TENAGAIN

Communicating To Large Power Customers

KDN: PP8515/1/2008 VOL. 01/07



PERWAUA

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editor's note

TOWARDS A BRIGHTER FUTURE

A Trivia for you.

Of all the big Malaysian companies you know, which truly powers the country forward?

No prizes for guessing folks, it's TNB.

Apart from literally lighting up the country, it provides energy without which no other company could function - a hard fact no one can deny. But as the saying goes, with much power comes a greater responsibility.

That's why TNB goes out of its way to execute its duties as best it can; handling clients and others in its charge with much care and utmost dedication; tending to any problems that may arise as quickly, effectively and efficiently as possible.

For this, we have received many a prestigious accolade among which include The Platts Top 250 Global Energy Company Award, Best Investor Relations Across Asia Award, Asiamoney's 2nd Best Corporate Governance in Malaysia Award, Deutsche Bank's Most Improved Company (in terms of Corporate Governance) Award, the Anugerah Harapan Majikan Prihatin (Big Corporations Awards) 2005; we have secured the MS ISO 9001:2000 status, and many more.

And we have, you, our Prime users to thank. It is you who have spurred us on to greater heights and achievements. And we are glad to have responded accordingly.

In this Tenaga Link issue, you will see how two big companies and

Prime users - Perwaja and Seri Pacific Best Western - may have positive things to say about TNB.

You will also be briefed on the everyday operations of TNB and the way its staff works, as well as be informed of the seminars and workshops that have been organised and are being planned, in an effort to bring consumer and customers closer.

Communications is after all – as Dato' Ir. Hj. Amir Nordin Abdul Aziz tells us in an interview - an integral part of ensuring that work runs smoothly.

Via this publication too, you will get to better understand and familiarise yourselves with the mission and objectives of Tenaga's Distribution Division's Vice President Dato' Ir. Aishah Dato' Hj. Abdul Rauf.

Hers is an aspiration that is in line with the vision of TNB President/ CEO Dato' Sri Che Khalib Mohamad Noh who is all for inculcating an effective goal-oriented culture in the company, that is underpinned by the core values of integrity, customer focus, business excellence and caring.

We hope that you would enjoy this issue as much as we did putting this magazine together.

Yours sincerely,

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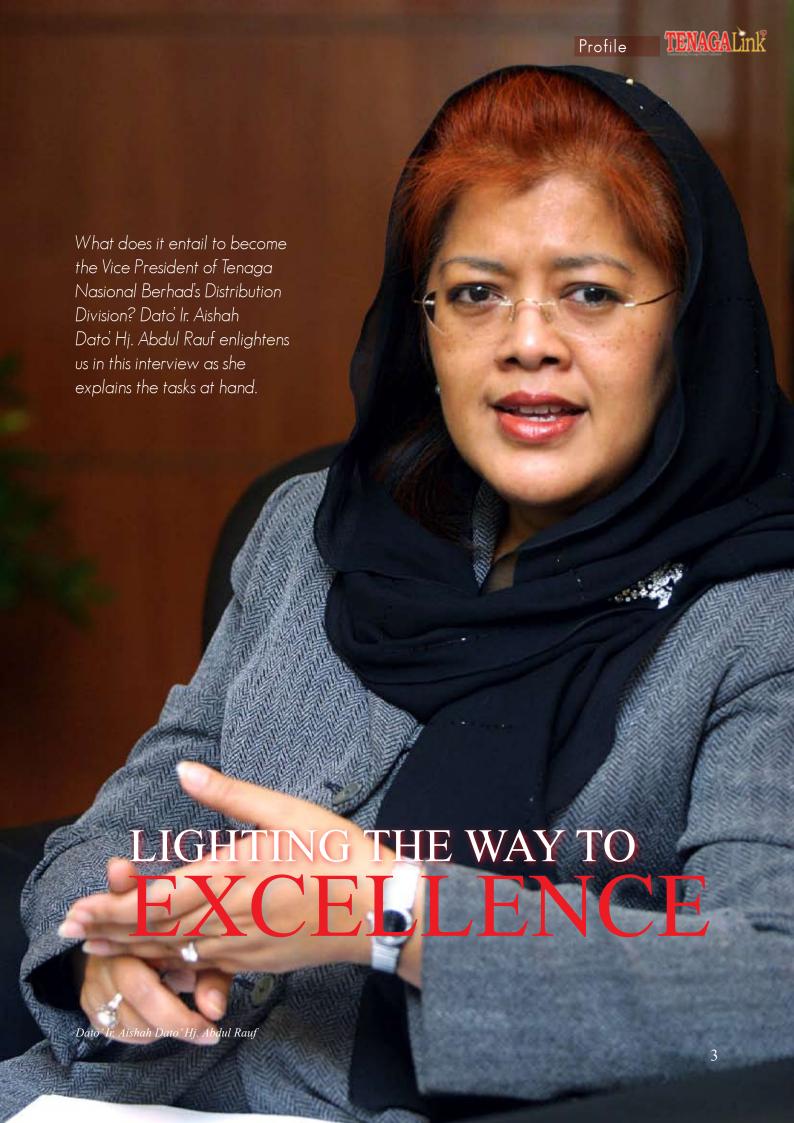
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any of us take power for granted. We go about our daily lives assuming there'll be light at the flick of a switch. We leave home and dare drive to the city knowing the traffic lights will not go blink. The lifts will take us to our top floor office cubicle. The air-conditioning will make the city's heat and humidity that bit more tolerable.

