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भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केंद्रीय विद्युत प्राधिकरण
Central Electricity Authority
तापीय अभियांत्रिकी एवं प्रौद्योगिकी विकास प्रभाग
Thermal Engineering & Technology Development Division

Subject: Guidelines / procedure for examining the request of the power plants for seeking exemption / relaxation from biomass co-firing - regd.

Ministry of Power vide letter (No. 11/86/2017-Th.II) dated 08.10.2021 issued the revised policy for biomass utilization for power generation through co-firing in coal based thermal power plants.

In pursuance to para 3(v) of the above policy, the guidelines / procedure for examining the request of the power plants for seeking exemption / relaxation from co-firing, duly approved by the Ministry of Power is attached herewith for information to all the coal based thermal power plants in the country.

Above guidelines/procedure also includes the format for furnishing the requisite information by the power plants seeking exemption / relaxation from biomass co-firing.

Encl: As above.

04/02/2022

Om Kant Shukla / (ओमकान्त शुक्ल)
Director (TE&TD) / निदेशक (टी.ई. एंड टी.डी.)

To,
All coal based Thermal Power Generating Plants / Utilities (Public or Private) in the Country

Guidelines for exemption / relaxation from mandatory co-firing of Biomass by Thermal Power plants

I. Background

MoP vide its policy dated 17-11-2017 ("Policy") on biomass utilization for power generation had advised all fluidized bed and pulverized coal units (coal based thermal power plants) except those having ball and tube mill, of power generation utilities, public or private, located in India, to endeavor to use 5-10% blend of biomass pellets made, primarily, of agro residue along with coal after assessing the technical feasibility, viz. safety aspect etc. (**Copy of the "Policy" enclosed for reference**)

In order to further promote the use of biomass pellets in coal based thermal power plants, MoP modified the above policy vide its letter no. 11/86/2017-Th.II dated 8th October, 2021 (Copy of the "**Revised Policy**" enclosed for reference) where-in it was stated that coal fired thermal plants in India have to mandatorily co-fire the biomass with coal in their power plant. The "**Revised Policy"** would be in force for a period of 25 years or till the useful life of the power plant, whichever is earlier.

As per the **revised policy** following has been mandated:

1. All coal based thermal power plants of power generation utilities with **bowl mill**, shall on annual basis mandatorily use 5 percent blend of biomass pellets made, primarily, of agro residue along with coal with effect from one year of the date of issue of this guideline. The obligation shall increase to 7 percent with effect from two years after the date of issue of this order and thereafter.
2. All coal based thermal power plants of power generation utilities with **ball & race mill**, shall on annual basis mandatorily use 5% blend of biomass pellets (torrefied only) made, primarily, of agro residue along with coal with effect from one year of the date of issue of this guideline. This is to be complied within 1 year starting from this order. Two years from the date of issue of this order and thereafter the obligation will increase to 7 percent.
3. All coal based thermal power plants of power generation utilities with **ball & tube mills**, shall on annual basis mandatorily use 5% blend of torrefied biomass pellets with volatile content below 22%, primarily made of agro residue along with coal. This is to be complied within 1 year.

4. Generating utilities having certain units under Reserve shutdown or not being despatched due to MOD (Merit Order Despatch) consideration would ensure to increase the percentage of co-firing upto 10% in other operating units/ plants (5% in plants having ball and tube mills).

   Exemption/ relaxation from co-firing may be considered on case to case basis, based on recommendations of Central Electricity Authority (CEA). A Committee headed by Chief Engineer (TE&TD), CEA including representatives from NTPC, BHEL, CPRI, Ministry of Agriculture and Mission Directorate shall examine the request of power plants for their exemption/ relaxation from mandatory co-firing of biomass, as mentioned at Para 1, 2, 3 and 4 above.

