

# URJA HI WAY

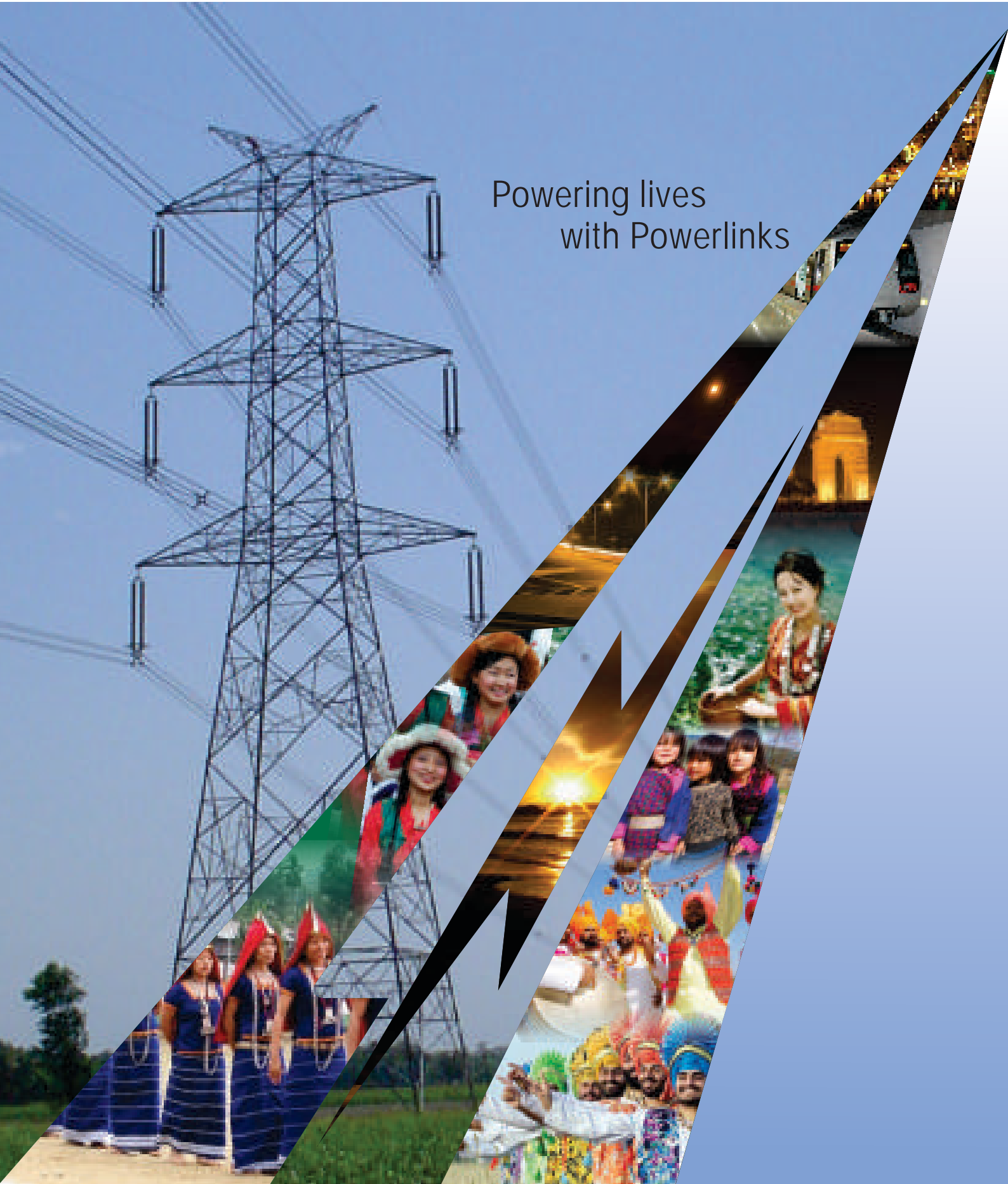


A Newsletter of Powerlinks Transmission Ltd.

