are being considered for retirement.

The Central Electricity Authority (CEA) is discharging the work entrusted for Retirement and De-rating / Up-rating of generating units in the Country and also to prepare guidelines thereof. The Standing Committee under the chairmanship of Member (Planning), CEA examines the proposals received from the generating companies/utilities for Retirement or Up-rating or De-rating, as the case may be, of generating units and give its recommendation for the Retirement/ Up-rating/ De-rating of Generating Units.

## **2. Scope and Applicability:**

The revised guidelines shall be applicable to the conventional sources of electricity generation i.e. Coal/Lignite, Diesel, Gas based power plants and Large Hydroelectric plants (above 25 MW).

## **3. Guidelines:**

### **3.1 Retirement of Generating Unit(s):**

#### **(a) Case I: When generating company / Utility has decided to retire its generating unit(s) on its own**

- (i) If the generating company / utility has decided to retire its generating unit (s), the generating company / utility shall request CEA to incorporate the same in the database of installed generating capacity of the country along with the a certified copy of the Resolution of Board of Directors in which the decision has been taken to retire the generating unit (s).
- (ii) The Standing Committee shall examine the proposals for Retirement of generating unit (s) as per the extant relevant provisions in the policies / rules / regulations / guidelines / directions of the Central Government.
- (iii) In case, the decision of the generating companies / utilities with regard to the retirements of the generating unit (s) is against any of the provisions in the policies / rules / regulations / guidelines / directions of the Central Government, then the Standing Committee may not agree with the decision of the generating companies / utilities and convey its decision to the generating companies / utilities / State Governments accordingly.
- (iv) In case, the standing committee decides to retire the generating unit (s) then, the database of installed capacity of CEA is updated and stakeholders are informed, accordingly.

- (v) The decisions of the Standing Committee mentioned at para (iii) and (iv) above, shall be subject to the approval of the Chairperson, CEA.
- (vi) The proposal shall be examined within one month subject to the submission of all relevant data / required information by the generating company / utility to CEA.

**(b) Case II: When generating company / Utility seeks advice of CEA for retirement of its generating Unit(s)**

- (i) The section 73 of the Electricity Act 2003, provides for the functions and duties of CEA. The clause (m) of section 73 of the Electricity Act 2003, provides as under:

*“(m) advise any State Government, licensees or the generating companies on such matters which shall enable them to operate and maintain the electricity system under their ownership or control in an improved manner and where necessary, in co-ordination with any other Government, licensee or the generating company owning or having the control of another electricity system”*

Accordingly, CEA may advise any State Governments, licensees or generating companies (including private companies).

- (ii) If a generating company / utility wants to seek advice of CEA for retirement of their generating unit (s), the generating company / utility shall submit a proposal to the Chairperson, CEA along with the requisite data / information for generating unit(s) and their associated transmission system in the prescribed format attached at **Annexure-I** of these guidelines.
- (iii) The proposal of retirement of generating unit(s) shall be put up to the Standing Committee. The proposal shall be examined by the Standing Committee through various Divisions in CEA as per the relevant policies / regulations / guidelines / standards etc.
- (iv) After completing the examination of the proposal and interaction with the generating company, including any field/site visits, final decision of the Standing Committee shall be put up to Chairperson, CEA for approval. After the approval, Stakeholders would be informed, accordingly.
- (v) The proposal shall be examined within three months subject to the submission of all relevant data / required information by the generating company / utility to CEA.
- (vi) In case, there is an adverse impact on the grid security due to retirement of the generating unit (s), the remedial measures shall be suggested by the Standing Committee to mitigate the adverse impact on the grid.

