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GOVERNMENT OF INDIA

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Report on

Interactive Session on National Mission for Enhanced Energy Efficiency

4 February 2011: Kolkata

Introduction

The confederation of Indian Industry in partnership with Bureau of Energy Efficiency and Ministry of Power organized national level PAT Consultation workshops at New Delhi, Kolkata & Bangalore.

Government of India has launched National Mission on Enhanced Energy Efficiency (NMEEE) which is one of the eight missions planned under the National Action Plan on Climate Change. One of the initiatives under NMEEE is the development of a market based mechanism to drive delivery of additional energy savings on a cost effective basis. Following on from this, the Ministry of Power (MoP) has outlined a proposed "Perform, Achieve and Trade (PAT)" scheme. The scheme will mandate energy efficiency targets for large energy consuming industrial units in the country which are notified as Designated Consumers under the Energy Conservation Act of 2001.

The MoP has notified 563 Designated Consumers (DCs) in eight industrial sectors thermal power plants, fertilizer, cement, pulp and paper, textiles, chlor-alkali, iron and steel and aluminium. DCs have to comply with the energy conservation norms and prescribed standards as per the EC Act 2001 and need to furnish the reports on their respective total energy consumptions and Specific Energy Consumption (SEC) based on Gate to Gate concept. The mechanism will further call for a setting up of baseline for individual target for saving at plant level and the issuance of Energy Saving Certificates (ESCerts) which will be traded over the counter as well in the energy exchanges and in the event case of default or non-compliance will attract a heavy penalty. He also mentioned that the energy efficiency improvement targets would be unit-specific; this means that each DC would be required to reduce its SEC by a fixed percentage, based on its current SEC (or baseline SEC).

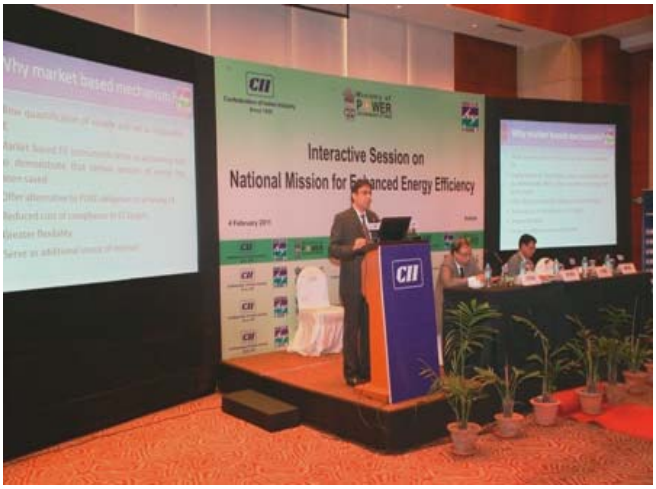
BEE is designated as the overall regulator and dispute resolution agency and Energy Efficiency Service Ltd. (EESL) as the process manager in this entire mechanism. The scheme aims to provide incentives to industry to achieve better energy efficiency, beyond the specific energy consumption (SEC) stipulated for each DC. The first cycle of PAT which is going to be started from April 2011 aims to cover eight industrial sectors to achieve higher energy efficiency in a span of three years. The subsequent PAT cycle will include more sectors in addition to these eight. It sets in place a monitoring and verification mechanism for the SEC (including auditing by an accredited verification agency), and the processes for issuing and trading in ESCerts as well as the use of ESCerts across sectors and their synergy with renewable energy certificates.

With the objective of creating awareness for the NMEEE and PAT mechanism, the Ministry of Power and the Bureau of Energy Efficiency in partnership with Confederation of Indian Industry conducted an Interactive Session in Kolkata on 4 February 2011 for the Eastern Region to deliberate and discuss an overview of NMEEE and the PAT methodology.

Following were the excerpts from the Interactive Session:

Mr. Kapil Mohan, Deputy Director General of BEE & Joint Secretary, Ministry of Power, **Mr. Malay Kumar De**, Principal Secretary, Department of Power & NES, Government of West Bengal & Chairman & Managing Director, West Bengal State Electricity Distribution Company Ltd., **Mr S Karthikeyan**, Senior Counsellor, CII-Sohrabji Godrej Green Business Centre, **Mr. Sandipan Chakravortty**, Past Chairman CII Eastern Region & Managing Director, Tata Steel Processing & Distribution Limited and **Dr. Saugat Mukherjee**, Regional Director, CII, Eastern Region were the eminent speakers at the opening session.