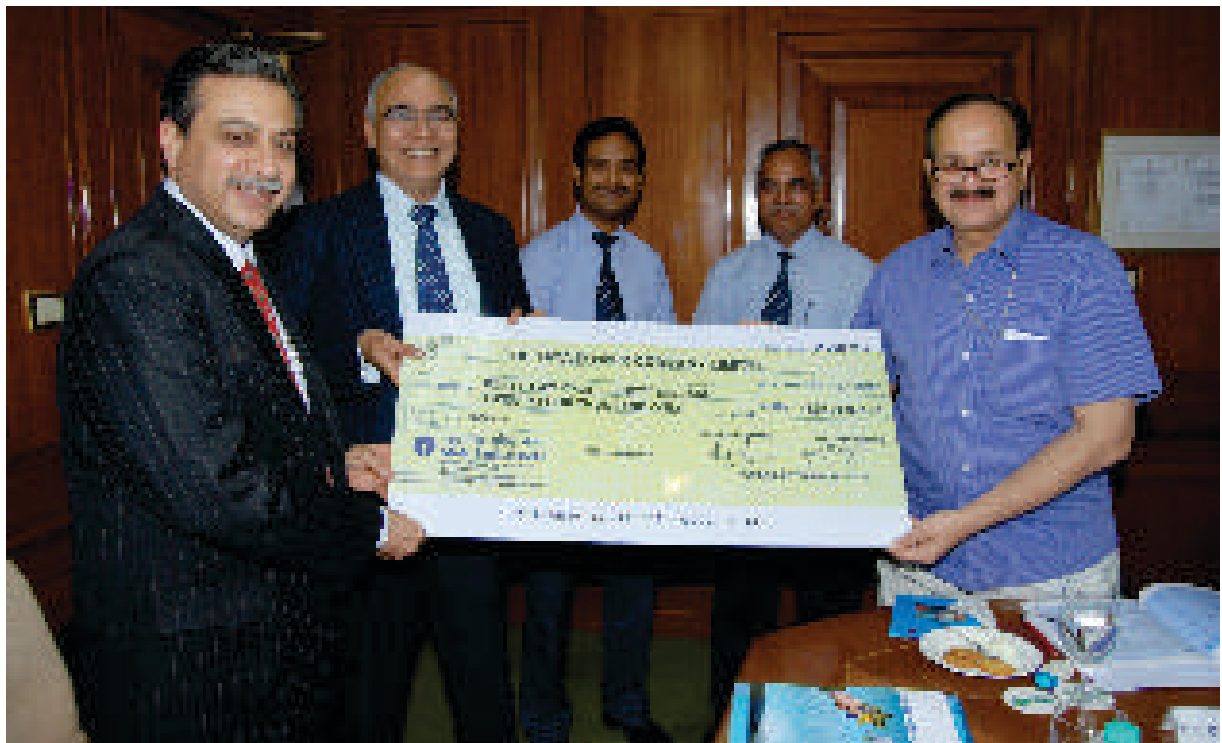
Issue XX

April-June 2010

Powering lives  
with Powerlinks



## Annual General Meeting June 23, 2010, New Delhi



Mr S.K Chaturvedi, Chairman, handing over dividend cheque to Mr Banmali Agarwala & Mr S Padmanabhan, Directors of The Tata Power Company Ltd.



Mr S.K Chaturvedi, Chairman, handing over dividend cheque to Mr I.S. Jha, Director, & Mr H.L. Tayal, Executive Director, of POWERGRID.

## From the ED & CEO's Desk:

Dear Friends,

I am very glad to inform you that our company has achieved a turnover of Rs. 313.96 crores, and profit after tax of Rs. 108.08 crores during the financial year 2009-2010. The company has distributed an all-time high dividend of 18% to its shareholders.

I congratulate the entire team of Powerlinks for this excellent performance. I do hope that all of you will strive further to improve our performance in the years to come.

This is perhaps the last issue of Urja Hiway when I shall be interacting with you through this column. I am relinquishing the post of ED & CEO with effect from 31<sup>st</sup> August, 2010.

I take this opportunity to thank each one of you for the excellent support and cooperation I have received. I will truly cherish these memories of my association with Powerlinks since its inception. It has been a remarkable achievement for this new company to set its mark in the transmission sector of the country. Indeed, the success of our company has paved the way for many more players in the private sector to venture into the transmission business.