## **3.2 De-rating or Up-rating of Generating Unit(s):**

**(a) Case I: When generating company / utility has decided to de-rate or up-rate generating unit(s) by its own:**

- (i) In case, the generating company / utility has decided to de-rate or up-rate the generating unit(s), as the case may be, shall request CEA to incorporate the same in the database of installed generating capacity of the country along with the following documents:

- (a) A certified copy of the Resolution of Board of Directors in which the decision has been taken to de-rate / up-rate the generating unit (s),
  - (b) In case of uprating of thermal generating unit (s), utility shall provide a Certificate from RLDC/SLDC to the effect that the generating unit (s) has been operated for the continuous trial run for a period of 24 hours at its up-rated capacity.
  - (c) In case of uprating of hydro generating unit, utility shall furnish a Certificate from RLDC/SLDC to the effect that the generating unit (s) has been operated for the continuous trial run for a period of 12 hours at its up-rated capacity. However, if it is not possible to demonstrate the up-rated capacity due to insufficient reservoir or pond level or insufficient inflow, the generating unit (s) may be up-rated subject to the condition that the same shall be demonstrated by the generating unit immediately when sufficient water is available after it's up-rating.
- (ii) The Standing Committee shall examine the proposal received from generating company and if any other data/ information is required, then the same shall be conveyed to the generating company.
  - (iii) The proposal of de-rating or up-rating of generating unit(s) shall be put up to the Standing Committee. The proposal shall be examined by the Standing Committee through various Divisions in CEA as per the relevant policies / regulations / guidelines / standards etc.
  - (iv) After completing the examination of the proposal and interaction with the generating company, including any field/site visits, final decision of the Standing Committee shall be put up to Chairperson, CEA for approval. After the approval, Stakeholders would be informed, accordingly.
  - (v) The proposal of de-rating or up-rating of generating unit(s) shall be examined within one month subject to the submission of all relevant data / information by the generating company / utility to CEA.

**(b) Case II: When generating company / Utility seeks advice of CEA for De-rating/Up-rating of Unit(s)**

- (i) The section 73 of the Electricity Act 2003, provides for the functions and duties of CEA. The clause (m) of section 73 of the Electricity Act 2003, provides as under:

*“(m) advise any State Government, licensees or the generating companies on such matters which shall enable them to operate and maintain the electricity system under their ownership or control in an improved manner and where necessary, in co-ordination with any other Government, licensee or the generating company owning or having the control of another electricity system”*

Accordingly, CEA may advise any State Governments, licensees or generating companies (including private companies).

- (ii) If a generating company / utility wants to seek advice of CEA for de-rating / up-rating of generating unit(s), the generating company / utility shall submit a proposal to the Chairperson, CEA along with the requisite data / information for generating unit(s) and their associated transmission system in the prescribed format attached at **Annexure-I** of these guidelines.



- (iii) The proposal for de-rating / up-rating of generating unit(s) shall be put up to the Standing Committee. The proposal shall be examined by the Standing Committee through various Divisions in CEA as per the relevant policies / regulations / guidelines / standards etc.
- (iv) After completing the examination of the proposal and interaction with the generating company, including any field/site visits, final decision of the Standing Committee shall be put up to Chairperson, CEA for approval. After the approval, Stakeholders would be informed, accordingly.
- (v) The proposal shall be examined within three months subject to the submission of all relevant data / information by the generating company / utility to CEA.
- (vi) In case, there is an adverse impact on the grid security due to de-rating / up-rating of generating unit(s), the remedial measures shall be suggested by the Standing Committee to mitigate the adverse impact on the grid.

### **3.3 General Guidelines applicable for Retirement or Up-rating or De-rating of Generating Unit(s), as the case may be:**