Delivering the key note address, **Mr. Kapil Mohan**, Deputy Director General of BEE & Joint Secretary, Ministry of Power discussed that NMEEE has many components and the mission has very specific goals. One of the major components is PAT and we reserve our rights to see that we have equal and differentiated responsibilities as far as commercial interests are concerned and take a voluntary approach to improve our energy efficiency. India is not the worst but also not in the category of the best too in energy efficiency. We can compare ourselves with China but not with Japan or US. We have chosen an approach to have specific targets for large consumers of the country. Any saving we do is bound to show in the bottom line of our mission. We want to take views of our stakeholders to get the best results for the program.



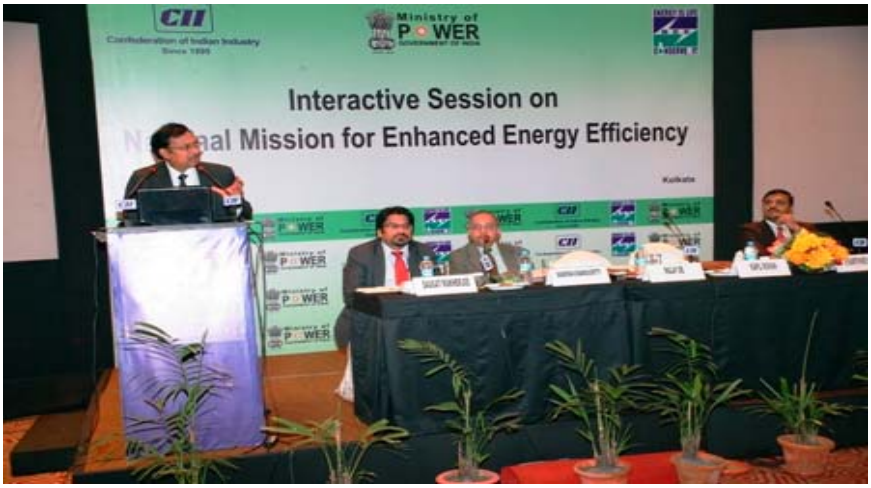
The motive of PAT is for the intent and the functioning is to be understood. The first cycle has been made and it sets the foundation of the scheme to go on. Kolkata is the birth place CII and the State Government has a big role to play in energy efficiency. Mr. Mohan also debated the creation of a demand which would be conducive for Energy Efficient (EE) products. BEE is trying to take risks in fiscal and monetary sectors for greater benefits. ICT and improved automation is going to play a key role in the entire value chain.

The PAT scheme aims to provide incentives to achieve better energy efficiency, beyond the specific energy consumption (SEC) stipulated for each Designated Consumers (DC). The first cycle of PAT which is going to start from April 2011 aims to cover eight industrial sectors to achieve higher energy efficiency in a span of three years. The subsequent PAT cycle will include more sectors in addition to these eight, he added.

In his address at the inaugural session, **Shri Mr. Malay Kumar De**, Principal Secretary, Department of Power & NES, Government of West Bengal & Chairman & Managing Director, West Bengal State Electricity Distribution Company Ltd. said that we are going through a severe power shortage and global warming and we need to address the growing energy efficiency as the growing economy of India which is at 8% to 9% is bound to demand. Mr. Dey stressed on the factors affecting the Energy Efficiency in India like climate change, increased global pressure on the country due to increased carbon emission in the future, natural resource crunch unless alternative energy like Shale Gas etc. is commercially successful.

“We have a lot of challenges and if the design NMEEE if implemented properly, we will be successful in chasing our target. It is a matter of concern that post 2012 whether there will be a carbon trading

market. Any initiative from the part of the Govt. of India towards enhanced Energy Efficiency programmes will be welcome", he added.



In his presentation on Industry Perspective on PAT scheme, **Mr S Karthikeyan**, Senior Counsellor, CII-Sohrabji Godrej Green Business Centre discussed about Excellence in Energy Efficiency, Target setting of PAT scheme, Approach for Efficiency improvement, barriers and opportunities and technology and cost economics vividly. He said that while various initiatives have been taken by BEE and there is an energy boom in the country, we still have to change mindsets and think of suitable approach of putting PAT into optimum use. The target for Energy Consumption reduction is almost unit specific and the National level target is 10mMToe. Excellent energy efficiency unit can be improved through technology upgradation and PAT is very good for making projects attractive. Some of the typical barriers are 1) Availability of raw material fuel & product mix 2) Awareness 3) Technology availability & Cost economics 4) Investment priority Eg: Capacity expansion Vs Energy efficiency and 5) Sector specific Policy issues.