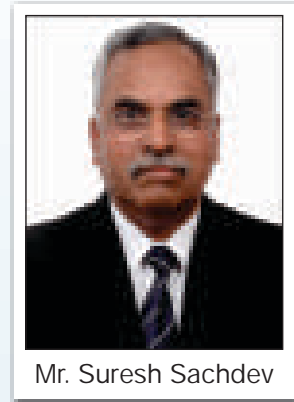
After working for more than 30 years in the public sector, it was altogether a new experience for me to join a private company. I have learned a lot from Powerlinks. Though physically I may not be working from the Powerlinks office, my heart will always be here, with this company.

I am happy to say that I have nurtured this organization as one nurtures his own child. Right from its inception, way back in September 2003, I have seen all the phases of its growth, from award to construction & from commissioning to operations and maintenance, in the last seven years. This company has really made a mark in my life!

I wish our employees all the best for their future and hope that one day Powerlinks becomes the shining star of the transmission sector!

Warm wishes,

Suresh Sachdev



## Letter from the Editor:

Dear Friends,

With the monsoon upon us, most of us are happy that the weather will get better & cooler, that our farmers will be happy, and that hopefully the sky-rocketing prices of everything will get lower, making our lives & our budgets easier.

I have some wonderful memories that take me back to my childhood and even early adulthood, which I will carry with me always. I'm sometimes sad that the kids of today may not have such happy memories, their world being so different from the one we lived in. Maybe theirs are better – I don't really know.

We invite readers to share with us what they associate with the monsoon – memories, events or photographs, or all of them. We'll be happy to print the most interesting entries!

Rita Luther  
Editor

## Making your Acquaintance

Ms. Neelam Mishra – Manager, Accounts



- Q1. How long have you been in Powerlinks and what are your feelings towards the organization?  
I have been associated with Powerlinks since its inception, i.e., September 2003. I find myself attached to the organization; it's like family for me. I am highly impressed with its work culture, transparency in policies and integrity of its people.
- Q2. What are the challenges one faces in the accounts department of such an organization?  
Setting up the ERP system for Financial Management of Project Accounting and ensuring that every one adhered to it was a challenge which has been successfully implemented, and is working well in the organization. We have a dedicated team of professionals that works towards achieving goals set by our management.
- Q3. What are the achievements you have experienced and how have they helped you to grow as a professional?  
The Finance and Accounts team have gained experience and expertise in Project Accounting in an ERP environment. Since the organization is relatively new, there have always been immense opportunities for continual learning and growth. This would not have been possible without the support and guidance of our seniors. Our management has always been very supportive & encouraging.
- Q4. Do you feel it is tough for a woman in India to balance home and career? If so, why? Please suggest ways that can make this balancing act easier for women.  
Women in India today are leading the way in every profession, apart from excelling in household responsibilities. There is no doubt that it is very tough to co-ordinate and balance home and career. In my view women, though considered physically weak, are much stronger in coordinating the dual responsibilities and balancing home and career.
- Q5. Tell us something about yourself – family life, likes & dislikes...  
I am a fun-loving person who believes in enjoying and living every moment of life to its fullest. I like travelling, dancing and swimming. I set my own goals and dedicatedly inspire myself to achieve them. I like my friendly & positive attitude and ability to help others. I am always open to learning new things in life and accept life's challenges.
- Q6. What is the most important piece of advice you would give your child, or any child, to succeed in today's world?  
My advice to children is that there is no short cut to success. Hard work and a positive attitude towards life is the 'Success Mantra'. Being over-ambitious will ruin instead of creating a child's future.

## Key Events & Information

### Financial Highlights - 2009-2010

The company's ninth Annual General Meeting was held on 23rd June 2010 at the Powergrid office, Katwaria Sarai, New Delhi – 110016.

Income for the financial year 2009-2010 was Rs.313.97 crores as compared to the previous year's income of Rs.268.89 crores, registering a growth of 16.76%. The profit before tax was Rs.130.22 crores as compared to the previous year's figure of Rs.86.29 crores. The profit after tax was Rs.108.09 crores as compared to previous year's figure of Rs.65.34 crores.

