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e-mail: omd_cea@rediffmail.com
Fax: 011-2616 9235/ 2616 9984
Ph: 011-2673 2355, 2616 8312



**GOVERNMENT OF INDIA
MINISTRY OF POWER
CENTRAL ELECTRICITY AUTHORITY
SEWA BHAWAN, R.K.PURAM
NEW DELHI-110066.**



(आई.एस.ओ. 9001:2000)

Subject: The Committee constituted by Ministry of Power to look into the adequacy of unloading infrastructure at thermal power stations – submission of the report – reg.

Ref. : MOP's O.M. No. 19/2/2008-OM dated 10th June 2008

Reference is invited to the above referred O.M. of Ministry of Power, vide which the Committee was constituted under Chairmanship of Member (Plg), CEA comprising of representatives from Railways, NTPC and CIL.

The committee met on 24.06.2008, 08.09.2008 & 15.10.2008.

2. After detailed deliberation broad recommendations of the committee are as follows—

- i) There are very old stations which are falling in the list of candidate power plants for retirement, on case to case basis. These include IP Station, (2010) Rajghat Power Station, (2011-12) and Faridabad Power Station (2011-12) and such others. These stations would continue to have problems of unloading of coal and would need to be accommodated since no new investment would be justified to improve the situation.
- ii) There are power stations as listed down in the recommendations of the report where wagon tippers are operating without side Arm Charger/Beetle Charger. The concerned utility would need to take immediate steps to install these equipments wherever the space is not a constraint. Letters are being addressed to all such stations by CEA in this regards.

At stations where the Beetle Charger are installed but are not in proper operating conditions, these would need to be made operational. At other stations, the coal handling and unloading system would need to be augmented due to change of the unloading time by the Railways and new investments would need to be made.

- iii) The problems of law and order, etc. on certain stations like Mejia would need to be attended to.
 - iv) It has also come out that in large number of stations, coal is not being received in proper sizes and is mixed with extraneous matter like shales and stones etc. This is causing hold ups for unloading. Coal companies would need to take action to install coal crushers in adequate numbers to ensure that only crushed coal free from shales/stones are supplied to power plants. An action plan by the Ministry of Coal would need to be prepared and strictly followed by the Coal Companies. FSA must have a provision for penalties in case oversized coal, stones and boulders are supplied with coal.
 - v) Bunching of rakes becomes unavoidable since coal is being supplied from different sources. In such case, the free time on successive rakes ought to be calculated after the free time of the previous rakes is permitted under the Railway Board's Notification No.TC/95/201/2 dated 23.11.95.
3. A copy of the Report of the Committee is enclosed for further necessary action.

Encls: As above.

Sd/
(V S Verma)
Member (Planning)

Secretary, Ministry of Power, Shram Shakti Bhawan, New Delhi

No. CEA/Plg/OM/1/32/2008/

Dated: 30th October, 2008

Copy with a copy of the report for information to:

1. Shri D.P. Pandey, ED (TTD), Railway Board, New Delhi.
Fax: 23303788, 23304245
2. Shri Chandan Roy, Director (Operations), NTPC, Scope Complex, Lodi Road, New Delhi. Fax: 24363478.
3. Shri N.C Jha, Director (Tech), CIL, 10, Netaji Subhash Road, Kolkata-700001. Fax: 033-22483373, 22435789



**REPORT OF THE COMMITTEE
CONSTITUTED TO LOOK INTO
THE ADEQUACY OF UNLOADING
INFRASTRUCTURE
AT
THERMAL POWER STATIONS**

**GOVERNMENT OF INDIA
MINISTRY OF POWER
CENTRAL ELECTRICITY AUTHORITY
(O. M. DIVISION)**

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Central Electricity Authority
(Operation Monitoring Division)

**REPORT OF THE COMMITTEE CONSTITUTED TO LOOK INTO THE
ADEQUACY OF UNLOADING INFRASTRUCTURE
AT THERMAL POWER STATIONS**

In pursuance of the decisions taken during the meeting taken by Secretary (Power) on 4TH June 2008, a Committee, under the Chairmanship of Shri V.S. Verma, Member (Plg), CEA comprising of representatives from Railway Board, NTPC and CIL, was constituted by Ministry of Power vide OM No. 19/2/2008-OM dated the 10.6.2008, to examine the adequacy of infrastructure for unloading of coal in thermal power stations (TPSs) and suggest remedial measures.

A copy of the aforementioned OM of Ministry of Power is at Appendix-I.

The constitution of the Committee is as under:-

- | | | |
|-----|--|-------------------------------|
| i | Shri V.S. Verma, Member (Plg), CEA | Chairman |
| ii | Shri Chandan Roy, Director (Op), NTPC
Shri R.L. Mattoo, ED (FM), NTPC | Member
Alternate
Member |
| iii | Shri N.C. Jha, Director (Tech), CIL
(Alternate Member to be nominated by
Ministry of Coal) | Member
Member |
| iv | Shri D.P. Pande, ED {TT (M)}, Railway Board
Shri Rinkesh Roy, Director (TT), Railway
Board | Member
Alternate
Member |
| v | Shri S.H.Khan, Chief Engineer (OM), CEA | Convenor |

2. Terms of Reference:

The Committee in its first meeting held on 24th June 2008 (a copy of minutes of the meeting is at Appendix II) adopted the following terms of reference:

- i. Daily Coal Requirement in terms of rakes, Coal unloading facilities, actual average unloading time per rake in the

year 2007-08 for all the power stations in the country as obtained from the concerned station would be compiled.