Giving an example of a conventional sector, **Mr S Karthikeyan** said that in the Cement Sector many units have significantly reduced specific electrical energy consumption but majority of units have not focused on thermal energy consumption. In order to maximize the benefits of PAT, the industry should have a changed mind set coupled with will power and perseverance and put optimum effort and action to convert the barriers into opportunities to achieve Excellence in Energy Efficiency.

Delivering the welcome note, **Mr. Sandipan Chakravortty**, Past Chairman CII Eastern Region & Managing Director, Tata Steel Processing & Distribution Limited said, "The launch of National Mission for Enhanced Energy Efficiency (NMEEE) under the National Action Plan on Climate Change (NAPCC), the Perform Achieve and Trade (PAT) mechanism will become an important investment in building a sustainable economy in India. The PAT Energy Saving certificates (ES-Certs) scheme could well usher in host of opportunities for energy –intensive manufacturing industries in Indian to be efficient and globally competitive."

"CII is actively engaged in various activities under the National Mission for Enhanced Energy Efficiency (NMEEE) and offers advisory services to the industry on environmental aspects and actively works in the area of Green Buildings, Energy Efficiency, Water Management, Renewable Energy, Green Business Incubation and Climate Change," he added.

Delivering the vote of thanks, Dr. Saugat Mukherjee, Regional Director, CII, Eastern Region said, "We believe that the difficulties in implementation will not dissuade the government and business from working together to find creative solutions as well as learning lessons from existing trading programs in other countries making energy efficiency a new direction for India's industry."

PROGRAMME

0930 – 1030 Hrs:	**Registration**

1030 – 1145 Hrs	**INAUGURAL SESSION**	
1030 – 1035 Hrs	*Invocation & Lighting of lamp*	
1035 – 1040 Hrs	Welcome Remarks	**Mr. Sandipan Chakravortty** Past Chairman CII Eastern Region & Managing Director, Tata Steel Processing & Distribution Limited
1040 – 1050 Hrs	Opening Remarks	**Mr Kapil Mohan** Deputy Director General Bureau of Energy Efficiency
1050 – 1105 Hrs	Presentation on Industry Perspective on PAT	**Mr S Karthikeyan** Senior Counsellor CII-Sohrabji Godrej Green Business Centre
1105 – 1115 Hrs	Address	**Mr Malay Kumar De** Principal Secretary Departm,ent of Power Government of West Bengal
1115 – 1125 Hrs	Address	**Dr G D Gautama** Additional Chief Secretary Government of West Bengal
1125 – 1130 Hrs	Concluding Remarks	**Dr. Saugat Mukherjee** Regional Director, CII Eastern Region

1130 – 1200 Hrs	Tea / Coffee Break

1200 – 1330 Hrs :	**Technical Session**	
1200 – 1215 Hrs	***Presentation on Overview of National Mission on Enhanced Energy Efficiency***	**Mr Kapil Mohan**
1215 – 1230 Hrs	***Presentation on PAT Methodology***	**Mr. S P Garnaik**, EE, BEE
1230 – 1245 Hrs	***Presentation on Designated Consumers***	**Mr. Saurav Diddi**, EE, BEE
1245 – 1325 Hrs	Interactions over the PAT consulation Document	
1325 – 1330 Hrs	Summing up & Concluding Remarks	**Mr Kapil Mohan**

1330 Hrs	Lunch & Conclusion

Interactions

Type- General

Question : Mr. Biplab Kar, CESC Limited
Who will issue ECerts – is it BEE or State designated authorities
What is the philosophy behind allowing banking of ECerts for 1 year

Answer by: Mr. Kapil Mohan
ECerts would be issued by BEE.
ECert banking would be permitted for 1st cycle not 1 year. The idea is that some of the companies may have energy efficiency achievement period – investment & payback period – which may extend to 3 year. Second, this will also give them confidence to accelerate energy efficiency drive and motivate them to target for more and knowing fully well that these achievements can be banked.