The company has declared a dividend of 18% amounting to Rs.84.24 crores for the financial year 2009-2010, as compared to 10% (amounting to Rs.46.80 crores), declared for the financial year 2008-2009.

### Project Management Consultancy for Jaigad Power Transco Ltd.

#### Package-B (Jaigad-New Koyna)

- The line construction work was completed in all respects.
- Circuit-I was successfully test charged on 6<sup>th</sup> April, 2010.
- The test charge of Circuit-II completed on 7th July, 2010.

#### Package-A (Jaigad-Karad)

- Foundations completed - 245\* nos. (82%)
- Tower erections completed - 137\* nos. (46%)
- Stringing completed - 8.958\* km (8%)
- Project is likely to be completed by March, 2011 in view of non-availability of statutory clearances (Forest clearance and Aviation clearance).



Jumpering done at 26/0 (Pkg-B)



Stringing under progress at 41/0 – 42/0 (Railway X-ing) (Pkg-B)



Tower Erection at 98/1 (Pkg-A)



Loc. 14/0 (Special Tower) (Pkg-A)

## Powerlinks' experience with deployment of Emergency Restoration System on the Siliguri-Purnea Line

by C.B.Samanta, GM (P&O), Siliguri

Long distance power transmission lines are constructed and used to evacuate bulk quantity of power from generating stations to load centres. The availability of these transmission lines is extremely essential as outage will result in idling of generating station on one hand, leading to huge financial loss, and on the other hand customers will suffer at the load centre. Hence, it is obvious that long outages of EHV lines cannot be afforded, particularly those which have a direct role in the power evacuation of a large generating station.

Keeping in mind the above, POWERLINKS procured two sets of emergency restoration systems (ERS) for temporary restoration of the lines and strategically stored one each at Siliguri & Lucknow stores. However, until recently they had not been put to use as there was no requirement for them.

There was a huge tornado concentrated in a narrow corridor in the area between Dalkhola and Purnea on the intervening night of 13<sup>th</sup> and 14<sup>th</sup> April 2010. The centre of the corridor had passed through a place called Baisi in district Purnea, Bihar. Our 400 KV D/C (Quad) Siliguri-Purnea line passes through this area and unfortunately the axis of our line was almost perpendicular to the axis of the tornado. At 23.39 hours on 13.04.2010, four towers of our Siliguri-Purnea Line had collapsed because of this tornado, resulting in outage of both the circuits. Simultaneously, a few of the towers of EHV lines owned by POWERGRID in the cyclone affected area had also collapsed, thereby adversely affecting the evacuation of power from TALA HEP and Teesta HEP. As a result, the combined generation capacity of around 1700 MW had become redundant as there was no evacuation path available.

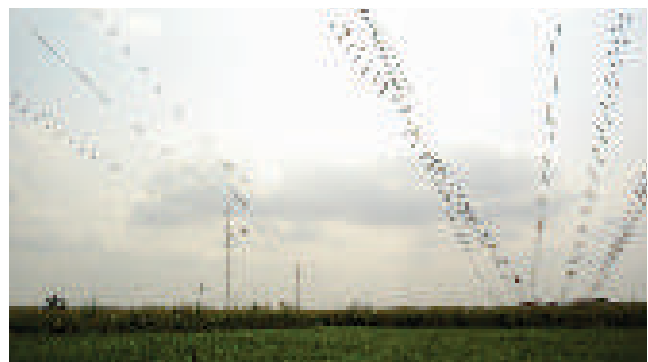
From the moment the tower failure message was received by POWERLINKS till final restoration of both circuits, various activities/events included patrolling of line to detect the actual place of the failure, thorough examination of site to assess the cause & extent of damages, decision to deploy ERS for restoration of 1<sup>st</sup> circuit, survey for ERS, preparation of the list of required materials, loading & dispatch of ERS to site, unloading & transfer of ERS material to affected tower locations, erection of structures, freeing the entangled conductors at suspension towers, stringing of twin moose conductors, jumpering, removal of all men & material from the line, checking insulation of line through HV megger and issuance of clearance for charging of the line to ERLDC.