- (i) The proposal of uprating / de-rating of generating units due to reasons such as Renovation & Modernization, design modification, environmental constraints and other relevant technical/economic issues etc. may also be considered for further processing by Standing Committee, if it is required so.
- (ii) In case of de-rating of a generating unit (s), the de-rated generating unit shall not be allowed to up-rate till next 5 years from the date of de-rating of the unit.
- (iii) As per CEA advisory dated 20.01.2023 regarding R&M and retirement of thermal power stations, it is advised not to retire any thermal units till the year 2030.
- (iv) Registration ID of the generating unit intended to be retired or up-rated or de-rated of the CEA's e-gen portal is must before sending the request / proposal to CEA for retirement or up-rating or de-rating.
- (v) The methodology of examination for retirement / de-rating / up-rating of generating unit(s) is enclosed at **Annexure-II** of these guidelines and shall be followed in examination of all cases either retirement or up-rating or de-rating.
- (vi) CEA may seek additional information data (if any) needed for retirement / de-rating / up-rating of generating unit(s).
- (vii) If needed, the officers of CEA may undertake site visit of the generating unit(s) being considered for retirement / de-rating / up-rating of generating unit(s).
- (viii) The final decision on retirement / de-rating / up-rating of generating unit(s) shall be approved by the Chairperson, CEA on recommendation of the Standing Committee.
- (ix) The advice of CEA on retirement / de-rating / up-rating of generating unit(s) being recommendatory in nature, and therefore, is not binding on the generating company, which may take its own decision as deemed appropriate, keeping in view the security of grid.
- (x) Formats for submitting input data by generating company for retirement / de-rating / up-rating of generating unit(s) may be revised by the Standing Committee, as and when required, to reduce the time taken in the processing of the proposals for ease of doing business.
- (xi) The Power Data Management and Load Forecasting Division (PDM&LF) of CEA shall be the Nodal Division for processing of the proposals for retirement / de-rating / up-rating of generating unit(s).



- (xii) The final decision of the CEA with regard to retirement / de-rating / up-rating of generating unit(s) shall be issued by Secretary, CEA, to concerned generating company / utility and shall also be intimated to all stakeholders.
- (xiii) The generating unit(s) shall comply with all applicable Rules, Regulations, and Technical Standards for their retirement / up-rating / de-rating.
- (xiv) The up-rating / de-rating of Hydro units shall meet the safety norms as mandated under section 8(2) (b) of the Electricity Act 2003 which provides that *“the proposed scheme meets the norms regarding dam design and safety.”*

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## Annexures

**CENTRAL ELECTRICITY AUTHORITY PERFORMA FOR  
UPRATING / DERATING OF HYDRO UNITS/ STATION**

S. No.	GENERAL PARTICULARS	DETAILS	
1	Name of Power Station		
2	Unit Size and number		
3	Type/Make: (i) Turbine (ii) Hydro Generator		
4	Date of commissioning		
5	No. of operating hours Since commissioning (up to last running Year)		
6	year wise Energy generated since Commissioning in M.U. (Up to last running Year)	1 2 3	
7	i) Whether any R&M activity has been carried out, if so When and result thereof. (ii) Expenditure incurred in the above R&M activities.		
8	Whether any major accident has occurred if so details thereof along with details of reasons & follow up action/ remedial measures taken.		
9	Monthly Peak Load in MW (Sustained for one hour) for the last one year when the unit was running.	Month	Peak Load (MW)
		April	
		May	
		June	
		July	
		Aug.	
		Sept.	
		Oct.	
		Nov.	
		Dec.	
		Jan.	
		Feb.	
		March	
10	Yearly average data for the following for the last five year when the unit was running (ii) Auxiliary Power Consumption (%)	FY 1	
		FY 2	
		FY 3	
		FY 4	

		FY 5			
11	Cost of Generation (Rs/kwhr.)Last five year when the unit was running.	FY 1			
		FY 2			
		FY 3			
		FY 4			
		FY 5			
12	a) Number & dates of major Maintenance including annual and capital maintenance and Operating hrs. Between the overhauls. b) Mean time between failure c) Details of major works done in each overhaul.	Major Maint. (Number)	Annual Maint. (Number)		
		M/C-1			
		M/C-2			
		M/C-3			
		M/C-4			
(Enclosed as Annexure-B)					
13	Details of the constraints causing Restrictions on the generating Capability	(Details may be annexed)			
14	GENERATOR:				
	a) Output (MW)				
	b) Stator Insulation Resistance (Mohm)				
	c) Rotor Insulation Resistance (Mohm.)				
	d) Stator Winding Temp.				
15	Equipment wise Auxiliaries				
16	Salient feature of proposed uprated/derated Hydro Power Station	Feature may be enclosed			
17	Details of concern person for future communication/ clarification				
	S.No.	Mobile No.	Email Address	Fax no.	Official Phone No.
	1				
	2				