Q : Mr. Suryakant Pati, OCL India Limited

- **Star rating has not been applied to cached A/Cs. Also induction motors donot have star rating. My suggestion is that both Cached A/Cs and Induction motors should have star rating.**
- **My query is that BEE has formulated EESL – Energy Efficiency Services who would be doing energy audits on behalf of BEE. In that case we would not be required to appoint a DENA now.**
- **2nd question : Distribution companies are the major losers in terms of AT&C losses, in Orissa it is around 35-37% - can a similar thrust be given to reduce the distribution losses ?**

A : Mr. Kapil Mohan
As per labeling is concerned, we have picked up few products as of now, such products whose numbers are very large. We are expanding and your suggestion we would take into consideration.

About your query, yes, we are going to conduct energy audit of DCs from next fortnight onwards, which would be completed in next 6-7 months. Various agencies have been appointed, including CII. For the first one, you need not appoint any auditor as of now. But DENA is a different thing. Energy Auditor would only assess the potential of your unit, but DENA is a legal requirement which you will have to appoint when it is due.
For the Distribution sector, there is a very large program of Government of India – the R-APDRP which talks about reducing AT&C losses from 30% to 15% - which is a distribution efficiency program. There is however no trading component, but a very robust and reliable system has been created for tracking the losses which should be completed in 16-18 months. Thereafter, we would think of including distribution into this scheme.

Q : If target is set by CERC and BEE, will there be double penalization ?

A: There is absolute synchronization between targets set by BEE and CERC.

Q : Mr. P Chattopadhyay, COO, Tata Sponge
How to keep the system free from corruption when we put this into practice.

A: Kapil Mohan

PAT Net takes away asymmetries in the information system – this will be available to all DCs. You can chose your own DENA. Making the system more automated would help – PAT Net is the solution.

Q : Mr. N K Ghosh, DGM, Nagaon Paper Mill
Since you are in the target setting process, can some correction measures be taken up in the later stage as and when some environmental obligations would come in?

A: Mr. Kapil Mohan
Those factors which are out of your control would be accounted for.

Q: Mr. Ashwani Mittal, Manager (Power Plant) BALCO
What would be the pricing criteria for ECerts ?
With fluctuations in raw material, capacity utilization also fluctuates, will this be accounted for?

A: Mr. Diddi
ECert pricing would be market driven and dynamic

Mr. Mohan : we take capacity utilization diversity factor into account. We would take all the factors into account.

Q : Saunak Saha, E&Y
Pricing of ECerts – can we have a indicative price?
Since ECerts are going to be bankable commodity, what are the regulatory control BEE is going to take in terms of putting a cap or what is the quantity that can be banked.

A: Mr. Mohan
Indicative price is “oil equivalent”
As for banking limits, you have a point there but we should have a right to be a market maker in terms of buying some certificates from the market etc. yes, we have noted your point and we would design this.

Q : Mr. Rupak Nath, DVC
Our APC/SUC etc are fixed by CERC, but when energy audit is done, is it mandatory for CERC to obey the APC or SUC ?

A : Mr. Mohan
Our target setting is done with CERC and we assure that we would be in sync.

Q: Mr. P Bose, GM (Opn) Kolaghat TPS
We understand there would be ECert calculation on mtoe and Kgoe. But how are you going to compare Ecerts in Mtoe and Kgoe ?

A : Mr. Diddi : We would select only one – either Kgoe or Mtoe.

Type- Power Plants

Q: Mr. Dibakar Behera, Energy Manager, IMFA
In case of IPP and CPP, target setting for both may not be feasible as IPP has different philosophy of operation and CPP has different philosophy of operation. Are you treating them separately.
For Auditors – are you fixing standard fees?

A : Mr. Garnaik
In case of CPP & IPP, CPP is not considered as a separate case. Very few cases, particularly in aluminum sector, where generation is very high are considered as separate case. Cases of CPP with 10-30 MW comes under the same plant boundary. There is no separate norm for CPP as such.

Mr. Diddi : Regarding environment, only those factors which are under your control, would be considered, those not in control there would be correction.

DENA will be organizations not a single person.

Q: I am talking of very old units- due to age the hit rate increases abnormally, auxiliary consumption increase because generation out of it is lower. But that is not considered by regulatory commission. Under such situations, it is tough to meet targets.

A: Mr. Asthana : May be, the scheme design has a hidden signal (laughs)
Mr. Mohan: Our policy is by design, not by accident.

