



K-ELECTRIC AND ENGRO SIGN ACCORD TO BOOST POWER GENERATION



K-Electric signed two separate MoUs with Engro with the objective of increasing power supply to the city and its adjoining areas using LNG as fuel for new power generation. Introduction of LNG in the fuel mix is part of KE's strategy to achieve fuel diversity and enhance power availability in its franchise area within the shortest possible time.

The first MoU was signed with Elengy Terminal Pakistan Limited (ETPL), a wholly owned subsidiary of Engro Corporation Limited, which is currently developing the first LNG terminal in Pakistan. Keeping in view the long term forecast of receding gas supply from indigenous sources, KE has shown keen

interest in the development of LNG terminal by ETPL.

The second agreement is a tri-partite MoU signed between KE, Engro Powergen, and GE International for the development of a high efficiency 225 MW combined cycle LNG fired power plant at Port Qasim. Engro Powergen, a subsidiary of Engro Corporation, is the lead developer of the project and is expected to engage GE as the technology provider and investor in the project. KE will off-take power from the project under a long term PPA and looks to invest in the power company. The project is expected to be fast tracked and will be the first instance in Pakistan where an LNG fueled Independent Power Provider (IPP) shall be developed.



GE STRENGTHENS ITS PARTNERSHIP WITH K-ELECTRIC

GE announced the strengthening of its partnership with K-Electric by supporting the company's Bin Qasim II Power Plant with its high-performance



AGP solution. This advanced upgrade technology will expand the efficiency and power output on the site's 9E gas turbine assets. Through this new agreement, GE will install its AGP solution on three 9E gas turbines, which is expected to boost output by 3.4 percent and increase fuel efficiency by 1.7 percent. K-Electric also extended its Contractual Service Agreement (CSA) with GE on the units through 2028.

The upgrades are scheduled to be completed in the first half of 2015 and will help generate approximately 15 MW of additional electricity – enough to power almost 15,000 homes.

Today, GE-built technologies generate more than 25 percent of Pakistan's power and the company continues to play a vital role in the development of key energy and infrastructure projects in the country.

JCR-VIS UPGRADES ENTITY RATINGS OF K-ELECTRIC



In the latest development K-Electric's entity ratings have been upgraded from 'A+/A-2' (Single A Plus/A-Two) to 'AA/A-1' (Double A/A-One) by JCR-VIS Credit Rating Co. Ltd.

According to the credit rating agency, the ratings assigned to KE are underpinned by the strategic importance of the company as a vertically integrated utility. The upgrade takes into account strong business risk profile of KE evident from continuous improvement across various operational metrics.

As per the agency, K-Electric has achieved notable improvement in fleet efficiency in the last few years. Further improvement in this area is expected in view of the on-going conversion of three open cycle power plants to combined cycle power plants. Moreover, major capacity enhancement projects such as development of 660 MWs coal fired project and various other small scale initiatives, are expected to add to the company's capacity, including the utilization of alternate energy sources, and look promising for the company's projected generation profile.

JCR-VIS also confirmed that a positive trend in Transmission & Distribution (TD) losses along with management's projections for continuity of this trend have also been factored into the assigned ratings. KE's financial risk profile has also improved as reflected by declining leverage indicators and improved cash flow coverage.

ORGANIZATIONAL ANNOUNCEMENT

Mr. Tayyab Tareen was recently appointed as the new Chief Executive Officer by K-Electric's Board of Directors, effective 27th November, 2014.



Mr. Tayyab Tareen has been associated with KE for the last 6 years and served as a Chief Financial officer, Chief Strategy Officer and a board member since 2009. In 2013, he moved back to KE's parent company, Abraaj; founder and CEO of Pakistan Investment Fund.

Mr. Tareen is a qualified Chartered Accountant from England and Wales with over 20 years of rich corporate experience under his belt gained through working for blue-chip multinational companies both in domestic and international markets.

His appointment as CEO will help bring sharp focus and add impetus to KE's major strategic initiatives alongside continuous operational and financial improvements leading to the enhancement of customer service and creating value for its stakeholders.