Signature of Authorized Person

Seal

Annexure-B

Number and date of Annual/ Capital/ Major Maintenance and Operating hours between the overhaul since commissioning				
Annexure-1				
Machine No.	Date of Commissioning	Period of Maintenance	Type of Maintenance	Operating hrs in B/w two successive maintenance
M/c no. 1				
M/c no. 2				
M/c no. 3				
M/c no. 4				
M/c no. 5				

Annexure-C

SCOPE OF WORK FOR MAJOR REHABILITATION WORKS (CAPITAL MAINTENANCE) OF..... MW HYDRO UNIT no. ....of.....PROJECT STAGE.....	
S.NO.	DISCRIPTION OF WORK
1	COMPLETE dismantling of turbine
1.01	Specification for Dismantling of turbine
1.02	Special condition for dismantling of Turbine
2	WORKSHOP REPAIR of top cover;
	(a) M.S. PORTION
	(B) S.S.liner
	(c) Checking & supply of vacuum Braking Valve
2.1	specification for repair of top cover
2.2	special conditions for repair of cover
3	REPLACEMENT OF RUNNER AND GUIDEVANES
4	Replacement of TOP STATIC LABYRINTH
5	repair of shaft sealing Journal and replacement of sealing ring of neoprene rubber;
5.1	conditions of shaft sealing Journal
5.2	conditions for repair of S.S.Journal
6	Repair of Pivot RING (Lower RING )
6.01	Specification for repair of Pivot Ring (LOWER RING)
6.02	Special condition for repair of Pivot Ring (LOWER RING)
6.03	REPAIR OF LOWER CULINDER WITH STATIC LABYRINTH
6.04	specification for repair of LOWER CYLINDER WITH BOTTOM STATIC LABYRINTH:
6.05	special conditions for repair of LOWER CYLINDER WITH BOTTOMS STATIC LABYRINTH:
6.06	LOWER BUSH HOUSING (LOWER BEARING BODY)
6.07	Specification and special conditions for repair of LOWER BUSH HOUSING (LOWER BEARING BODY)
7	repairing of bearing body (UPPER BUSH HOUSING/ UPPER BEARING BODY):

7.1	Job details
7.2	specification an special conditions for repair of hearing bodies:
8	REPLACEMENT OF TGB HOUSING AND Associated works
9	REPLACEMENT OF BEARING PADS:
10	REPAIRING AND MACHINING OF FLANGE OF TRUBINE SHAFT
	Job details
11	SHAFT AND Coupling Bolts and Bush
11	WORKS RELATED TO GENERATOR SECTION
12	REPLACEMENT OF ALL RUBBER CORDS AND SEALS AND RE-ASSEMBLY OF UNIT
13	LEVELING, ALLIGNMENT & CENTRING OF MACHINE:
14	OVERHAULING OF SERVOMOTOR WITH SHAFT INCLUDING REPAIR OF DAMAGED PARTS BY BHEL:
15	overhauling of Air injection system to prevent cavitation at part lords
16	SETTING OF ALL BEARING PADS, BOXUP,SPINNING, VIBRATION ANALYSIS AND BALANCING OF MACHINE AND FINAL LOAD TESTING OF MACHINE
16.1	TESTING AND COMMISSIONING OF MACHINE
16.2	specification and special condition of assembly, erection, testing and commissioning of machine
16.3	General conditions for the work which are applicable for the entire work:
16.4	welding procedure:
	Special conditions for major repair:
17	Repair of ----- Runner:
	A) Leading Edge of Blades (Suction side):
	B) Trailing Edge of Blades (Discharge Side):
	C) Upper & Lower vanes:
	D) Inlet and Outlet Notches:
	E) Top Moving Labyrinth
	F) Bottom Moving Labyrinth:
	G) Lower Rim:
	H) Runner Crown:
	I) Runner Skrit:
	Stress Relieving
	Machining of runner assembly
	Special conditions for major repair:
17.01	Specification for repair of -----Runner:
17.02	Special Condition for repair of -----Runner:
18	Repairing of Guide Vane:
	feather of GV:
	Top Journal of Guide Vane:
	Middle Journal of Guide Vane:
	Bottom journal of Guide Vane:
	Top collar of Guide Vane:
	Top and bottom collar:
	Stress Relieving
	Machining of Guide Vane:
18.01	Specification for Repair of Guide Vane:
18.02	Special CONDITION of repair of guide vane:
19	OVERHAULING ON SERVOMOTOR INCLUDING REPLACEMENT OF PISTION RING AND SEALS ETC OR MIV WITH REPAIR OF BY PASS VALVE AND SEAL VALVE