- ii. Those thermal power stations would be examined in detail where detention time is more than 8 (eight) hours in case where coal is supplied in BOX-N rakes and more than 3hrs 30 min in case where coal is supplied in BOBR rakes. (Free unloading time allowed by Railways for BOX-N and BOBR rakes is 7 hrs and 2 hrs 30 min respectively.)
- iii. Reasons for long detention time, whether due to inadequacy of the unloading facilities, quality of coal, bunching of rakes, improper operation and maintenance of the system etc. would be identified.
- iv. Based on above, recommendations for improvement in unloading facilities through R & M, or otherwise, would be made.

3. Background:

3.1 Ministry of Railways have been mentioning about the incidences of high unloading time of railway rakes in certain power stations resulting in blocking of railway rakes. Railway Board, vide their rates circular No. 8 dated 15.02.2005 reduced the free time for unloading of rake of BOX-N and other types of open wagons from 9 hours to 5 hours (now revised to 7 hours w.e.f. 1/1/2006) and that of BOBR and other hopper wagons to 2.30 hours so as to generate additional rake availability. The unloading systems at the existing power stations had been designed keeping in view the free unloading time as 9 hours for rakes of BOX-N wagons. Unloading of rakes within revised free time was, therefore, not practical on sustained basis with the existing unloading system. Because of space constraints, it is difficult to modify the unloading systems in most of the plants at this stage. Wherever space is available, there is a fund constraint as it involves huge expenditure (about Rs. 100 crores for installing two new wagon tippers etc.). This cost is not within the means of most of the state utilities. Large sized stones, boulders and extraneous materials supplied with coal, wet and sticky coal in the form of slurry during monsoon season and bunching of rakes are also reported to be mainly responsible for high detention time of rakes.

4. **Methodology Followed:**

4.1 As decided in the first meeting of the Committee held on 24th June 2008, the information (in the proforma already circulated by CEA) about average detention time of the railway rakes during the year 2007-08 and details of the unloading infrastructure facilities available at the Thermal Power Stations was collected and compiled.

4.2 On the basis of the information received, it was found that out of the 77 Thermal Power Stations (TPSs) monitored on daily basis, the said information was received from 73 TPSs. Information in respect of 4 TPSs, viz. Yamunanagar, Sipat, Muzaffarpur and Tenughat, was not collected. Yamunanagar and Sipat TPSs are new power plants commissioned on 14th April 2008 and 20th June 2008 respectively. Muzaffarpur TPS has been recently re-commissioned after major R&M works. Fourth TPS i.e. Tenughat TPS is having 'Road' as the transportation mode. Unloading of rakes is, therefore, not involved.

4.3 On the basis of information compiled, it was observed that out of 73 TPSs, there are 38 TPSs wherein detention time is more than 8 hours for BOX-N rakes and 3 hours 30 minutes for BOBR rakes. The compiled list of these 38 TPSs is at Appendix III.

4.4 The second meeting of the Committee was held on 8.9.2008. In the meeting information received from various power utilities was discussed. Unloading facilities vis-à-vis detention time of all the 38 Thermal Power Stations was discussed in detail.

4.5 It was visualised that one of the main reason for high detention of railway rakes is supply of oversized coal, stones, boulders, lumpy coal and wet & sticky coal during monsoon season by coal companies. However, it was felt that all out efforts need to be made by the power utilities to reduce the detention time. It was also felt that the power utilities must make modifications in their unloading system, wherever possible, to improve upon the unloading time.

5. **Recommendations of the Committee:**

The recommendations of the Committee are as follows:

- i. IP, Rajghat, Faridabad and Harduaganj TPSs are very old thermal power stations and it is understood that these are to be phased out after 2011. These power plants, therefore, need not be considered for any major modifications.
- ii. List of thermal power stations where Wagon Tipplers are operating without Side Arm Charger/Beetle Charger is enclosed at Appendix-IV. The concerned utilities must take immediate step to install Side Arm Charger/Beetle Charger wherever space is not a constraint. Letters are being addressed by CEA in this regard.
- iii. At Ropar Thermal Power Station beetle chargers are installed but all of them are not in operation. PSEB should take necessary action to make all of these beetle chargers operational.
- iv. At Sanjay Gandhi Birsinghpur TPS, MPPGCL have to take necessary steps to make both the existing Wagon Tipplers operational. They have also to ensure that BOBR rakes are received at Track Hoppers so that manual unloading of rakes is avoided. Bypass rail line for taking the loaded rake to 2nd Track Hopper need to be commissioned immediately.
- v. Durgapur TPS of DVC has high detention time due to frequent break down in coal handling plant. DVC may take appropriate action and carry out its R&M urgently.
- vi. Panipat TPS has a Track Hopper and Railways is willing to supply BOBR wagons. This facility is not being used at all and should be commissioned at the earliest.
- vii. MAHAGENCO, vide their letter No. Mahagenco/CGM/FMC/6643 dated 12.05.08, informed that coal unloading system was designed for free unloading time of 11.30 hours with the approval of Railways. The same has now been revised by railways to 6/7 hours. This would require augmentation of the system involving an expenditure of about Rs. 720 Lakhs which Railways should bear. MAHAGENCO should carry the necessary augmentation of the system under R&M scheme.