Mr. Nayyer Hussain, CEO, since February 2013 also served the company as its Chief Distribution Officer. Mr. Hussain will be taking up the reigns of the Pakistan Investment Fund as its CEO, while also continuing to serve as Director on K-Electric's Board.

KE AND NADRA TO WORK TOGETHER FOR BETTER GOVERNANCE

K-Electric recently signed an MoU with National Database and Registration Authority (NADRA) after which both shall work together on key initiatives such as New Connection e-Payments, paying domestic and international bills and e-payments through CNIC/Smart Card amongst other value added initiatives.

The signing ceremony was held at the KE House where KE's Chief Distribution Officer, Syed Muhammad Taha signed the agreement with Mr. Saleem Rafik, Director General Operations for NADRA Technologies Limited (NTL). CFO KE Moonis Alvi was also present on this occasion.

About the agreement, Chief Distribution Officer, KE said, "This new agreement will lay the groundwork for new innovative solutions along with cutting-edge technology. I have no doubt that the new relationship will promote sharing of mutual benefits to enhance business of both companies and facilitate our consumers".



K-ELECTRIC SIGNS MOU WITH GHQ HOUSING DIRECTORATE

GHQ Housing officially offered to finance the construction of KE's common system Grid over 2 acres of land in Malir.



The official ceremony was held at the KE House in presence of ex-CEO, KE, Mr. Nayyer Hussain, CDO, KE, Mr. Taha, Director Distribution Strategy and Planning, KE, Mr. Amir Zafar, Deputy Director, KE, Mr. Idris Khan and GM Bulk Business & Corporate Customer Desk, KE, Mr. Mir Masood along with a team of 6 members from Army Housing – GHQ.

Mr. Nayyer Hussain defined how K-Electric's team manages to work with smooth coordination while maintaining a constant pace of time. He assured the GHQ of a very positive response in the future too, indicating that he has tasked BBD to act as the focal department regarding MW+ consumers. He also stated that KE always tries to do its best to accomplish the tasks within the allotted time frame.



Major General Moazzam Ejaz from GHQ Housing said, Army Housing has already allotted 2 Acres of land to K-Electric. Under the agreement the Army will construct the Common System Grid and after completion, its ownership will be transferred to K-Electric without any monetary compensation. Furthermore, K-Electric will be able to use this grid for other applicants as Common System Grid. GHQ has also put up a note to NEPRA for this matter and were given a positive response.

KE TO POWER-UP BAHRIA TOWN

Recently Pakistan's biggest residential colony developers, Bahria Town entered the Karachi Market with five mega projects which include Pakistan's tallest building - Bahria Icon Tower (69 stories), the biggest residential colony- Bahria Town, which shall comprise of more than ten thousand acres of planned residential development, 24 storied Bahria Town Tower at Tariq Road, Houshang Pearl Tower (31 stories) and Opal 225, a 5-star hotel. Bahria Town's current planning of 5717 acres includes 30707 residential plots of 125 – 1000 yards, 10 Schools, 2 Hospitals & 14 Mosques on the Super Highway.



Bahria Town had initially planned for self-generation of power for these mega projects, but after formal discussions between Directorate of Distribution Strategy & Planning, K-Electric, Bahria Town Management and their electrical consultants, an agreement was reached to provide power to these projects through KE. KE was issued an estimate for Bahria Town's first project i.e. BT Tower on main Tariq road. Another estimate of PKR 62.1 Million against a token load of 3 MW for Bahria Town Super highway has also been issued.

Bahria Town's Super Highway Project shall be the biggest single new connection application ever worked out by KE. The Utility Company will install big HT substations, LT network distribution expansion and a number of Grids - all of which shall be paid for by Bahria Town, and in return we shall receive a large number of new consumers. KE is working on all five projects' power supply in a way that eliminates all possibility of power theft & loss, while providing them a composite solution for all their energy needs.

K-ELECTRIC TO SETUP 600 MEGAWATTS POWER PROJECT AT TEXTILE CITY

K- Electric presented a proposal to Pakistan Textile City for a joint venture of 600 MW coal-based power project in the Textile City which will help in supplying cheap power, steam and hot water to textile industries in the Pakistan Textile City zone.