## Annexure-D(i)

DETAILS OF THE UPRATION/ DERATION GENERATING CAPABILITY		
S.No	Description	Details

## Annexure-D(ii)

<b><u>SCOPE OF WORK</u></b>	
Description	
Technical specification for repairing works of components taken	
Runner Bush:	
Stress Relieving:	
Machining of runner assembly:	
Specification for repair	
Special condition for repair	
Repairing of guide Vane:	
Specification for repair of Guide Vane:	
Special CONDITION of repair of guide vane:	

## Annexure-E

**SALIENT FEATURES**

S.No.	Description	Details
1	Name of Power Plant Owner Name of Utility/Co. Power Allocation Geographical Location Etc. (Details may be annexed if needed)	
2	Location of Barrage	
3	Hydrology i) Catchment area at Barrage site ii) Snow catchment area above 12000ft iii) 90% available discharge iv) Design flood a) For Hydraulic design b) For over toppling	



4	Barrage <ul style="list-style-type: none"> <li>i) Overall length</li> <li>ii) Clear spans</li> <li>iii) Number &amp; size of 5 Nos. Gates</li> <li>iv) Crest level of barrage</li> <li>v) Pond level <ul style="list-style-type: none"> <li>a) Max.</li> <li>b) min.</li> </ul> </li> <li>vi) log of Gate</li> <li>vii) Live storage</li> </ul>	
5	Intake <ul style="list-style-type: none"> <li>i) Location</li> <li>ii) Total Length</li> <li>iii) No. of bays</li> <li>iv) Crest elevation</li> <li>v) Number of size of gates</li> </ul>	
6	Sedimentation Chamber <ul style="list-style-type: none"> <li>i) Size of silt settling tank</li> <li>ii) Size of hoppers</li> <li>iii) Top level of hoppers</li> <li>iv) Bottom level of conduits at exit</li> <li>v) Design discharge far flushing</li> <li>vi) Full supply level in tank</li> <li>vii) Particle size to be removed</li> </ul>	
7	Fore Bay <ul style="list-style-type: none"> <li>i) Location</li> <li>ii) Total Length</li> <li>iii) Number of bays</li> </ul>	
8	Cut and cover section <ul style="list-style-type: none"> <li>i) Location</li> <li>ii) Length</li> <li>iii) Size</li> <li>iv) Invert level of junction with HRT</li> </ul>	
9	Power Tunnel <ul style="list-style-type: none"> <li>i) Type</li> <li>ii) Length</li> <li>iii) Thickness of lining</li> <li>iv) Design discharge (Max)</li> <li>v) Maximum velocity</li> <li>vi) Invert elevation <ul style="list-style-type: none"> <li>a) Inlet</li> <li>b) Intermediate adit junction</li> <li>c) Surge tank end</li> </ul> </li> <li>vii) Grade <ul style="list-style-type: none"> <li>a) Upto intermediate adit</li> <li>b) Beyond</li> </ul> </li> <li>viii) Intermediates adit <ul style="list-style-type: none"> <li>a) Size</li> <li>b) Length</li> </ul> </li> <li>ix) Surge Tank adit <ul style="list-style-type: none"> <li>a) Size</li> <li>b) Length</li> </ul> </li> </ul>	
10	Surge Tank <ul style="list-style-type: none"> <li>i) Type</li> <li>ii) Size</li> <li>iii) Bottom El. Of Tank</li> </ul>	