- viii. In case of Kolaghat TPS, an alternative has been suggested by RITES to improve the unloading time by hiring one railway locomotive at the disposal of WBPDCCL for 24 hours inside the plant. This would avoid the delay in placement of rakes which happens due to non-availability of loco at Macheda Exchange Yard. WBPDCCL must expedite hiring of WDM-2 Loco from Railways. Simultaneously, WBPDCCL may also expedite the electrification of railway track inside the yard of Kolaghat TPS so that railways can place the load by electric loco directly inside the plant to reduce detention time, as decided earlier in the Ministry of Power in consultation with Railways.
- ix. Representative from Railways reported that in the section Andal- Mejia TPS, rail movement is affected due to vandalism near the power plant. DVC may take adequate security measures, in association with the District Administration, to stop the vandalism caused by locals.
- x. Electrification of Exchange Yard at Yamunnagar TPS need be carried out by HPGCL expeditiously. Works in the Railway yard relating to commissioning of lines, lighting, pathways etc have not been completed in full.
- xi. All coal companies must install coal crushers and ensure that only crushed coal free from shales/ stones (extraneous matter) are supplied to power plants. Ministry of Coal must prepare an action plan to be strictly followed by the Coal Companies. FSA must have a provision for penalties in case oversized coal, stones and boulders are supplied with coal.
- xii. When coal is supplied to a power plant from different sources, bunching of rakes is unavoidable. However, in case of bunching, free time of successive rake(s) should be calculated after the free time of previous rake(s), as is permitted under Railway Boards' Notification No. TC-1/95/201/2 dated 23.11.1995 (Appendix V).

- xiii. It is recommended that each Wagon Tippler installed in the power house should be able to unload at least 2 rakes per day. This is necessary to meet the demand of power houses, especially in the peak season (October-March) when coal demand/movement to power houses from both domestic and imported sources increases. Wherever required and feasible, necessary changes in the coal handling plant and coal evacuation system of the old power houses may be carried out under R&M scheme. Similarly each track hopper should be capable of unloading 4 BOBR rakes per day.

- xiv. One of the major causes of detention of rakes inside the existing power houses is inability of power houses to use all available unloading facilities simultaneously. If there are two Wagon Tipplers in a power house, generally only one is used at a time because of evacuation constraint. In such cases, wherever feasible, modifications in the evacuation system should be carried out under R&M so that all the Wagon Tipplers can be operated simultaneously for faster unloading of rakes.

It is recommended that for all the new power plants the conveyor belt capacities, bunker capacity, independent conveyor system and stacking capacity etc. may be designed to facilitate simultaneous operation of the unloading system for faster unloading of rakes.

Shram Shakti Bhawan, Rafi Marg,
New Delhi, the 10 June, 2008.

Office Memorandum

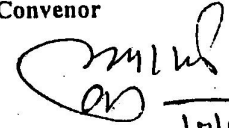
Sub: Constitution of Committee – Reduction of Unloading time – regarding

The undersigned is directed to refer to the discussions held in the meeting under the Chairmanship of Secretary (Power) on 4th June, 2008. In the meeting, it has been decided that a Committee be constituted under the Chairmanship of Shri V.S Verma, Member (Planning), C.E.A., with a representative from NTPC, CIL and Ministry of Railways to examine adequacy of unloading infrastructure in Thermal Power Stations wherever high detention time of Railway rakes has been reported by Railways and suggest remedial measures wherever necessary.

In pursuance of the above decision, the Committee is constituted comprising the following members:

- | | | |
|----|---|-----------------------|
| 1. | Shri V. S. Verma, Member (Planning), CEA |Chairman |
| 2. | Shri Chandan Roy, Director (Operations),
NTPC |Member |
| | [Shri R. L. Mattoo, ED (FM), NTPC] |Alternate Member |
| 3. | Shri N.C.Jha, Director (Technical), CIL |Member |
| | [To be nominated by Min. of Coal / CIL] |Alternate Member |
| 4. | Shri D.P. Pande, Executive Director,
TT(M), Ministry of Railways |Member |
| | [Shri Rinkesh Roy, Director (TT), Ministry
of Railways]. |Alternate Member |
| 5. | Sh. S. H. Khan, Chief Engineer (OM), CEA |Convener |

The Committee is expected to submit its report by 31st July, 2008.


10/6/08

(K. Lal)

Deputy Secretary to the Government of India
Tel: 23719229

Shri V. S. Verma, Member (Planning), CEA, Sewa Bhawan, R.K. Puram, New Delhi.

Shri Chandan Roy, Director (Operations), NTPC Ltd., Core No.7, Scope Complex, Lodhi Road, New Delhi.

Shri N.C.Jha, Director (Technical), CIL, Shashtri Bhawan, New Delhi.