Special care had been taken to ensure logistics such as food & water availability, etc., during the temporary restoration of the lines. The entire working area was 1.785 km. long and a separate team was entrusted with the work of ensuring basic needs including first aid.

The restoration of 400KV double circuit line with twin moose conductor within a period of five days (first circuit) and nine days (second circuit), is no doubt a remarkable job done. This has been made possible by the tireless effort and exemplary dedication of our boys and all the workers involved in the restoration work.



Tower Failures



ERS Deployment

## Exposure to Electric and Magnetic Fields - A Synopsis

*P. K. Pal, GM (P & O), Lucknow*

Often we encounter queries of people living in the vicinity of transmission lines. Most of the queries arise because of our ignorance of the behaviour of unseen electric and magnetic fields. The queries and the preformed answers in their minds are more psychological than actual. Some of the common queries are as under:

- I feel the vibration of my body hair when I cross the EHV line during foggy/cloudy days.
- Can you tell me at what distance of EHV conductors I should put the wires to have electricity in my home?

The second query is probably raised out of frustration as villagers in the vicinity of our lines do not get electricity most of the time, energy being deficient. About the first, it is true that an electric field induces a surface charge on an exposed body, and for strong fields this may give rise to skin tingling, vibration of body hair and small discharges to clothing. But their intensity at ground level after taking care of electrical clearance, is negligible. Magnetic fields do not produce any surface effects.

At a broader level in society, there has been much hue and cry over the last thirty years over possible effects on health due to exposure to environmental power-frequency electric and magnetic fields, particularly because of the results of some surveys which seemed to link the incidence of cancer, particularly childhood leukemia, to living near overhead electricity distribution wires or transmission lines.

The scientific position is complex, as low-strength fields are too feeble to cause any heating and they are incapable of disrupting (ionizing) any molecule directly. Cell stimulation is primarily caused due to potential across the cell membrane for induced electric fields generated for external electric/magnetic fields. Thus the induced current density is considered as being the basic parameter characterizing cell stimulation. The greatest sensitivity is found over the frequency range from 10Hz to 500Hz and sensitivity above 1 KHz falls inversely with frequency. Since induced currents are proportional to frequency, the sensitivity in terms of the external field is roughly constant from 1 KHz to 100 KHz.

In terms of current density, the onset of nerve and muscle stimulation occurs at about 1000mA/m<sup>2</sup> at power frequencies. At higher levels of the order of 3000mA/m<sup>2</sup>, one reaches the possibility of heart fibrillation and other effects. The occurrence of direct field effects from induced currents is uncommon, simply because relatively high external fields are needed to produce such effects. With induced current or current density as the basis, there is no fundamental distinction between electric and magnetic fields except the current distribution within the body which differs in the two cases. For instance, currents flowing in or across the retina causing phosphenes (a faint flickering sensation in the eye), generally occurs at 50mA/m<sup>2</sup> at 60Hz and the corresponding magnetic field is 10mT or more. It is possible that there may be other interactions within the central nervous system at levels below 1000mA/m<sup>2</sup>, though the evidence for this is not strong.

It may be noted that the limits of electric and magnetic fields encountered in a variety of situations set by IRPA (International Radiation Protection Association), is as under:

Electric fields-Occupational: The equivalent field (25kV/m) is raised slightly to 30kV/m for short time exposures but reduced to 10kV/m for whole-day exposure.

Electric fields-Public: The equivalent field (5kV/m) is used for continuous exposure. 10kV/m is given for exposure up to a few hours per day.

Magnetic fields-Occupational: The equivalent field (5mT) is used for up to 2 hrs. per work day but is reduced by a factor of 10 to 0.5mT for whole day exposure.

Magnetic fields-Public: The equivalent field (1mT equivalent to current density of 2mA/m<sup>2</sup>) is used for exposure of a few hours per day but is reduced by a factor of 10 to 0.1mT for whole day exposure.

While deciding the safe minimum ground clearance of EHV lines, a maximum electric field of 10kV/m at ground level is considered and 15m ground clearance for 800kV lines and 8.84m ground clearance for 400kV lines have thus evolved.