11	Penstocks <ul style="list-style-type: none"> <li>i) Main penstocks</li> <li>ii) Length of each pentstock</li> </ul>	
12	Power House <ul style="list-style-type: none"> <li>i) Location</li> <li>ii) Head               <ul style="list-style-type: none"> <li>a) Gross head</li> </ul> </li> <li>iii) Net Head discharge</li> <li>iv) Installed capacity</li> <li>v) Type of Turbine</li> <li>vi) Generation floor level</li> </ul>	
13	Generation Benefits <ul style="list-style-type: none"> <li>i) Annual units generated in 90% dependable year</li> <li>ii) Annual energy available for sale at P.H. bus bar</li> </ul>	

**Central Electricity Authority**  
**Performa For Upgrading/Derating/Retirement Of Coal Based Thermal Units/Station**  
(strike if not applicable and add wherever applicable)

1	Name of Power Station						
	Brief description of Plant, Address, Location and Salient Feature						
	Detail of two contact persons Mobile no., Email Address, Telephone No. Fax No.						
2	Unit size and number						
	Derated/uprated Capacity (if applicable)						
3	Make & Efficiency (Design)						
	Boiler						
	Turbine						
	Unit heat rate (design)						
4	Date of commissioning						
5	No. of operating hours since commissioning.						
6	Energy generated since commissioning in MU						
7	a) Whether any R&M activity has been carried out, if so when and result thereof. b) Expenditure incurred in the above R&M activities.						
8	Whether any major accident has occurred if so details thereof along with details of reason & follow up action/ remedial measures taken.						
9	Monthly Peak Load in MW (sustained for one hour) for the last one year.						
10	Yearly average data for the following for the last five years (strike if not applicable)						
11	LAST FIVE YEARS (when unit was operative)	Design value	FY-1	FY-2	FY-3	FY-4	FY-5
	a) Specific Primary FUEL Consumption in -- /kWh.						
	b) Specific Secondary FUEL Consumption in/kWh.						
	c) Auxiliary Power Consumption(MU)						
	d) Generation (MU)						
	e) Forced outage						
	f) Planned outage						
	g) Partial Loss						
	h) PLF						
	i) Peak Hours PLF						
	j) Turbine Heat Rate						
	k) Unit Heat Rate						
	l) Station Heat Rate						
	m) Availability						
	n) Linkage and Present Receipts (Name of coalfield, Grade, GCV etc.)						
o) Type of CW system (Open/Closed)							

	p) Auxiliary steam Pressure						
	q) Ejector pressure						
	r) Sealing header pressure						
	s) System of Firing in the Furnace (Corner, Front, Front Rear)						
	t) Details of Regenerative System describing extractions, drips, condensate flow, feed water flow and deaerator connections						
	u) Power Evacuation						
	v) Transmission voltage						
11	Cost of Generation(Rs/kWh)						
12	a) Number & dates of major maintenance including annual and capital maintenance and operating hrs between the overhauls hrs. since commissioning. b) details of major works done in each overhaul						
13	Details of the constraints causing restrictions on the generating capability						
14	Detail reasons For Upgradation/ Deration/ Retirement Of Coal Based Thermal Units/Station						

**Central Electricity Authority**  
**Technical Particulars of the Unit**  
(strike if not applicable and add wherever applicable)