The proposal was discussed in the 58th Board of Directors meeting of Textile City Limited held in Karachi. The meeting was chaired by Dr Mirza Ikhtiar Baig, chairman of Pakistan Textile City Limited. During the meeting, a team of experts from K-Electric gave a detailed presentation of the project.

After reviewing the proposal, the Textile City Board granted approval to K-Electric for setting up the 600 MW coal-powered project. As both parties agreed in principle for the proposed joint venture, the Textile City Board has decided to forward its recommendation to the Ministry of Textile Industry for its approval.

K-Electric earlier signed an agreement with Pakistan Textile City to supply 50 MW uninterrupted power to the Textile City for initial industries being set up there. Required infrastructure work for the supply of 50 MW has already been completed by K-Electric.

The Textile City board appreciated the efforts of the KE chairman for removing hurdles related to the vital project which will provide 8,000 jobs in Karachi, and would also generate additional

revenues for the national exchequer.

The meeting was attended by Directors - Wajahat A. Baqai, EVP, National Bank, Shabbir Anwar Kazi, DG, Port Qasim Authority, Sheikh Aftab Ahmad, SVP, Saudi Pak Industrial & Agriculture Investment, Zarrar Haider, Joint Secretary, Ministry of Industries, Shah Miftahul Azim, Group Head, NIB Bank, Muhammad Salahuddin, Deputy Secretary, Ministry of Textile, and Muhammad Hanif Kasbati, CEP, Pakistan Textile City.



KE REPRESENTS THE PRIVATE SECTOR IN “3RD WORLD GREEN PRODUCTIVITY CONFERENCE”

It is matter of great pride for K-Electric that its General Manager, Mr. Chander Perkash was selected by Asian Productivity Organization to participate in the “Third World Green Productivity Conference” held in Taipei from 4th to 6th November, 2014. The aim of the conference was to deliberate on the promotion of green economy and achieving sustainable development with focus on resource recycling, green energy and green factories and discuss approaches for implementation of Taipei outcome documents.

Mr. Perkash was the only private sector participant from Pakistan who was selected on the basis of his strong academic background, professional skills and activity profile. Mr. Perkash, an Engineer – Cum-Environmentalism, is actively promoting environmental excellence, regulatory compliance, green economy, renewable energy and resource conservation not only at the organizational level but also at various other



public forums. He has actively participated in the countrywide discussions and debates organized by ACCA, WWF, NFEH, PFCCI, EPA Sindh, and IUCN.

The conference comprised of various sessions on key topics

including Green Productivity for Green Inclusive Development, Sustainable Green Growth, Green Leadership, Building Resilience into Sustainable Smart Livable Cities, Resource Recycling, Smart Grids for Smart Cities, Economic Development and Green Packag-



ing, Eco and Future Cities for Sustainable Development, Achieving Sustainability to Empower Future Generations, Energy & Environment Strategic Planning, Sustainable Growth of Asia & Pacific, Eco Agriculture, Promotion of Sustainable Consumption and Production, Eco-competitiveness of Industries and Green Factories. These sessions featured world class resource speakers who shared the latest and up-to-date information concerning various aspects of eco-practices, such as the promotion of eco-friendly features by the industries as well as by the communities.

Mr. Perkash was part of panel discussions and lead in presenting vote of support for plenary sessions on waste recycling. He discussed in detail the techniques of development and promotion of Green Productivity in South Asia to boost the competitiveness of the region and create a sustainable society. The conference provided a great platform for industrial, governmental, private sector and research leaders to exchange their thoughts and share experiences.

2ND NATIONAL HSE & SUSTAINABLE DEVELOPMENT SUMMIT

Pakistan Society of Training & Development (PSTD) hosted its ‘2nd National HSE and Sustainable Development Summit’ on 19th November, 2014 at Movenpick Hotel, Karachi. Over 200 professionals from all over Pakistan attended the event.



The theme for this year’s conference was “Strengthening Occupational Safety and Health Management Systems”. Primary aim was to focus on importance of leadership commitment towards HSE with a top driven approach and the impact of safety on business continuity & operational excellence.