Exposure of trees in an electric field: Green trees are quite safe in intense electric fields so long as these are at least 5m. away from the line which is flashover distance for 800kV lines. On the other hand, dry trees without sap provide high resistance to induced current of the order of about 8mA and dry band of high voltage spots on moist surface, (caused due to dew, rain or frost), and cause arcing. Therefore, dead trees must be removed from the right-of-way of the lines as early as possible.

## The News from Powerlinks Completion of 5 years of service with Powerlinks



Rekha Negi  
Accounts Officer, New Delhi

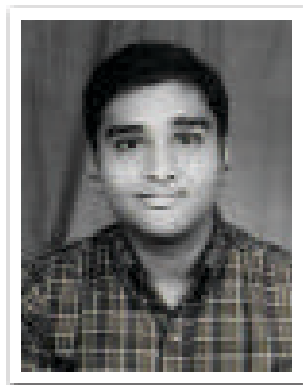


Sandeep Kumar Sukhla  
Senior Engineer

Warmest congratulations on completing five years of service, and our gratitude for your excellent support in achieving the progress of Powerlinks.

We wish you many more fruitful years in the company!

### *New Appointee*



Susomoy Mondal  
Junior Officer - Stores, Siliguri

Powerlinks welcomes him in the family and wishes a mutually rewarding fruitful tenure.

## Handicraft Making Contest

We are happy to announce the winner of our handicraft making contest – Mrs. Karuna Thapa, wife of Mr. Parveen Kumar, who wins a prize cheque of Rs.1,500. Please see her prize-winning entry on our back cover.

Congratulations, Karuna!

This contest did not, unfortunately, elicit the response we were hoping it would. We regret to announce, therefore, its discontinuation next issue onwards.

## Getting to know places of interest across our transmission line

### Bareilly

Bareilly is one of the very important towns in the Indian state of Uttar Pradesh and is situated at the banks of the river Ramganga. The town is the erstwhile capital of Rohilkhand division. It is an important commercial centre in North India and has several small and medium sized industries.

Bareilly is equidistant from New Delhi and Lucknow. It is served by both Indira Gandhi International Airport and Amausi Airport. Bareilly railway station is on the Moradabad-Shahjanapur line. The National Highway 24 passes through Bareilly.

Bareilly is also sometimes known as Bans-Bareilly because of the flourishing bamboo trade in the city. The city has a rich heritage and long history to boast of, being mentioned in the epic Mahabharata as the capital of the 'Panchal' rulers. In the medieval period it was under the Rohila. Mukrand Rai laid the foundation of the modern city in 1657.

The town for long has been a centre for various minor and major movements. It is this very city where the famous Sufi-Barelvi sect of Islam was born. One Ahmed Raza Khan who was the resident of the city started the movement that borrows its name from the city itself. In fact, the city is known as the citadel of the Barelvi sect in Asia.

The city has seen a sudden spurt of development in recent years, fuelled by the real-state sector. This has resulted in the popping up of various modern high-end colonies and societies. All these have changed the skyline of the city considerably.

Location:	Western Uttar Pradesh, India
Climate:	Summer: 43°C to 30°C, Winter: 25°C to 5°C
Best time to visit:	October to March
Nearest airport:	Delhi Airport
Nearest railhead:	Bareilly Junction
Languages spoken:	Hindi, Urdu and English
STD code:	+ 91-581



Banke Bihari Temple

Bareilly is specially known for zardozi, a popular form of embroidery. Handicrafts, bamboo artwork and wooden furniture are also of importance in the district's economy.

With its proximity to Delhi and Lucknow, Bareilly provides easy access to a lot of tourist places such as Nainital, Tapovan and Pithoragarh.

Tourist attractions in Bareilly:

Parks: Akshar Vihar, Executive Park, Gandhi Udyan

Temples: Bareilly city is a spiritual city with a number of temples such as the Alakhnath Temple, Tibri Nath Temple, Marimanth Temple, Dhopeshwarnath Temple and the Gulharhiya Gaurishankar Temple.

Majares: This city has the proud history of being home to Muslim sages. There are, therefore, some holy majares such as the Majare Aala Hazrat, Khanqahai Aaliya Niyazia, Bara Burji Masjid (Tehsil, Aanwala).