II. Purpose of these guidelines

a. The purpose of these guidelines is to provide the TPPs a process including a format for furnish requisite information for seeking exemption from mandatory co-firing of biomass as per the revised policy of the MoP.

b. For the purpose of these Guidelines and also in regard to the implementation of the above MoP revised policy, the above committee has been referred as "CEA Exemption Committee for Biomass - CEA-ECB"

III. Steps for Filing of the application by Utility for exemption from co-firing of biomass and Examination of exemption request/ application by the CEA Exemption Committee for Biomass (CEA-ECB)

The exemption request/ application would follow the below mentioned process/stages:

1. Applications would be submitted in On-Line mode at Mission Directorate web portal*****. Mission Directorate would make provision for auto-generation and allotment of a unique application No. (Format – Region (NR/ER/WR/SR/NER)/State or UT Abbreviation (2 letters as per the attached list)/Sector (Central/State/Pvt/JV)/Short name of utility/YYYY/MM/DD/2 digit counter) to each of application so received. These applications shall be accessible to the Committee members as

well as the Sub-Groups of National Mission for their requisite scrutiny and inputs.

*__Note__: Till the time portal for National Mission on use of biomass in thermal power plants is finalized and operational, the applications for exemption shall be submitted through e-mail to National Biomass Mission<md-biomass-power@gov.in> and "TETD Division, CEA" <cetetd-cea@gov.in> along with the filled-in format (as enclosed at **Annexure-I**) with all necessary attachment as applicable. Thereafter, the applications shall be submitted as per procedure explained above.

2. All the applicants would necessarily submit the action taken (i.e. prior to date of submission of the exemption request/application) so far in respect of co-firing the biomass as per the advisory issued by CEA based on the MoP policy dated 17th November, 2017.
3. All the requisite information as per the Format (enclosed as **Annexure-I**) would be submitted along-with the application by the Utilities applying for exemption.
4. Necessary pre-checks for the completeness of the requisite information as per the above referred Format shall be carried out by the CEA-ECB and deficiencies in the information would be got rectified by the applicants seeking exemption in a time bound manner. Necessary inputs shall also be taken from the concerned Subgroups under the National Mission on use of Biomass in TPP (depending on the reasons submitted by the applicants while seeking exemption from co-firing) by CEA-ECB.
5. The CEA-ECB would examine the submissions of the applicants in a regular monthly meeting. Additional meetings of the committee can also be held, depending upon the requirements. The assessment/examination of the exemption requests would be based on the two step process:

   i. Document Level Verification (including the inputs of the above Sub-Group(s) of Mission Directorate);
   ii. Actual Physical Site visit, on case to case basis, to ascertain the factual position about the submissions of the Applicant.

   Outcomes of both the stages (i.e. (i) & (ii) above) would be considered by the CEA-ECB.
6. The exemption committee would send its recommendations for granting the exemption to MoP after completing the above

examination process. Representative of Mission Directorate in CEA-ECB would retain a copy of such recommendations for its necessary records.

IV. Timelines of the processing of the application

1. Zero date - date of receipt of the application as per procedure explained at Para III, Sub-Para-1 above
2. Within one (1) week from Zero date – Preliminary scrutiny by the Committee to look into the completeness of the application and seek additional inputs from the Utility (if required) to make it self sufficient. Necessary inputs shall be taken from the concerned Subgroups under the National Mission on use of Biomass in TPP (depending on the reasons submitted by the applicants while seeking exemption from co-firing) by the Committee.
3. Two (2) weeks from zero date or 1 week from the date when needed additional inputs (as per pt.2 above) are received by the CEA-ECB to meet and analyse the issues raised in the Utility's application and seek additional inputs/ supporting documents, from the applicant, if needed.
4. Upto 7th working day of the month - Committee to review the applications received during the preceding month (i.e. for those applications recd. till 7th working day of the preceding month) and convey the recommendations to MoP with regard to those applications on which the Committee is ready with its final recommendations.
5. Exemption / relaxation from mandatory co-firing of Biomass to a Thermal Power plants will be granted after the concurrence of Ministry of Power.

V. Criteria of Assessment of Exemption claims

A. General information
B. Useful economic life of plant
C. Technical feasibility study
D. Project management time lines
E. Technical constraints for enabling co-firing while ensuring safety of the plant
F. Sourcing & supply chain constraints
G. Possibilities of meeting the co-firing commitments as per alternate regulatory provisions
H. List of documents furnished in support of stated constraints

VI. Review of Guidelines

Current Guidelines as proposed above have been framed envisaging the current scenario and experience so far. However, as the situation evolves depending on the type of applications received, the Guidelines may be reviewed by the Committee, as and when required. Proposal for revision of the guidelines shall be forwarded to MoP for necessary approval.