The opening speech was given by PSTD President, Aamir Niazi who said, “It’s great that the industry as a whole is recognizing the need for HSE practices as they impact the business continuity and operational excellence of any organization”. Followed by talks and discussions from industry experts like Johan Van Der Westhuyzen, Regional Director, Dupont Sustainable Solutions, Francesco d’ Ovidio, Country Director,

ILO, Khalid Siraj Subhani, President & CEO, Engro Chemicals, Waqar A. Malik, Chairman PPL and Iqbal Haider, GM-Technical, ICI Pakistan.

This year all keynote speakers were given different topics to speak upon where K-Electric was asked to shed light on “Electrical Safety”. Speaking on the given topic, Saeed-ur-Rehman, GM HSEQ who was representing KE at the speaker session said, “Safety is at the heart of all operations in an organization which is committed to an incident-free workplace. There are no secrets when it comes to safety, its sharing of best practices, good ideas in order to prevent a fatality”. He further stated, “Safety is not abstract thinking, it’s not about numbers, it’s about your connection to the sanctity of human life. Because that is the most important thing that we own as a human race; nothing else comes close to it.” The payoff of safety protocols is always worth the time invested. Staying safe is a continual process because it only takes one distracted, unsafe second to lose one’s life.



COMFORT OF PAYING ELECTRICITY BILLS ONLINE

In a bid to facilitate its consumers, K-Electric recently signed MoUs with leading banks of Pakistan. Under the agreement, customers of these banks will be able to pay their electricity bills through the advanced mechanism known as Utility Bills Payment Solutions (UBPS). Through this process the consumers will be able to electronically pay directly to KE’s account. This is indeed an efficient and cost effective instrument that will not only prevent time delays in consumer payment updates, but will also rectify delayed fund transfers, invalid transactions and fraud. The banks which have reached an agreement with KE are: UBL, HBL, NIB and Faysal Bank.

This development reiterates KE’s commitment to investing in the ongoing well-being of its customers through technology and is the ultimate definition of a sustainable business. Such initiatives are a part of the company’s technology road map implementation that aims to make the entire system cost effective and customer-centric.



WORKSHOP ON MOTORS' EFFICIENCY IMPROVEMENT BY KE, UNDP, ENERCON & EDB



KE's Energy Conservation Department (ECD) participated in the full day workshop arranged by UNDP (United Nations Development program) in collaboration with ENERCON, EDB (Engineering Development Board), PSQCA & PCSIR on the topic of Energy Efficiency Improvement in Motors and Pumps at Gujranwala. The focus of this workshop was to create awareness and better understanding about handling of motors and pumps in domestic, commercial and industrial consumers. Electric Motor Manufacturer Association also participated in the workshop.

Presentations on Motors Efficiency and Design, Climate Change and its Impact on the society were presented to the audience by Engr. Mehboob Alam Khan, DGM ECD, KE and Abdul Fawad, DGM ECD, KE respectively. Asif Siddiqui, Director ECD, KE also gave the inaugural speech on Energy Efficiency and its Importance.

KE ECD along with UNDP (BRESL project), ENERCON, and EDB are working on setting minimum performance standards (MEPS) for motors and other electrical appliances in a bid to conserve valuable power. Electric Motor Manufacturer Association has also been taken on board and will ensure that all products are rated and labelled properly so that the consumer can easily identify the energy efficient product.



At the end of the workshop, KE was awarded two shields - one from UNDP and another from Motor & Pumps Manufacturer Association of Pakistan - for its Energy Conservation Initiative and Climate Change Policy.

KE AND ENERCON CONDUCT JOINT TRAINING PROGRAM

KE-ECD and ENERCON conducted a joint 3 days workshop on Energy Efficiency at KE Conference Room, Civic Centre from 08 September till 10 September, 2014. PSQCA (Pakistan Standards and quality control Authority), IEEEEP (Institution of Electrical & Electronics Engineers Pakistan) & PEC (Pakistan Engineering Council) also participated in the event. The sessions elaborated on the concept of energy efficiency in tube wells, boilers and electrical systems.