Church: The only church in Bareilly city is the Freewell Baptist Church.

Markets: Bareilly is world wide famous for its bamboo furniture work and zari zarkari work. You can get these items of bamboo in almost every corner of the bazaar. Bareilly is also famous for its camphor industry (the city is the largest producer and exporter of camphor in India). Surma is another product for which Bareilly is famous - so don't forget to buy such world famous products from the Bareilly bazaar.

How to reach Bareilly – Bareilly is equidistant from Delhi, Lucknow and Agra, about 200 kms. from each. Nainital and Dehradun are very close to Bareilly. It takes nearly 5 hours to reach Bareilly from Delhi by bus.



Shree Gaghmoheshwarnath Temple



Funcity Park



Ala Hazrat Dargah

## Important Microsoft Windows Keyboard Shortcuts

by Raju Laik, Senior Manager Systems

The computer is a machine most of us cannot live without, so like it or not, we need to master its use. This article deals with keyboard shortcuts – indicating what we can do when we want to do something quickly or if (for some reason), the helpful little mouse doesn't work!

- Windows Logo: Start menu
- Windows Logo+R: Run dialog box
- Windows Logo+M: Minimize all
- SHIFT+Windows Logo+M: Undo minimize all
- Windows Logo+F1: Help
- Windows Logo+E: Windows Explorer
- Windows Logo+F: Find files or folders
- Windows Logo+D: Minimize open windows, display desktop
- CTRL+Windows Logo+F: Find computer
- CTRL+Windows Logo+TAB: Moves focus from Start, to the Quick Launch toolbar, to the system tray (use RIGHT ARROW or LEFT ARROW to move focus to items on the Quick Launch toolbar and the system tray)
- Windows Logo+TAB: Cycle through taskbar buttons
- Windows Logo+Break: System Properties dialog box

### General Shortcuts

- CTRL+C: Copy
- CTRL+X: Cut
- CTRL+V: Paste
- CTRL+Z: Undo
- DELETE: Delete
- SHIFT+DELETE: Delete the selected item permanently without placing the item in the Recycle Bin
- CTRL while dragging an item: Copy the selected item
- CTRL+SHIFT while dragging an item: Create a shortcut to the selected item
- F2 key: Rename the selected item
- CTRL+RIGHT ARROW: Move insertion point to beginning of next word
- CTRL+LEFT ARROW: Move insertion point to beginning of previous Word.
- CTRL+DOWN ARROW: Move insertion point to beginning of next paragraph.
- CTRL+UP ARROW: Move the insertion point to the beginning of the previous paragraph
- CTRL+SHIFT with any of the arrow keys: (Highlight a block of text)
- SHIFT with any of the arrow keys: Select more than one item in a window or on the desktop, or select text in a document
- CTRL+A: Select all
- ALT+F4: Close active item, or quit the active program
- ALT+SPACEBAR: Open the shortcut menu for the active window
- CTRL+F4: Close the active document in programs that enable you to have multiple documents open simultaneously.
- ALT+TAB: Switch between the open items
- ALT+ESC: Cycle through items in the order opened
- F6 key: Cycle through screen elements in a window or on the desktop
- F4 key: Display the address bar list in My Computer or Windows Explorer
- SHIFT+F10: Display the shortcut menu for the selected item
- ALT+SPACEBAR: Display the System menu for the active window
- CTRL+ESC: Display the Start menu
- ALT+Underlined letter in a menu name: Display the corresponding menu
- Underlined letter in a command name on an open menu: Perform the corresponding command
- F10 key: Activate the menu bar in the active program
- RIGHT ARROW: Open the next menu to the right, or open a submenu
- LEFT ARROW: Open the next menu to the left, or close a submenu
- ESC: Cancel the current task
- SHIFT when you insert a CD-ROM into the CD-ROM drive: Prevent the CD-ROM from automatically playing





*Artwork by Mrs. Karuna Thapa, w/o Mr. Parveen Kumar,  
Junior Accounts Officer, New Delhi*

## **POWERLINKS TRANSMISSION LTD.**

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