Shri D.P.Pande, Executive Director (Traffic), Ministry of Railways, Rail Bhawan, New Delhi.

Sh. S.H.Khan, Chief Engineer (OM), CEA Sewa Bhawan, R.K. Puram, New Delhi.

Shri R. L. Mattoo, ED (FM), NTPC Limited, NFL Building, Sector-24, NOIDA, UP.

Shri Rinkesh Roy, Director (TT), Ministry of Railways. Rail Bhawan, New Delhi.

Copy for kind information to:

1. Chairman, C.E.A., Sewa Bhawan, R.K. Puram, New Delhi.
2. Member (Traffic), Ministry of Railways, Rail Bhawan, New Delhi.
3. Secretary, Ministry of Coal, Shashtri Bhawan, New Delhi.
4. Chairman & Managing Director, NTPC., Core No.7, Scope Complex, Lodhi Road, New Delhi.



GOVERNMENT OF INDIA
MINISTRY OF POWER
CENTRAL ELECTRICITY AUTHORITY
SEWA BHAWAN, R.K.PURAM
NEW DELHI-110066



(I.S.O.: 9001:2000)

No.CEA/Plg/OM/1/32/2008/
2008

Dated 26th June

Office Memorandum

Subject: Committee constituted by the Ministry of Power under the chairmanship of Shri V. S. Verma, Member (Plg), CEA to examine the adequacies of unloading infrastructure at thermal power stations - Record Note of Discussions of the first meeting

A copy of the Record Note of Discussions of the 1st meeting of the committee held on 24th June 2008 at 1100 Hrs in Sewa Bhavan (N), R.K. Puram, New Delhi is enclosed.

Encls: As above

(S. H. Khan)
Chief Engineer

1. Shri D. P. Pandey, ED (TTC), Railway Board, New Delhi
2. Shri Chandan Roy, Director (Operations), NTPC, Scope Complex, Lodi Road, New Delhi.
3. Shri N.C. Jha, Director (Tech), CIL, 10, Netaji Subhash Road, Kolkata-700001.

Copy for information to:

SA to Member (Plg), CEA

**Central Electricity Authority
Operation Monitoring Division**

Appendix-III

LIST OF THERMAL POWER STATIONS WITH AVERAGE UNLOADING TIME MORE THAN 8 HOURS FOR BOX-N RAKES & 3.5 HOURS FOR BOBR RAKES

SL. NO.	NAME OF THE THERMAL POWER STATION	CAP (MW)	Daily Coal Req		Source of Coal	Av. unloading time during 07-08		No. of Wagon Tipplers	No. of Track Hoppers	Remarks
			Th Ton	Rake		BOX-N (In Hrs)	BOBR (In Hrs)			
1	I.P. STATION	247.5	3.3	0.9	NCL	9.5		1		Likely to be replaced by ongoing Bawana Gas Project in 2010. Government of NCR has restricted expenditure on any major modification. Constraints: (i) Some of the vital railway lines maintained by Railways abandoned during the construction of ITO, Yamuna bridge and Metro Rail were not restored. This restricted the movement of wagons to IP and Rajghat TPSs. (ii) Bunching of rakes. (iii) Coal quality. M/s IPGCL requested for restoring free detention time of 10 hrs.
2	RAJGHAT	135	2.2	0.6	NCL	9.2		1		Plant may be withdrawn after 5-6 years, due to environmental constraints. Constraints: (i) Main bottleneck-Railway Lines abandoned by Railways. (ii) Bunching of rakes. (iii) Coal quality.
3	FARIDABAD EXT	180	2.7	0.77	CCL	13.0		1		Old Plant and located in the heart of the city and there is no space for any expansion. Proposal regarding minimizing demurrage charges in respect of coal wagon unloading facility, such as provision of additional Wagon Tippler, Track Hopper, Pay Loader alongwith modifications in the Wagon Tippler grizzly have been got studied from Central Electricity Authority during April/May-02 and they have found that none of these proposal is feasible due to site. Constraints: (i) Receipt of oversized coal. (ii) Wet and muddy coal in the rainy season creates choking in the crushers and affects the unloading of the wagons since cross-section area of the chutes is quite small due to less width of coal conveyor belts i.e. 800 mm. only, (iii) Plant is having only one Wagon Tippler(WT).