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Annexure-I

Details to be submitted by Thermal Power Plants for seeking exemption / relaxation from mandatory co-firing of biomass

(All details/documents/drawings to be submitted by the Applicants would have clear legible fonts/drawings and in the PDF formats)

	Space where details are to be furnished by TPPs

S. No.	Description	Remarks by the committee on the Response from the station
(A)	General Information	
1	Name of Utility	
2	Sector (Central/State/Private)	
3	Region (NR/WR/ER/SR/NER)	
4	Name of the Plant	
5	Location (District, State)	
6	Capacity of Plant (No. Of units x Unit size)	
7	PLF & PAF for last two years	
8	Details of OEM for various equipment	
9	Name and Contact details (Mobile No., E-mail) of Nodal officer for necessary actions regarding biomass co-firing	
10	Name and Contact details of the Plant Head (Mobile No., E-mail)	
(B)	Criteria: Useful Economic Life of Plant	
1	Date of COD for each units	

2	Age of the Plant/Unit as on (date)		
3	Balance useful economic life (in years) of the units under consideration		
(C)	Criteria: Technical Feasibility Study		
1.a	Whether Techno-Economic Study is conducted or NOT for enabling co-firing of biomass along with coal in the thermal units? Tick the appropriate box	**Yes** **NO**	
1.b	If yes, attach the feasibility report. If no, date by when the Report on Feasibility Study will be furnished.		
2	Furnish details / Attach Recommendation of OEM, if any		
(D)	Criteria: Project management Time lines		
1	List and details of the major works including civil works with activity on critical path as per Detailed Feasibility Study.		
2	The period of shut down (if required) needed for enabling co-firing related works		
(E)	Criteria: Technical constraints for enabling co-firing while ensuring safety of the plant		
1	Mill type (as per the types mentioned in above MoP Policy) and configuration of mills		
2	Sizing limitations of Cold/Hot air ducting and/ or fans to ensure		

	parameters including mill inlet and outlet temperatures as per the SOP circulated by Mission directorate. (Refer to the SOP circulated by Mission directorate for biomass co-firing)	
3	Volatile matter in the biomass pellets being used / proposed.	
4	Space/ Layout /Design constraints/ spatial fouling faced / envisaged in carrying out the necessary modification works identified in the feasibility study, which were got conducted as **at (C) above**. This may include constraints like fouling with existing facilities like pipelines/ foundations/ cabling/ etc.,	
5	Any other technical constraints specific to the power plant for claiming relaxation (Details and Document proof to be attached)	
6	Incomplete or non-availability of the design details of existing facilities and lack of availability of the complete details of the existing underground facilities (Type, size and layout etc.), if any.	
(F)	Criteria: Sourcing of biomass pellets as per specifications circulated by CEA & Supply chain constraints	

1	Sourcing Constraints, if any, of biomass pellets as per specifications circulated by CEA	
2	Quantity / Supply constraints, if any? (*List out constraints and relevant details of the tendering process, biomass supplier, shortfall quantum etc)*	
	i. Whether the quantity of biomass pellets (Torrefied / Non-torrefied as per suitability of the plant) which has been offered by all the participating biomass suppliers in the open tender called for the same by the Utility, is less than the prescribed quantity for the Power Plant. ii. Whether, after the award of contract to supply biomass pellets, the vendor is not supplying Biomass pellet to the power plant due to reasons beyond the control of Power generator. iii. Whether the Power generator has taken adequate measure for arranging the shortfall quantity as per terms and condition of the contract, in case of eventuality as at (i) and/or (ii) above. iv. Any other constraints in sourcing biomass pellets specific to the power plant for claiming relaxation (Document proof to be attached)	
(G)	Criteria: Possibilities of meeting the co-firing commitments by any other means as per the extant Policy	

(H)	List of documents needed in support of constraint as applicable (to be attached) 1. Layout diagram of constraint area, 2. Ducting arrangement and size, 3. Mill design details, 4. Fan (PA, ID, FD) design details, 5. FGD details, as applicable, 6. ESP and/or fabric filter details, 7. Any other document in support of the constraint	

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No. 11/86/2017-Th.II
Government of India
Ministry of Power
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Shram Shakti Bhawan, Rafi Marg,
New Delhi, dated the 8th October, 2021

To,

1. Principal Secretary/Secretary in charge of Energy/Power Departments, All States/UTs
2. Chairman, CEA
3. CMDs of all CGSs

Subject: Revised Policy for Biomass Utilisation for Power Generation through Co-firing in Coal based Power Plants

Sir/Madam,

The undersigned is directed to refer to this Ministry's "Policy for Biomass Utlisation for Power Generation through Co-firing in Pulverised Coal Fired Boilers" issued in November, 2017

2. In order to further promote use of biomass pellets in coal based thermal power plants, the above Policy is further modified. A copy of "Revised Policy for Biomass Utlisation for Power Generation through Co-firing in Coal based Power Plants" is enclosed for information and necessary action please.