The workshop promoted the importance of energy efficiency amongst various industries through training of technical staff and students from universities i.e. NED, SSUET, IQRA, and DUET. The trainers are well reputed and experienced professionals working on different agricultural and urban projects with World Bank and USAID. During the 3 days, they successfully trained more than 200 participants.



The topic was in line with KE's Climate Change Policy which states that energy efficiency is a cost-effective strategy for building economies without necessarily increasing energy consumption.

RAISING ENERGY CONSERVATION AWARENESS AMONGST THE ARMED FORCES

KE-ECD was invited by Brigadier Iftikhar Ahmed at the Army School of Air Defense, Malir Cantt to conduct a seminar on Energy Conservation. It was the first time in the history of the institution that a civil organization was invited to host such an event. The theme of this seminar was to raise awareness about energy conservation amongst the Armed Forces. The session was attended by more than 200 officers including Majors, Colonel & Lt. Colonels.



The KE-ECD team gave a presentation highlighting the issues and challenges of the ongoing energy crisis and provided complete solutions to these issues. The participants were urged to come forward and play their role towards energy conservation because it not only helps in bridging the energy demand & supply gap but it also helps in reducing the carbon footprint leading to a control on Climate Change.

After the seminar, the management of Army School of Air Defense promised to introduce initiatives to save electricity and avoid undue wastage at the institute and agreed to conduct an energy audit with the help of KE-ECD.

PUBLIC SEMINAR ON WOMEN'S HEALTH

Energy Conservation Department of KE (KE-ECD) participated in the seminar titled "3rd Public Seminar on Women's Health" held on Saturday 22nd November, 2014 and organized by National Forum for Environment and Health (NFEH).

A host of high profile doctors, surgeons, nutritionist and fitness specialists were invited to highlight the common health issues, their prevention and safety-remedies. NFEH also invited housewives and working women representing diverse professional backgrounds i.e. government, academia, media, NGOs, etc.

The speakers were Dr. Nyla Zahid, Oncologist, Liaquat National Hospital, Dr. Nosheen Fatima, Head of Department and Expert of Osteoporosis, Dr. Ziauddin University Hospital, Hakeem Syed Abdul Ghaffar Agha, Consultant and author of the book "Hakeem ka Dasterkhan", Nausheen Shahzad, Psychiatrist, Executive Director, Neuropsychology Centre Pakistan and Founder Chairperson Neuropsychology Society of Pakistan, family physician and television anchor Dr. Shahzad Ali.

The seminar was very informative and helped KE-ECD to spread the energy conservation message amongst doctors, pharmacists, medical practitioners and the general public.



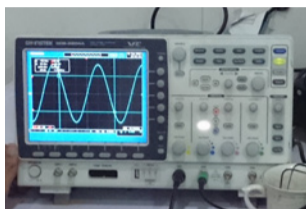
KE-ECD'S RESEARCH PROJECT ON UPS WITH NED UNIVERSITY

KE-ECD in collaboration with NED University Electrical Engineering department accomplished a project to determine the performance of Uninterruptible Power Supply (UPS) and the energy losses associated with different types of UPS.

A R&D team was formed comprising of ECD technical staff and NED students which visited a residential area to conduct a survey on the use of UPS. The team then visited a nearby 750 KVA substation during and after load shedding hours to take power readings.

The survey managed to unearth three critical findings:

1. Only 33% of the UPS that were used belonged to recognizable brands.
2. Most UPS do not have a pure sinusoidal waveform in its output during discharge mode. They usually emit square waves during discharge.
3. UPS feeds back harmonics into the KE grid which cause distortion in the network.



Power supplied through the KE grid consists of pure sinusoidal

waveform which is the waveform most suitable for electrical appliances & equipment and according to NEPRA requirement. According to the findings of the R&D team, pure sinusoidal waveform UPS is the best for performance. Square wave UPS may cause damage to sensitive electronic equipment and appliances consume more power because of noise and heat losses. The consumer may also have to pay up to 17% of extra units due to the surplus energy consumed.



Thus, in view of the above research, it is recommended that before buying a UPS, consumers should make sure that the power output of the UPS must be in pure sine wave or modified sine wave, it should have a built-in automated voltage regulator to regulate the voltage output within recommended limits of 230V, its efficiency should be above 80% and it should have a built in overcharging protection.