LIST OF THERMAL POWER STATIONS WITH AVERAGE UNLOADING TIME MORE THAN 8 HOURS FOR BOX-N RAKES & 3.5 HOURS FOR BOBR RAKES

SL. NO.	NAME OF THE THERMAL POWER STATION	CAP (MW)	Daily Coal Req		Source of Coal	Av. unloading time during 07-08		No. of Wagon Tipplers	No. of Track Hoppers	Remarks
			Th Ton	Rake		BOX-N (In Hrs)	BOBR (In Hrs)			
4	GHTP(LEH.MOH.)	670	12.0	3.4	CCL, ECL, PANEM	11.64		Stl-2, StII-2*	1	Stage-I is having 2 WTs and both are with side arm charger. No unloading was done at Track Hopper due to non-receipt of BOBR rakes. Constraints: (i) Supply of oversized coal/stones/boulders/lumpy coal. Wet & sticky coal during rainy season. (ii) Bunching of rakes. *CHP of St II is also having 2WTs and they are under stabilization. This CHP is expected to be commissioned by 20th Sep. 2008.
5	GNDTP (BATHINDA)	440	6.7	1.9	CCL, ECL, PANEM	10.82		2	1	Both WTs are without Side Arm Chargers/beetle chargers. Constraints: (i) Supply of oversized coal/stones/boulders/lumpy coal. Wet & sticky coal during rainy season. (ii) Bunching of rakes.
6	ROPAR	1260	20.0	5.7	CCL, BCCL, SECL, PANEM	10.12	9.22	5	1	All the 5 WTs are having beetle charger. Out of 5, 2 beetle chargers were working and other 3 beetle chargers could not be made operational due to space/design problem. TH was not designed for unloading of BOBR rakes. It was meant only for manual unloading of rakes as a stand by system, in case Wagon Tippler had any problem. Later on pneumatic system was made to accommodate BOBR rakes. Constraints: (i) Supply of oversized coal/stones/boulders/lumpy coal. Wet & sticky coal during rainy season. (ii) Bunching of rakes.
7	SURATGARH	1250	20.3	5.8	SECL, NCL	8.54		4		All the WTs are with side arm chargers. As per designed capacity, these tipplers are adequate to handle 24000 tons per tippler for round the clock operation. The capacity was affected due to: (i) Choking of Jali installed for allowing only sized coal of -250 mm. (ii) Old age tipplers. (iii) Ageing of WTs and frequent breakdown of conveyor belt affecting the coal feeding as well as unloading. (iv) Supply of oversized coal/stones/boulders/lumpy coal. (v) Bunching of rakes.

LIST OF THERMAL POWER STATIONS WITH AVERAGE UNLOADING TIME MORE THAN 8 HOURS FOR BOX-N RAKES & 3.5 HOURS FOR BOBR RAKES

SL. NO.	NAME OF THE THERMAL POWER STATION	CAP (MW)	Daily Coal Req		Source of Coal	Av. unloading time during 07-08		No. of Wagon Tipplers	No. of Track Hoppers	Remarks
			Th Ton	Rake		BOX-N (In Hrs)	BOBR (In Hrs)			
8	HARDUAGANJ"B"	325	3.0	0.9	BCCL, CCL	12.21		2		Both WTs are with beetle chargers. Constraints: (i) Worn out rail track. (ii) Old age tipplers. (iii) Supply of boulders & big size stones. (iv) Bunching of rakes.
9	OBRA	1482	13.3	3.8	NCL	9.0		6		All WTs are without side arm charger/beetle charger. Constraints: (i) Old CHP (ii) Uncrushed coal is being received from Gorbib'Ext'n. (iii) Bunching of rakes.
10	PANKI	210	3.3	0.9	CCL, BCCL	13.15		2		Both the WTs are without side arm charger/beetle chargers. Constraints: (i) Space constraints in WT due to which big sized coal cannot be removed through pay loader. (ii) Excessive shunting involved due to short track length in marshalling yard (iii) Non-grant of through distance facility by railways, which could have reduced the unloading time by 2 hours/rake. (iv) Supply of oversized coal/stones/boulders/lumpy coal. Wet & sticky coal during rainy season. (v) Bunching of rakes.
11	UNCHAHAR	1050	20.0	5.7	CCL, BCCL	10.00	2.18	2	1+1*	*One track hopper is for manual unloading. Constraints: (i) Supply of oversized coal/stones/boulders/lumpy coal. Wet & sticky coal during rainy season. (ii) Bunching of rakes.
12	SIKKA	240	3.3	0.9	SECL, Imported	12.23		2	1	Constraints: (i) Weigh in motion system (WIMS) installed on line No 4, in which incoming rakes are placed. Because of limited length of railway line, 14 no. of wagons out of 58 in a rake remain without weightment. For weightment, these 14 wagons, are detached and placed on other track. (ii) There is a limit of 20 wagons inboard side and 12-15 wagons outboard side of the tippler. Space constraint limiting the placement of not more than 20 wagons on side track after unloading. (iii) Supply of oversized coal. Wet & muddy coal during rainy season.