Q: Mr. Rajkumar Singhania, Jindal Power Limited
Our plant is now running under an average specific energy consumption of 2300 ton and our range is 2300-3400 Kcal/Kwh, and our unit design is 2248. My question is that if the specific energy consumption goes below 2300, would we get ECerts.
2nd question : what would be the qualification for the designated energy auditors.
3rd: if we add renewable energy, it will reduce the specific energy consumption, so can we claim ECerts for this saving ?

A : Mr. Kapil Mohan
You get ECerts for the energy saving efforts you make, this answers your first question. You don't get ECerts for being where you are.

The 2nd issue is with regards to new plants. New plants may not be able to achieve the design hit rate, which is fair enough. This scheme is being applied for the existing ones, new plants would be considered in the next PAT Cycle.

Mr. Garnaik answered the question of Auditors. As for the thermal power plants and fertilizer sector, the target setting would be as per the regulatory commissions' recommendation. There would be a separate methodology for thermal power plants, which is described in the PAT consultation document. Deviation from the designed hit rate and operating hit rate would decide the target. The best operating plant would have a very less target.

About energy auditors, every industry has to do mandatory audit by a accredited energy auditor within 18 months of first notification. First notification is yet to come, accreditation is in process. The first list of accredited auditors would be released by April. This should not be mixed with PAT mechanism, whether PAT is there or not, audit is required.

Kapil Mohan – Renewable energy is a part of SEC

Type- Iron and steel

Q : Abhijit Basak, Tata Metaliks
We have a blast furnace for making hot metal using coke. Basically we have a captive power plant – will that be considered for setting the baseline ?

A: AK Asthana : you are generating power which is captive from the blast furnace. When we are considering gate-to-get, it is a product from the fuel gases – it is from the coke and coal is considered as a energy. So, if you consider gate-to-gate energy consumption, it will be considered for reducing the baseline.

Type- Cement

Q : Mahendra Chowdhury, Lafarge India Limited
As per the environmental requirements, energy emission has to be reduced. Accordingly, industry is converting ASPs into bad filters and thereby energy consumption goes up – that is 2-3 units per ton of cement. This will not come into base line but how the base line will be modified subsequently ?

2nd question is about products. There are sometimes changes in the standards. E.g., BIS might introduce some higher standards and in that case cement has to be ground finer. In such case, energy consumption goes up. How that would be taken care of once the base line is fixed ?

A : Garnaik : I would answer the 2nd part. Yes, in cement there are 3 types of products – OPC, PPC, PSC. We are taking into account the conversion factor. We are taking a yearly weighted average. This is called as correction factor. We are in consultation with NCCBM, they are in the process of developing this correction factor.

Mr. Chowdhury : the question is not about OPC/PPC. For example, within PPC itself, there can be 3 grades. How it is going to be accommodated