Yours faithfully

Encls: As Above

Kumar Saurabh
Deputy Director(Thermal)
Ministry of Power

Copy to:
(i) PS to Hon'ble Minister,
(ii) PS to Hon'ble MoS for Power,
(iii) Sr. PPS to Secretary(Power),
(iv) PPS to AS(SKGR), PPS to AS&FA, PPS to AS(VKD)
(v) All Joint Secretaries/EA/Chief Engineer, Ministry of Power
(vi) Incharge, NIC, Ministry of Power - with a request to upload this document on the website of MoP.

REVISED POLICY OF MINISTRY OF POWER FOR BIOMASS UTILIZATION FOR POWER GENERATION THROUGH CO-FIRING IN COAL BASED POWER PLANTS

1. The current availability of biomass in India is estimated at about 750 million metric tonnes per year. The estimated surplus biomass availability is at about 230 million metric tonnes per annum covering agricultural residues.

2. Ministry of Power (MoP) vide its policy dated 17-11-2017 on biomass utilization for power generation had advised that all fluidized bed and pulverized coal units (coal based thermal power plants) except those having ball and tube mill, of power generation utilities, public or private, located in India, to use 5-10% blend of biomass pellets made, primarily, of agro residue along with coal after assessing the technical feasibility, viz. safety aspect etc.

3. In order to further promote use of biomass pellets in coal based thermal power plants, the above Policy is further modified. The modifications in the above Policy are as under:

(i). All coal based thermal power plants of power generation utilities with **bowl mill**, shall on annual basis mandatorily use 5 percent blend of biomass pellets made, primarily, of agro residue along with coal with effect from one year of the date of issue of this guideline. The obligation shall increase to 7 percent with effect from two years after the date of issue of this order and thereafter.

(ii). All coal based thermal power plants of power generation utilities with **ball & race mill**, shall on annual basis mandatorily use 5 % blend of biomass pellets (torrefied only) made, primarily, of agro residue along with coal. This is to be complied within one year starting from this order. Two years from the date of issue of this order and thereafter the obligation will increase to 7 percent.

(iii). All coal based thermal power plants of power generation utilities with **ball & tube mills**, shall on annual basis mandatorily use 5 % blend of torrefied biomass pellets with volatile content below 22%, primarily made of agro residue along with coal. This is to be complied within one year.

(iv). Generating Utilities having certain units under Reserve Shutdown or not being despatched due to MOD (Merit Order Despatch) consideration would ensure to increase the percentage of co-firing up to 10 % in their other operating units/ plants (5 % in plants having ball and tube mills).

(v). Any power plants seeking exemptions / relaxation from co-firing may be considered on case to case basis, based on recommendations of CEA. A Committee headed by Chief Engineer (TE&TD), CEA, including representatives from NTPC, BHEL, CPRI, Ministry of Agriculture and Mission

Directorate shall examine the request of power plants for their exemption/relaxation from mandatory co-firing of biomass, as mentioned at para (i) to (iv) above.

(vi). The policy for co-firing of biomass would be in force for 25 years or till the useful life of the thermal power plant whichever is earlier. The minimum percentage of biomass for co-firing will be reviewed from time to time.

(vii) The minimum contract period for procurement of biomass pellets by generating utilities shall be for 7 years so as to avoid delay in awarding contracts by generating companies every year and also to build up long term supply chain. There may be provision of firm price of biomass pellets for the first year of the contract and yearly rate variation from second year onwards where rates can vary as per terms and conditions of the contract. In order to enable its implementation, a model RfP and contract shall be issued by MOP by 15.11.2021 for adhering to by all generating utilities. However, the ongoing process of contracting for biomass co-firing by generating utilities shall not be affected till issue of Model Contract.