LIST OF THERMAL POWER STATIONS WITH AVERAGE UNLOADING TIME MORE THAN 8 HOURS FOR BOX-N RAKES & 3.5 HOURS FOR BOBR RAKES

SL. NO.	NAME OF THE THERMAL POWER STATION	CAP (MW)	Daily Coal Req		Source of Coal	Av. unloading time during 07-08		No. of Wagon Tipplers	No. of Track Hoppers	Remarks
			Th Ton	Rake		BOX-N (In Hrs)	BOBR (In Hrs)			
13	TORRENT POWER	390	5.7	1.6	SECL, Imported	9.28		2		Refurbishment of CHP is under advance stage of commissioning. Trail run over, expected to be commissioned by end of August 2008.
14	SANJAY GANDHI	1340	21.7	6.2	SECL	12.52	5.32	2	2	Both WTs are with side arm charger. Constraints: (i) Non-availability of 2nd WT and standby locomotive. (ii) Non-completion of stacking path in 500MW unit. (iii) Receipt of lumpy/sticky/wet/mud-mixed coal. (iv) Receipt of 4 doors wagons instead of 6 doors. (v) Welded door, welded floor and damaged floor of wagons.
15	SATPURA	1142.5	21.7	6.2	WCL	12.22		3		All the 3 WTs are without side arm charger/bettle charger and their tipping rate is 4-5 per hour. Constraints: (i) Receipt of Lumpy coal & big size stones.
16	BHUSAWAL	475	7.3	2.1	WCL, Imported	11.26		3		All the WTs are without side arm charger/beetle charger. Constraints: (i) Detention time is higher due to old CHP. (ii) Receipt of excessive wet/muddy and a sticky coal in mansoon.
17	CHANDRAPUR	2340	37.8	10.8	WCL, SECL, MCL(Ib)	13.37	3.27	4	2	MAHAGENCO, vide their letter No.Mahagenco/CGM/FMC/6643 dated 12.05.08, informed that coal unloading system was designed for free unloading time of 11.30 hrs with the approval of Railways. The same has now been revised by Railways to 7 hrs. This would require augmentation of the system involving an expenditure of about Rs. 720 Lakhs. which Railways should bear. Constraints: (i) Bunching of rakes. (ii) Receipt of lumpy coal/stone/wet coal. (iii) Receipt of foreign material mixed with coal. (iv) Receipt of sick wagons

LIST OF THERMAL POWER STATIONS WITH AVERAGE UNLOADING TIME MORE THAN 8 HOURS FOR BOX-N RAKES & 3.5 HOURS FOR BOBR RAKES

SL. NO.	NAME OF THE THERMAL POWER STATION	CAP (MW)	Daily Coal Req		Source of Coal	Av. unloading time during 07-08		No. of Wagon Tipplers	No. of Track Hoppers	Remarks
			Th Ton	Rake		BOX-N (In Hrs)	BOBR (In Hrs)			
18	KHAPARKHEDA II	840	16.7	4.8	WCL, SECL, MCL(Ib)	12.44	3.23	2	1	Both the WTs are without side arm charger/beetle charger.
19	KORADIH	1040	16.8	4.8	WCL, SECL, Imported	8.73		4		Either of the WTs 1 or 2 can be used at a time. WT-3 is without side arm charger. Constraints: (i) Bunching of rakes. (ii) Receipt of lumpy coal. (iii) Plant constraint. Only 10 Boxes at a time can be place due to distance available between tippler and nearest point is 120M.
20	NASIK	880	13.3	3.8	WCL, SECL, Imported	11.66		5		CHP I & II: 2 WTs each rota type without side arm charger/beetle charger. CHP III: 1 WT rota type with beetle charger. Constraints: (i) Receipt of excessive wet/muddy and sticky coal in mansoon. (ii) Bunching of rakes.
21	PARAS	312.5	6.2	1.8	WCL, MCL(Ib)	12.60		3		Siding (250 MW unit) of new CHP is expected to be commissioned by August 2008. At present all coal rakes are unloaded at 62.5 MW siding.
22	RAYALASEEMA	840	13.3	3.8	SCCL, MCL(T)	15.23		3		All WTs are with side arm charger. Overloading of crusher limits running of both the belts together. Constraints: (i) Bunching of rakes. (ii) Receipt of buldged wagons. (iii) Receipt of heavy boulders, foreign material and wet coal.
23	RAMAGUNDAM	2600	38.8	11.1	SCCL, SECL, MCL(Ib)	9.30	2.00	2	2	Both the WTs are without side arm charger/beetle charger. St-I&II are as pit-head TPS. St-III is linked to SECL. Constraints: (i) CHP infrastructure constraint. Only 1/2 batch of railway BOXN rake can be accommodated in one tippler. (ii) At a time, only one tippler can be operated due to conveyor limitation and common chute constraints. (iii) Bunching of rakes by railways. (iv) Wet and slushy coal from WCL. (v) Receipt of big size boulders from Deepika siding of SECL.
24	ENNORE	450	7.3	2.1	MCL(T), ECL	10.00		2		Both the WTs are without side arm charger/beetle charger. Constraints: (i) ATPS is one of the oldest TPS which is having rope type of wagon tipplers. (ii) Only one stream of conveyor is available for stacking of coal.
25	BARAUNI	320	1.2	0.3	ECL	19.00		1		Constraints: Supply of oversized coal, stones & boulders.