ANNEXURE 1

LIST OF PARTICIPANTS

Sl. No.	Name	Designation	Company
1	Mr. Sunil Mahajan	Vice President (Sonadih Cement Plant)	Lafarge India (P) Ltd.
2	Mr. C R Das	General Manager - Engineering	Kesoram Rayon
3	Mr. Subir Kumar Dasgupta	Vice Chairman (Technical)	Development Consultants Private Limited
4	Mr. Dibyojyoti Ghosh	Chief Executive Officer	Shriprop Infrastructure Pvt. Limited
5	Mr. Nabin Anand Sen	ssociate Professor (Env. Mgt.)	Dept. of Business Management
6	Mr. Smarajit Banerjee	General Manager (Power & Energy)	ISP - SAIL
7	Mr. Anil Kumar Mishra	DGM (Power Engg)	ISP - SAIL
8	Mr. Amit Paul	Asst VP - Energy	BOC India Ltd
9	Mr. Sawvik Sarkar	Engineering Officer - Rourkela	BOC India Ltd
10	Sri Suryakanta Pati	Sr. Manager (Electrical)	OCL India Limited
11	Sri Bikash Dhabal	Dy. Manager (Electrical)	OCL India Limited
12	Mr. Rajkumar Singhania	Deputy Manager	Jindal Power Limited
13	Mr. B L Banka	Propreiter	BFS ANCILLARY CORPORATION
14	Mr. Naveen Surana	Director	Holoflex Limited
15	Mr. Ajit Surana	Director	Holoflex Limited
16	Mr. Malay Kumar Jena	Manager	Action Ispat & Power Limited
17	Mr. Pramode Mahapatra	AGM (E&I)	Visa Steel Limited
18	Mr Sanjay Kumar	Chief Manager	Tata Power
19	Mr Ashok Lodh	Chief Manager	Tata Power
20	Mr. Awdhesh Tiwari	General Manager	Topworth Steels & Power Pvt Limited
21	Mr. Satyajit Kar	Sr. Mechanical Manager	Ballavpur Paper Mfg. Ltd
22	Mr. Manas Bose	Manager/Electrical	Ballavpur Paper Mfg. Ltd
23	Mr. Suresh Thawani	Managing Director	Tata Sponge Iron Limited
24	Mr. P Chattopadhyay	Chief Operating Officer (Sponge Business)	Tata Sponge Iron Limited
25	Mr. Himanshu Mishra	Manager - Energy & Env	ACC Limited
26	Mr.B.R.D.Agarwal	Sr.G.M.(Utility)	Emami Paper Mills Ltd
27	Mr. Vipul Agarwal	Director	Dynamic Solar Products (P) Ltd.
28	Mr.B.C.Ghosh	DGM	JSL Stainless Limited
29	Mr. S R Nayak	DGM	JSL Stainless Limited
30	Mr. Kiran K Manthena	Manager	JSL Stainless Limited
31	Mr. Abir Ranjan Pal	Energy Management	Tata Metaliks
32	Mr. N K Ghosh	Dy General Manager (Engg)	Nagaon Paper Mill
33	Mr. S Roy	Senior Manager (Electrical)	Cachar Paper Mill
34	Mr. D N Yadav	Superintending Engineer (M)	Damodar Valley Corporation
35	Mr. Soju Somnathan	AGM (Fabrication)	Bharat Aluminum Co. Limited (BALCO)
36	Mr. Sudeep Chandel	Manager (Rectifier & Utility)	Bharat Aluminum Co. Limited (BALCO)
37	Mr. Ashwani Mittal	Manager (Power Plant)	Bharat Aluminum Co. Limited (BALCO)

38	Mr. Manas Panda	Manager (Power Plant)	Bharat Aluminum Co. Limited (BALCO)
39	Mr. Ravindra Muthigi	Head (Learning & Development)	Bharat Aluminum Co. Limited (BALCO)
40	Mr. Rupak Kumar Nag	Dy Chief Engineer	Damodar Valley Corporation
41	Mr. Dibakar Behera	Energy Manager	Indian Metal and Ferro Alloys Ltd.
42	Mr. Biplab Kar	Senior Manager (Tech Services)	CESC Limited
43	Mr. Saunak Saha	Manager	Ernst & Young Private Ltd
44	Mr. Ajeya Bandyopadhyay	Manager, Climate Change & Sustainibility Services	Ernst & Young Private Ltd
45	Ms. Amrita Ganguly	Senior Consultant	Energy Auditor
46	Mr. R K Khamparia	DGM-Optimisation	Lafarge India (P) Ltd.
47	Mr. Avadhesh Kumar Verma	Asst Manager (Furnace Maint, Electrical)	Usha Martin Limited
48	Ms. Priyanka Saraf	Manager	CESC Limited
49	Mr. Partha Pratim Bhattacharjee	DGM-Projects	Exide Industries Ltd
50	Mr. Nilanjan Chakraborty	Energy Auditor	Energy Auditor for Govt of West Bengal
51	Mr. S Siddhantha	CGM (O&M), Corporate Office	West Bengal Power Development Corporation
52	Mr. M Maji	DGM (TMTCE) Corporate Office	Sagardighi TPS
53	Mr. P Sinha Chowdhury	DGM (Opn)	Bandel TPS
54	Mr. P Bose	DGM (Op)	Kolaghat TPS
55	Pulok Roy	DGM (TMTCE)	Bakreshwar TPS
56	Mr. Benoy Sen	Superintending Engineer (M)	West Bengal State Electricity Distribution Co Ltd
57	Mr. Amarnath Bagchi	Regional Manager	Laffans Petrochemicals Limited
58	Mr. Ashish Kumar Chatterjee	AGM	Durgapur Steel Plant
60	Mr. M K Chaudhury	Sr V P - Manufacturing	Lafarge India (P) Ltd.
62	Mr. Prabir Kumar Laha	Sr Manager (Engg Services)	Phoenix Yule (P) Limited
64	Mr. Christabelle Noronha	Chief - Group Corporate Affairs	Tata Sons Limited

ANNEXURE 2

ADVERTISMENT