(viii). Provisions related to tariff determination and scheduling shall be as given below:

a. For projects set up under Section 62 of the Electricity Act 2003, the increase in cost due to co-firing of biomass pellets shall be pass through in Energy Charge Rate (ECR).
b. For projects set up under Section 63 of the Electricity Act 2003, the increase in ECR due to biomass co-firing can be claimed under Change in Law provisions.
c. Such additional impact on ECR shall not be considered in deciding Merit Order Despatch (MOD) of the power plant.
d. Obligated Entities such as Discoms can meet their Renewable Purchase Obligations (RPO) by buying such generation of co-firing.

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F.No. 11/86/2017-Th.II
Ministry of Power
Government of India
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Shram Shakti Bhawan, Rafi Marg,
New Delhi-110001
Dated: 17th November, 2017

To

The Chairman,
Central Electricity Authority,
Sewa Bhawan,
R.K.Puram,
New Delhi

Sir,

Stubble burning has been cited as a major cause of recent smog in north-west India. Stubble burning is deliberate setting fire of the straw stubble that remains after harvesting of paddy and other crops. During the months of October and November of each year, farmers in north-west India burn an estimated 30-40 million tonnes of crop waste from their paddy fields after harvesting.

2. Biomass co-firing in coal based power plants

The estimated 30-40 million metric tonnes of paddy straw that remains un-utilised and burnt in north-west India has potential to generate about 6000-8000 MW and 45000 million units of electricity annually, by co-firing it along with coal in existing coal fired power plants. Biomass co-firing has a potential to create a market for large scale consumption of agro residue and convert it into electricity in eco-friendly and cost effective manner while mitigating problem of air quality deterioration and generate additional income to farmers.

2.1 The existing power plant infrastructure cannot directly use raw agro residue bio-mass in a pulverised coal fired type boiler and it is required to be processed into dense bio-mass in the form of pellets.

2.2 Biomass co-firing is a well proven technology. With increasing environmental awareness, power plants all over the world has adopted, biomass co-firing as a strategy to combat pollution. UNFCC recognizes biomass co-firing as a carbon neutral technology for mitigation of carbon emission from coal based power plants.

3. Status of Biomass co-firing in India

NTPC has successfully demonstrated the co-firing of 7% blend of biomass pellets with coal in its Dadri power plant. This can be replicated in other coal fired power plants having bowl mills/vertical roller mills/beater mills.

Contd. 2/-

4. Benefits of using biomass pellets co-firing in coal based power plants

a) Eliminate/minimize burning of agro-residue and create economic value of agro residue by promoting its use as fuel in power plants in co-firing mode.

b) Improve the air quality index while creating additional income for farmers.

c) Encourage the establishment of decentralised pellets manufacturing units and generate employment opportunities.

5. Biomass Utilisation for Power Generation through Co-firing in Coal based Power Plants.

Therefore, in order to promote use of the bio-mass pellets, it has been decided, with the approval of competent authority, to advise all the power plants/utilities as follows:

a) All fluidised bed and pulverised coal units(coal based thermal power plants) except those having ball and tube mill, of power generation utilities, public or private, located in India, shall endeavour to use 5-10% blend of biomass pellets made, primarily, of agro residue along with coal after assessing the technical feasibility, viz. safety aspects etc.

b) CEA shall develop/issue specifications for the pellets. CEA will also provide technical assistance/advise to Utilities on how to use bio-mass pellets for blending with coal in coal based thermal power plants.

c) The Appropriate Commission will determine the compensation (for plants other than those whose Tariff has been already determined under section 62 of Electricity Act) to be allowed in tariff for increase in cost of generation on account of using bio-mass pallets, viz., cost of pellets, increase in auxiliary power consumption (APC) and plant heat rate (HR) etc. Increase in cost of generation will not be taken into account for the purpose of merit order for despatch of electricity. Further, Appropriate Commission shall devise a suitable mechanism to ensure the use of biomass as per (a) above.

6. CEA is requested to issue the enclosed "Policy for Biomass Utilisation for Power Generation through Co-firing in Pulverised Coal Fired Boilers" to all the Power plants/Utilities, State Governments, Power equipment manufacturers and other stake holders. The Policy may be placed on CEA website.