LIST OF THERMAL POWER STATIONS WITH AVERAGE UNLOADING TIME MORE THAN 8 HOURS FOR BOX-N RAKES & 3.5 HOURS FOR BOBR RAKES

SL. NO.	NAME OF THE THERMAL POWER STATION	CAP (MW)	Daily Coal Req		Source of Coal	Av. unloading time during 07-08		No. of Wagon Tipplers	No. of Track Hoppers	Remarks
			Th Ton	Rake		BOX-N (In Hrs)	BOBR (In Hrs)			
26	KAHALGAON	1840	29.4	8.4	ECL, CCL, MCL(lb), Imported		4.52	2*	1+1*	*Under commissioning. It is a Pit-head power station . Box-N unloading time is 4.59 hours. Reason: (i) Non-availability of coal from linked mines. (ii) Being pithead PS, WTs were not originally envisaged. These WTs are now under commissioning. Expected by Dec 2009 and March 2010 respectively. Presently railway rakes are being unloaded manually. Constraints: (i) In motion weighbridge is placed at entry of track hopper resulting in more time for placement of subsequent loaded rakes. (ii) For imported coal rakes the weighment is to be done for loaded and empty rakes. (iii) IR BOX rakes contains 4 doors wagons as well as 6 door wagons which delays subsequent placement of rakes. 4 door wagons restrict main power deployment for unloading. (iv) Supply of uncrushed coal/stones/boulders from Salanpur, Chitra mines of ECL, Damagudiya and NLOCP of BCCL.
27	BOKARO"B" (DVC)	630	9.0	2.6	CCL, BCCL		8.00		1	Constraints: (i) Capacity of the TH is only 2000 MT. (ii) Non-availability of railway staff. (iii) Supply of oversized coal & boulders. (iv) Receipt of defective coal wagons.
28	CHANDRAPURA (DVC)	750	6.0	1.7	BCCL, CCL	23.34		2		Both the WTs are without side arm charger/beetle charger. Constraints: (i) Ageing of railway tracks. (ii) Supply of oversized coal & boulders and other extraneous matter.
29	DURGAPUR (DVC)	340	5.0	1.4	ECL, BCCL	12 to14		2		One WT for each unit without side arm charger/beetle charger. Constraint: (i) Supply of oversized coal/stone/boulder from BCCL/ECL. (ii) Bunching/ldling of coal rakes at DTPS private siding. (iii) Receipt of defective coal wagons. (iv) Line blocking by Railway personnel during placement and withdrawal of full rakes. (v) Single stream of belt conveyor under both tipplers U#3&4. (vi) Availability of associated machineries/equipment like WT#3, LOCOS & Dozer etc.
30	BANDEL	450	5.0	1.4	ECL, EMTA	10.00		3		All the 3 WT are without side arm chargers/beetle charger. Constraints: (i) Bunching of rakes. (ii) Receipt of oversized coal/stones/boulders/sticky and muddy coal in mansoon.

LIST OF THERMAL POWER STATIONS WITH AVERAGE UNLOADING TIME MORE THAN 8 HOURS FOR BOX-N RAKES & 3.5 HOURS FOR BOBR RAKES

SL. NO.	NAME OF THE THERMAL POWER STATION	CAP (MW)	Daily Coal Req		Source of Coal	Av. unloading time during 07-08		No. of Wagon Tipplers	No. of Track Hoppers	Remarks
			Th Ton	Rake		BOX-N (In Hrs)	BOBR (In Hrs)			
31	DURGAPUR (DPL)	695	10.7	3.1	ECL, BCCL, MCL(Ib), EMTA	15.58	5.37	2	1	Both WTs are with carppuler & winches. Constraints: (i) Bunching of rakes. (ii) Receipt of oversized coal/stones/boulders/sticky and muddy coal in mansoon. (iii) Blokage of railway lines by M/s RITES for newly installed track hopper, trial run of OHE and installation of Marry Go Round system for new unit.
32	KOLAGHAT	1260	19.3	5.5	ECL, BCCL, MCL(Ib), EMTA	7 to 12	4 to 6	2	1	Both the WTs are without side arm charger. Constraints: (i) Bunching of rakes. (ii) Receipt of oversized coal/stones/boulders/sticky and muddy coal. (iii) Over hauling of CHP equipment is not possible due to continuous unloading of wagons. (iv) Delay in hiring of diesel loco by WBPDCCL from railways for placement of rakes inside the plant. (v) Space constraints in yard area resulting in criss crossing of railway lines.
33	SANTALDIH	730	7.7	2.2	ECL, BCCL, MCL(Ib)	20.00	14	2	1	In Santaldih TPS, track hopper was recently commissioned to improve unloading of BOBR rakes. It is expected that unloading time would reduce. Constraints: (i) Receipt of oversized coal/stones/boulders/sticky coal.
34	BUDGE BUDGE	500	7.3	2.1	ECL, BCCL, ICML, Imported	10.86	2.71	2	1	Out of the two, only one WT is with side arm charger. Constraints: (i) Receipt of oversized coal/boulders. (ii) Bunching of rakes.
35	NEW COSSIPORE	160	1.3	0.4	ECL	19.22		1		Old Station. Constraints: (i) Due to space constraints rakes with 42 BOX-N wagons only are possible to be unloaded. Since Dec 1994, they were forced to receive 58 Wagons with the assurance of interim relief in the form of withdrawal of part-empty wagons. (ii) There is no provision of stacking of uncrushed coal. Therefore, outage of crusher leads to hampering of unloading. (iii) Rakes have to cross the congested main roads viz KC Road & Cossipore road & Gun shell factory gate closures (4 times a day).