		Design value	FY-1	FY-2	FY-3	FY-4	FY-5
<b>I</b>	<b>BOILER</b>						
A)	Steam capacity (t/h)						
B)	Steam Parameters						
	Pressure kg/cm <sup>2</sup>						
	Temperature °C						
C)	Fuel input (t/h)						
D)	Efficiency (%)						
<b>II</b>	<b>AUXILIARIES</b>						
A)	No. of mills required for rated capacity						
B)	No. of mills stand by						
C)	Capacity of each mill (t/h)						
D)	Degree of fitness/fineness						
<b>III</b>	<b>TURBINE</b>						
A)	Stop value valve Steam parameters						
	Pressure ata						
	Temperature °C						
B)	Control stage Pressure						
C)	Condenser vacuum kg/cm <sup>2</sup>						
D)	Exhaust- hood Temperature						
E)	Condition of Regenerating system (LP/HP heaters etc.)						
<b>IV</b>	<b>AUXILIARIES</b>						
A)	Boiler Feed Pumps						
	Nos. Running						
	Nos. Stand by						
B)	Condensate Pump capacity (t/h)						
C)	Condensate Flow (t/h)						
D)	Make up Water (t/h)						
<b>V</b>	<b>GENERATOR</b>						
A)	Output (MW)						
B)	Stator Insulation Resistance (Mohm)						
C)	Rotor Insulation Resistance (Mohm)						
D)	Stator Winding Temp. (*C)						

\*All Actual data are based on typical integrated one hour data.

**Central Electricity Authority**  
**Technical Particulars of the Unit**  
(strike if not applicable and add wherever applicable)

[illegible]

[illegible]



[illegible]

[illegible]

**Central Electricity Authority**  
**Technical Particulars of the Unit**  
(strike if not applicable and add wherever applicable)

**Coal Data**

Raw Coal Stock And Unloading And Feeding Problems, Necessitating  
Oil Support

	FY-1	FY-2	FY-3	FY-4	FY-5
Oil Consumption/Year					

A) Type Of Media Atomization					
B) Size Of Oil Tips-Start-Up Burners - Load Carrying Burners					
Atomization Pressure					
Oil Pressure Maintained					

**Igniters**

a) Type					
b) Kept in Service Continuously					

**Mills**

a) Type and No. of Mills					
b) No. of Mills Required for MCR					
c) Load Reduction if Two Mills are out					
d) No. of hrs. Two Mills were out. Year-wise					
e) Oil Consumption due to Outage of Mills-Year-wise					

Average Time To Synchronize/Fully Load The Unit (Unit-wise)

Type Of Start	As Per Manufacturer	Actual	Reasons For Variations		
Hot - Synch. Loading					
Warm - Synch. Loading					
Cold - Synch. Loading					

No. Of Hrs. Following Auxiliaries Were Out (Unit-wise)

Year	FY-1	FY-2	FY-3	FY-4	FY-5
1 CW Pump					
1 BF Pump					
1 CE Pump					
1 ID Fan					
1 FD Fan					
1 PA Fan					

Any Permanent Restriction On Load and Reasons thereof (E.G.Shaving Off of Turbine, Salt Deposition, Poor Vacuum)

FY-1	FY-2	FY-3	FY-4	FY-5

Upto What Load Oil Burner is kept in Service:

2010-11	2011-12	2012-13	2013-14	2014-15

In Case Oil Consumption is attributed to Poor Combustion in the Furnace, Please Elaborate keeping in view Coal Burner Nozzles; Wind Box Pressure, Tilting Mechanism

Frequency and Duration of Soot Blowing Per Day in this Unit

Design				
Actual				

CENTRAL ELECTRICITY AUTHORITY  
TECHNICAL PARTICULARS OF THE UNIT  
(strike if not applicable and add wherever applicable)

	<b>Diagrams/PPD</b>
1	<b>Heat Balance Diagram ( All Load Cases)</b>
2	<b>Boiler Predicted Performance Data ( All Load Cases)</b>
3	<b>Boiler Arrangement Diagram</b>
4	<b>Boiler Pressure Part Details(SH,RH,LTSH &amp; ECON)</b>
	<b>Area</b>
	<b>Number of tubes</b>
	<b>Outer Diameter</b>
	<b>Thickness</b>