Yours faithfully,

17/11/2017

(S.K. Kassi)
Director (Thermal)

Biomass Utilisation for Power Generation through Co-firing in Coal Based Power Plants

1. Introduction

Stubble burning has been cited as a major cause of recent smog in north-west India. Stubble burning is deliberate setting fire of the straw stubble that remains after harvesting of paddy and other crops. During the months of October and November of each year, farmers in north-west India burn an estimated 30-40 million tonnes of crop waste from their paddy fields after harvesting. The primary reasons for stubble burning are; (a) reduce the cost of clearing the field for next crop, (b) reduce the turnaround time between harvesting and sowing for next (winter) crop and (c) lack of other alternatives, viz. availability of appropriate agricultural implements, viz., implements to take out the stubble and "Happy Seeders" for zero tilling sowing etc.

1.1. Various options for safely disposing such bio-mass are (i) setting up power plants exclusively based on bio-mass, (ii) co-firing of pellets made out of bio-mass in the coal based thermal plants, (iii) *in-situ* in-corporation of bio-mass into the soil using appropriate agricultural implements or composting and (iv) manufacturing of various products such as Ethanol, Bio CNG and Board etc.

2. Biomass co-firing in coal based power plants

The estimated 30-40 million metric tonnes of paddy straw that remains un-utilised and burnt in north-west India has potential to generate about 6000-8000 MW and 45000 million units of electricity annually, by co-firing it along with coal in existing coal fired power plants. Biomass co-firing has a potential to create a market for large scale consumption of agro residue and convert it into electricity in eco-friendly and cost effective manner while mitigating problem of air quality deterioration. Market mechanism for agro residue utilisation will also enable additional income to farmers.

2.1 The existing power plant infrastructure cannot directly use raw agro residue bio-mass in a pulverised coal fired type boiler and it is required to be processed into dense bio-mass in the form of pellets. The densification of biomass in the form of pellets also reduces its transportation cost, which is a major component in overall fuel price. Promoting agro-residue processing capacity into pellets for power sector shall also create employment opportunities and develop entrepreneurship.

2.2 Biomass co-firing is a well proven technology. With increasing environmental awareness, power plants all over the world has adopted, biomass co-firing as a strategy to combat pollution. According to open source data, 230 plants across globe, majority located in European and American countries, have experience of biomass co-firing. UNFCC recognizes biomass co-firing as a carbon neutral technology for mitigation of carbon emission from coal based power plants.

3. Status of Biomass co-firing in India

NTPC has successfully demonstrated the co-firing of 7% blend of biomass pellets with coal in its Dadri power plant. This can be replicated in other coal fired power plants too. The blend of coal and pellets can safely be pulverized in power plants having bowl mills/vertical roller mills/beater mills. However, this method is not suitable for power plant having ball and tube type of mills due to higher risk of fire hazard. Approximately, 2.5 to 3.0 lakh tonnes of Biomass pellets are required for 7% blending in a thermal power plant of 1000MW capacity.

4. Benefits of using biomass pellets co-firing in Coal based power plants

a) Eliminate/minimize burning of agro-residue and create economic value of agro residue by promoting its use as fuel in power plants in co-firing mode.
b) Improve the air quality index while creating additional income for farmers.
c) Encourage the establishment of decentralised pellets manufacturing units and generate employment opportunities.

5. Biomass Utilisation for Power Generation through Co-firing in Coal based power plants.

Therefore, in order to promote use of the bio-mass pellets, all the Power plants/Utilities are hereby advised as follows:

a) All fluidised bed and pulverised coal units(coal based thermal power plants) except those having ball and tube mill, of power generation utilities, public or private, located in India, shall endeavour to use 5-10% blend of biomass pellets made, primarily, of agro residue along with coal after assessing the technical feasibility, viz. safety aspects etc.
b) CEA shall develop/issue Specifications for the pellets. CEA will also provide technical assistance/advise to Utilities on how to use bio-mass pellets for blending with coal in coal based thermal power plants.
c) The Appropriate Commission will determine the compensation (for plants other than those whose Tariff has been already determined under section 62 of Electricity Act) to be allowed in tariff for increase in cost of generation on account of using bio-mass pallets, viz., cost of pellets, increase in auxiliary power consumption (APC) and plant heat rate (HR) etc. Increase in cost of generation will not be taken into account for the purpose of merit order for despatch of electricity. The Appropriate Commission shall devise a suitable mechanism to ensure the use of biomass as per (a) above.