LIST OF THERMAL POWER STATIONS WITH AVERAGE UNLOADING TIME MORE THAN 8 HOURS FOR BOX-N RAKES & 3.5 HOURS FOR BOBR RAKES

SL. NO.	NAME OF THE THERMAL POWER STATION	CAP (MW)	Daily Coal Req		Source of Coal	Av. unloading time during 07-08		No. of Wagon Tipplers	No. of Track Hoppers	Remarks
			Th Ton	Rake		BOX-N (In Hrs)	BOBR (In Hrs)			
36	SOUTHERN GENERATING STATION	135	2.3	0.7	ECL, ICML	17.38		1		WT is without side arm charger/beetle charger. It is a very old station. Constraints: (i) Bunching of rakes. (ii) Receipt of oversized coal/stones/boulders/lumpy and sticky coal. (iii) Rocks and boulders removal due to space limitation.
37	TITAGARH	240	3.7	1.1	ECL, ICML	9.70		2		Both the WTs are without side arm charger/bettle charger. From Dec 2006, both the tippers run simultaneously to improve unloading. Constraints: (i) Receipt of oversized coal/stones/boulders/lumpy and sticky coal. (ii) TPS does not have any redundancay in the coal handling system.
38	FARAKKA STPS	1600	27.6	7.9	ECL, CCL, BCCL, CCL, MCL(Ib), NEC, Imported		12.10	2*	2	*Under commissioning. It is a Pit-head power staion . Reason: (i) Non-availability of coal from linked mines. (ii) Being pithead PS, WTs were not originally envisaged. These WTs are under commissioning. Expected by Dec 2008 and March 2009 respectively. Presently railways rakes are being unloaded manually. Constraints: (i) Bunching of rakes. (ii) Supply of uncrushed coal/stones/boulders/wet and sticky coal.

Appendix-IV**Central Electricity Authority
Operation Monitoring Division****List of Thermal Power Stations having Wagon Tipplers without Side
Arm Charger/Beetle Charger**

S. No.	Name of Organisation	Name of TPS
1.	PSEB	Bathinda
2.	UPRVUNL	i. Obra ii. Panki
3.	MPPGCL	Satpura
4.	MAHAGENCO	i. Bhusawal ii. khaperkheda iii. Koradih iv. Nasik
5.	TNEB	Ennore
6.	DVC	i. Chandrapur ii. Durgapur
7.	WBDCL	i. Bandel ii. Kolaghat
8.	CESC	i. Titagarh ii. Southern Generating Station

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

ENGINEER (O&M: GENERATION)
ELECTRIC

Appendix

New Delhi, Dated 23-11-1995

TC-1/95/2000

General Manager
All Indian Railways

Sub: - Levy of demurrage charges on wagons/rakes
handled in a siding.

Rules governing the levy of demurrage on wagons detained beyond the permissible free time are contained in different books and manuals including the Indian Railway Commercial Manual (Volume-II). Free time for wagons of different types has also been prescribed from time to time both for individual wagons and rake loads of different formations in terms of number of wagons.

2. It has been observed that while the understanding and application of rules pertaining to levy of demurrage charges with regard to goods sheds including the railway sidings at stations are more or less uniform, there is variation in the interpretation and application of these rules in the case of sidings.

3. It is, therefore, considered necessary to issue guidelines with regard to charging of demurrage for wagons detained for loading and unloading beyond prescribed free time at sidings so that the practice is uniform on all the railways and does not lead to different interpretation of rules and procedures.

4. Free time for wagons/rakes would differ from siding to siding depending on the number of wagons on rakes, and groups of wagons for which different periods of free time are prescribed. The rake formations also differ from siding to siding depending mainly upon the permissible trailing loads on the sections on which the load is to move, and the loco power provided. For example, if a load is to move on graded sections, the train formation will have to suit the permissible trailing load for a single engine, a multiple unit or consists of a multiple of more than two engines. No omnibus instructions therefore with regard to train formations are necessary or practicable and each railway has to prescribe the train formations depending on the relevant factors.

time allowed would differ from siding to siding on the basis of capacity inside the siding and the facilities required to be provided.

There also appears to be confusion with demurrage charges vis-a-vis the holding wagons inside and the capacity of wagons, as they may be, over a period of 24 hours. The holding capacity of a siding, as also capacity to deal with wagons for loading/unloading both, in a cycle of 24 hours should not be related to levy of demurrage.

7. The following general guidelines should be followed for levy of demurrage in the sidings:-

(a) Demurrages should be levied on the basis of prescribed free time for loading/unloading plus the time permitted by the working railway at different sidings.

(b) Time and motion studies should invariably be conducted at the sidings to determine the additional time which is required, which should be added to the permissible free time in order to avoid confusion and disputes.

(c) In case of pilot-to-pilot system, demurrage should be levied on the basis of the pilot cycle, plus the minimum prescribed time for a rake of wagons.

(d) In case of sidings where levy of demurrage is on the basis of total detention, the demurrage should be levied on that basis irrespective of the time the wagons are placed or drawn out.

(e) Levy of demurrage should be related, at a siding, to the free time permissible for a rake or to the free time permissible for loading/unloading of siding to unload/load wagons in one place, whichever is higher. Free time for successive operations will be calculated accordingly, i.e. it will be calculated simultaneously with the free time for the placement.

8. There are a number of disputed cases of demurrage charges pending on the Zonal Railways. It is recommended that pending cases of disputes on demurrage charges should be settled in terms of guidelines contained in

9. All concerned staff must be suitably instructed.