SPREADING THE ENERGY CONSERVATION MESSAGE



K-Electric's Energy Conservation Department (KE-ECD) does its utmost to teach citizens about KE's Energy Conservation Initiative through various BTL activities around the city. The Energy Conservation Initiative emphasizes on

smart consumption habits and conversion to energy efficient appliances. KE-ECD focuses on spreading best practices in sustainable energy technology, building alliances and inspiring new energy ideas and actions.

Continuing to spread the message to the masses, especially



the youth, KE-ECD recently held four different activities in Karachi. Three of these BTL activities were carried out at the Karachi School of Arts, IEEE Fair 2014 and the Burhani Carnival. While a special activity was conducted to celebrate the Ozone Day by educating students of Raunaq-e-

Islam Girls School, Govt. Muslim Masjid School, and Govt. Railway Feeder School about the hazards of ozone layer depletion. The KE-ECD team also planted trees at these schools and visited the Creek Vista Grid Station for a similar tree plantation drive.



INTERNATIONAL CONFERENCE ON ENERGY SYSTEMS AND POLICIES (ICESP) 2014

The International Conference on Energy Systems and Policies 2014 (ICESP) organized by Air University, Islamabad, aimed to bring together leading scientists, engineers, researchers, scholars, academics, planners, policy makers, industry experts, consultants, and governmental and non-governmental entities to exchange and share their experiences and research results about all aspects of energy systems and policies, and discuss the practical challenges encountered and the solutions adopted.

KE-ECD was invited to deliver a key note speech at the ICESP 2014. The team delivered a presentation and addressed the audience on 'Energy Efficiency and Alternate Energy' which was

highly applauded by the attendees. KE-ECD also took part in technical talks on the topic of 'Energy Efficiency and Renewable and Alternative Energy.'

KE-ECD also met Dr. Kendra of Oregon State University and Dr. Ralph of New Zealand Climate Change Mitigation team, to discuss on energy efficiency along with different mitigation measures for climate change affects. All parties agreed to keep a close association on sharing the latest info and updates for mutual consultation on this subject.

EC TIPS

SMART TIPS TO SAVE ENERGY AND THE ENVIRONMENT

ENVIRONMENT (CARE FOR YOUR ENVIRONMENT!)



- Take precautions while disposing of broken Energy Savers as they contain hazardous mercury.
- Plant trees that absorb harmful CO₂ from the atmosphere and release tons of oxygen during the day time.
- Reduce, reuse and recycle for equal distribution of all natural resources.
- Encourage children to play outdoors as it will strengthen their minds and bodies. If children don't learn to love nature when they're young, they're unlikely to support environmental protection as adults.

COOLING (STAY COOL WITHOUT SPENDING A FORTUNE!)



- Keep your AC Thermostat on 24°C and get its filter serviced regularly in order to reduce your energy bill by 30%.
- Apply Heat Rejection Sheets on the exterior glass of windows/doors and minimize AC usage. Use curtains, blinds, or shutters to stop heat from sunlight.
- Keep the AC Outdoor Unit under a shade as it enhances the cooling and efficiency of the AC.

LIGHTING (LIVE WITH MORE LIGHT AND LESS ELECTRICITY!)



- Replace conventional lights with LED LIGHTS (zero carbon foot print) and save 80% energy on sustainable basis.
- Use 23W SAVER which saves 75% energy instead of an incandescent bulb (which consumes 90% of energy to produce heat and 10% to light up your home).
- Use maximum daylight whenever possible.
- Paint your home in LIGHT COLOURS as they reflect light and do not absorb heat.

HOUSEHOLDS (LITTLE THINGS ADD UP!)



- Avoid keeping your appliances on standby mode as it can sip away energy.
- Repair leakages of Gaskets and Compressors regularly to avoid energy wastage.
- DO NOT KEEP HOT FOOD in the fridge as it increases energy consumption.
- Convert your CRT Monitor to LCD/LED because 60MW can be saved if One Million consumers do it together.
- Switch off at least one TV from MIDNIGHT TO 6:00 A.M. because 120MW can be saved if One Million consumers practice this together.