**Power Evacuation System**

**Format for Power Evacuation system and Utilisation of Switchyard Assets including GT**

1. Single line Diagram showing details of line bays, transformer bays, reactor at different voltage levels, No. of Generating nits including Generator Transformer (GT) etc.
2. Rating of Generating unit(s) and associated GT, UAT, SAT, ICT, Reactors and Circuit Breakers along with year of commissioning and any major overhaul/ replacement of primary equipment. Any action taken for Residential Life Assessment (RLA) and Condition of major assets during last five years.
3. Utilization of Power evacuation system (Transmission lines at different voltage levels) after retirement of all Generating Unit(s)/ some of the generating (unit(s))
4. Utilization of Primary equipment including switchyard equipment materials like, GT, ICT, Reactors, Circuit Breakers, Isolators, Instrument Transformers ICT, PT, CVT Surge Arresters etc.
5. Utilization of Secondary equipment like protection relays, AC/DC system, DG set battery & Charges etc.

## **Annexure-II**

### **Methodology to be followed for Retirement/ Up-rating/ De-rating of generating unit(s) etc.**

1. Proposal from power generating company is received which may have;
  - a) Proposal from generating company.
  - b) Boards /competent authority resolution for **Retirement/ Up-rating/ De-rating of generating unit(s)**, if any.
  - c) Duly filled CEA formats for **Retirement/ Up-rating/ De-rating**.
2. Circulation of the proposal with data/ information in prescribed formats to Members of Standing committee for **Retirement/ Up-rating/ De-rating of generating unit (s)**.
3. Enclosures sent to Members of the Committee.
  - a) Proposal
  - b) Resolution of SEB's/ Competent Authority, if any.
  - c) Filled up formats Annex-I (Thermal) and Annex.-I (Hydro) and format as Information required by PSETD.
4. Additional data/ information is sought from utility, if needed.
5. Additional information is sent for comments to Members of Committee who have sought this.
6. Receipt of comments from members of the standing Committee.
7. The observation/comments of respective members will be discussed during the meeting Standing Committee. If needed, the representative of power station may also be invited.
8. Nodal Division of CEA for **Retirement/ Up-rating/ De-rating of generating units** will prepare the minutes of meeting and circulate among the members of standing committee after approval of Competent Authority.
9. Meeting to be chaired by Member (Planning) and Chairman of the committee, at times Power Stations representative may also be invited.
10. If retirement/ de-rating/up-rating is approved, then notification is issued. If the proposal is rejected – to intimate the utility.





भारत सरकार  
Government of India  
विद्युत मंत्रालय  
Ministry of Power  
केंद्रीय विद्युत प्राधिकरण  
Central Electricity Authority  
पी .डी .एम एवं लोड पूर्वानुमान प्रभाग  
Power Data Management and Load Forecasting Division

**Office Order**

**Subject: Reconstitution of Standing Committee for Retirement & Up-rating / De-rating of Generating Unit(s)**

To examine the proposals received from the generating utilities for Retirement & Up-rating / De-rating a Standing Committee has been reconstituted with the following composition:

1.	Member (Planning), CEA	Chairman
2.	Chief Engineer, TETD	Member
3.	Chief Engineer, TPR&M	Member
4.	Chief Engineer, Legal	Member
5.	Chief Engineer, HETD	Member
6.	Chief Engineer, PSETD	Member
7.	Chief Engineer, GM	Member
8.	Chief Engineer, OPM	Member
9.	Chief Engineer, CE&ET	Member
10.	Chief Engineer, F&CA	Member
11.	Chief Engineer, PSPA-I	Member
12.	Chief Engineer, PDM&LF	Convener

Also, the committee may suitably co-opt any representative as special invitees if needs arises.

2. Terms of reference of the Committee will be:

- To examine the proposals received from the generating utilities for Retirement/ Up-rating/ De-rating/.
- To recommend for the Retirement/ Up-rating/ De-rating of Generating Units.

Sd/-  
(Rakesh Kumar)  
Secretary, CEA