

## Use IWT for Movement of Coal to Thermal Power Plants

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***Power  
Utilities,  
IWAI and  
private IWT  
operators need  
to jointly seize  
this opportunity  
in national  
interest***

**T**HE SUMMER of 2009 has been long drawn and intense with most parts of the country reeling under severe power cuts. Even the national capital Delhi was not spared! The stock of coal in several thermal power stations of NTPC became 'supercritical' at one point of time. The monthly coal statement of Thermal Power Stations issued by Central Electricity Authority (CEA) revealed that thirty out of seventy nine TPS in the country had critical coal stock of less than 7 days. Kahalgaon and Farakka had just one day of coal stock in June 2009. This points to serious production bottle necks in the coal fields as well as transport bottle necks in transportation network through Indian Railways.

While most of the existing Thermal Power Stations are sourcing their coal requirements

from domestic coal fields, in the last few years it has been seen that a large number of power plants are unable to operate at full plant load factor on account of shortage of coal or poor quality of domestic coal as they have high ash content. Eastern Coal Fields is unable to supply more than 10.5 million tonnes of coal to Farakka & Kahalgaon Super Thermal Power Station against their requirement of about 16 million tonnes per annum. Development of new coal fields in the country has also not kept pace with the growing power requirement of an economy developing at the rate of 9 percent per annum. This shortfall is being met / proposed to be met by imported coal from Indonesia, South Africa and other countries. The Power Ministry has reportedly decided that all Thermal Power Plants of NTPC must mix at least 5% of imported coal with

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domestic coal to improve their quality.

In such a situation it has become imperative that the country begins to seriously explore the possibility of using Inland Water Transport for movement of coal to existing as well as proposed new power plants. A 1620 km stretch of Ganga - Bhagirathi - Hooghly river system between Allahabad and Haldia connecting hinterland of Uttar Pradesh, Bihar, Jharkhand and West Bengal was declared National Waterway 1 by Government of India in the year 1986. Over the years, due to developmental activities undertaken by Inland Waterways Authority of India (IWAI), LAD (least available depth) of 2.5 m is being maintained between Haldia and Farakka (560 km) while LAD of 1.8 m to 2 m for 330 days was maintained between Farakka and Patna (460 kms). LAD of 1.5 m between Patna and Varanasi (363 km) and 1.2 m between Varanasi and Allahabad was maintained for nearly 270 days. IWAI expects to soon provide 2 m LAD upto Patna for 330 days and 2 m LAD upto Varanasi for about 300 days.

IWAI also regularly issues fortnightly 'river notices' for the entire stretch of NW 1. 24 hour night navigation facilities are in place upto Farakka and this is to be extended upto Varanasi by December 2009. A new DGPS station is being commissioned at Bhagalpur by August 2009 and once the proposed DGPS stations at Katwa, Patna and Varanasi are also commissioned by September, 2010, all navigational aids necessary for

safe navigation would be in place on NW 1.

At present there are ten thermal power plants which are located adjacent to or on the banks of National Waterway 1(Ganges). These are as under:

#	Name of Thermal Power Station (TPS)	Installed Capacity (MW)	Owned by
<b>West Bengal</b>			
1	Bandel TPS	535 MW	WBPDCL
2	Kolagahat TPS	1260MW	WBPDCL
3	Sagardighi TPS	600 MW	WBSEB
4	Budge Budge TPS	500 MW	CESC
5	New Cossipore TPS	130 MW	CESC
6	Southern Repl. TPS	130 MW	CESC
7	Farakka STPS	1600 MW	NTPC
<b>Bihar</b>			
8	Barauni TPS	310 MW	BSEB
9	Kahalgaon STPS	1840 MW	NTPC
10	Muzaffarpur TPS	220 MW	BSEB

In addition several more new power plants apart from capacity additions in existing power plants are expected to come up in the next few years. Details are as under:

#	Name of Thermal Power Station (TPS)	Proposed Capacity (MW)	Owned by
1	Kahalgaon II	500 MW	NTPC

2	Barh I	1980 MW	NTPC
3	Farakka III	500 MW	NTPC
4	Barh II	1320 MW	NTPC
5	Barauni TPS (Extension)	500 MW	BSEB
6	Muzaffarpur T P S (Extension)	250 MW	BSEB
7	C h a u s a (Buxar) TPS	1320 MW	BSEB
8	K a j r a (Lakhiserai) TPS	1320 MW	BSEB
9	Pirpanti (Bhagalpur) TPS	1320 MW	
	N a l a n d a P o w e r C o m p a n y Ltd.		
10	NTPC-UP JV (Meja) TPS	2640 MW	
11	B u d g e Budge TPS Extension , Unit 3	250 MW	CESC

While capacity additions of Farakka, Kahalgaon and Barh Super thermal Power Stations are already approved and part of the NTPC Corporate Plans upto the year 2017, for remaining projects applications for coal linkage are pending in the Ministry of Coal and these have received preliminary clearance of the concerned State Governments.

It must also be remembered that at present thermal power plants consume about 10,000 tonnes of Indian coal (6,000 tonnes of imported coal with lower ash content) per day for every 500 MW. A 60 wagon coal train can carry about 1500 tonnes of coal, which means about 7 trains per

day for every 500 MW. Hence, for Barh Super Thermal Power Plant alone nearly 25 trains per day will be required. Keeping in view the existing traffic load on the Main Line of Indian Railways passing through Bihar, it appears well nigh impossible for Railways to be able to run so many coal trains every day on this route.

In the aforesaid scenario, there is urgent need to develop an efficient 'multi-modal transport system' to fully meet the growing requirement of coal in the Thermal power plants either located or that are proposed to be set up in West Bengal, Bihar and Uttar Pradesh and inland water transport has to be an integral part of multi-modal logistics solution.

Further, it is seen that coal blocks in Rajmahal coal fields in Jharkhand have been allotted to Punjab State Electricity Board, WBPDC, Joint Venture of NTPC and CIL, DVC, JSEB, BSMDCL, CESC Ltd., Jas Infrastructure Capital Private Ltd. for use in the power utilities being set up by them. Since Rajmahal is located close to NW 1, it offers scope for movement of coal as bulk cargo through NW 1 as part of a multi-modal logistics solution to present evacuation problems as reliance

on rail / road network alone may not suffice.

It is apparent that there is tremendous scope to move coal through inland water transport on NW 1. IWAI has signed a Memorandum of Understanding (MoU) with NTPC for supply of 2-3 million tonnes of imported coal per annum for its Farakka, Kahalgaon and Barh Super thermal Power Stations from Haldia in September 2008. There is need to quickly operationalize the said project on 'top priority' as its success will open the gates for significant movement of coal on NW1. Keeping in view the demand for coal, it may be safely concluded that between 5 – 10 million tonnes of coal can be moved through IWT on National Waterway 1. This movement, to begin with, can commence from Haldia to Farakka but will need to be extended to Kahalgaon and Barh within next two years. There is scope for movement of coal right upto Varanasi if not upto Allahabad.

Likewise, fly ash can be a very important cargo for the barges on their return journey to Haldia as there is a large demand for fly ash in cement factories of Bangladesh. This can be in the

region of 2.5 to 5 million tonnes per annum.

To promote movement of coal through IWT, Government may consider providing a subsidy on movement of coal cargo through IWT for Power Plants on the pattern of Marco Polo Programme operational in the European Union where a subsidy of two Euro per 500 tonne km is provided for modal shift from road – rail to IWT. In the Indian scenario, a subsidy of say Rs.0.50 per tonne per km may work as a good incentive for all power plants, whether owned by Central Power Utilities, State Utilities or Private sector, to switch over to IWT for meeting their coal requirement at least partially.

If India is to resume its journey on the 'growth path' of 9% per annum then it can ill-afford a situation where coal based thermal power generation is constrained due to shortage of coal supply. Power Utilities, IWAI and private IWT operators need to jointly seize this opportunity in national interest. □

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