But such laid back, nary-a-care attitude is no luxury Dato' Ir. Aishah Dato' Hj. Abdul Rauf can afford. That's because she sits in the hot seat at Tenaga Nasional Berhad, that of Vice President for the Distribution Division.

A Vice President in the TNB hierarchy is just three rungs below the office of President/Chief Executive Officer. This makes her the highest-placed woman in TNB currently, with the technical background and managerial capacity to lead the utility which last year had revenues of more than RM20.38 billion and a profit before tax of more than RM2.75 billion.

The Distribution Division is the closest point of interaction between consumers and the utility – it is the public face of TNB.

Consumers and members of the public out there heap praise on TNB when we render quick and efficient service. For this reason we are mindful of their needs and expectations. When we do not attract too much attention, especially in the media, that is a sign that we are discharging our duties well

When power fails, consumers call the customer service centre on the 15454 'hotline' number and a repair team from this division responds. Roving work gangs visit the sub-station in your housing estate keeping it operationally secure. Its band of meter readers sends out bills and its collection centres and its *Kedai Tenaga* handle payments from consumers

"Consumers and members of the public out there heap praise upon TNB when we render quick and efficient service. For this reason we are mindful of their needs and expectations. When we do not attract too much attention, especially in the media, that is a sign that we are discharging our duties well," Aishah says.

As distribution head, Aishah sits on the topmost floor of the 19-storey TNB Distribution Division headquarters in Petaling Jaya. From her lofty perch, she commands an army of 16,000-plus employees (TNB has a total workforce of more than 23,000) with logistical support and hardware working assets that need to be deployed optimally and judiciously to keep 'power on tap'.

Aishah's engineering discipline is tempered by her flair for marketing. She is credited with rallying the workforce with the catchphrase – Keep The Lights On, The Faster We Connect The Faster We Collect, Stop The Bleeding.

This rallying call in fact, neatly encapsulates what the division does. *Keep the lights on* refers to the need to keep power infrastructure intact and at a peak performance, which means consumer needs are addressed at an optimum level.

The connection and collection battle-cry spells out clearly the link between efficient discharge of service. Finally, *Stop the Bleeding* refers to the curb on power thefts as well as leakages that result from less-than-efficient work practices or any lack of vigilance on the part of employees.

"We are mindful of the need to move away from mere sloganeering. These are genuine codes to live by as we go about discharging our duties on a daily basis," she stresses.

This melds squarely with the division's mission of providing timely and continuous supply of electricity and related products and services that meet customers' expectations. It also looks to effectively act as a key agent for national development.

Now that it is a listed entity, it needs also to keep an eagleeye on shareholders' expectations.

"Indeed, we are on the radar screen of foreign investors who hold up to a quarter of our stock," says Aishah.

The Distribution Division can proudly point to several achievements logged under her stewardship. It collected back billings amounting to RM35.5 million for the period from September 2005 to July 2006. It reduced electricity

theft rate by between 1.5 and 2 per cent for large and ordinary power consumers respectively and improved customer service by introducing new bill payment facilities. It has also improved average disruption indices which means consumers are facing less 'downtime'.

These achievements are in line with TNB's T7 target. This strategy, first created back in 2004, has the aim of making TNB the best corporation in Malaysia by August 2007.

TNB President/CEO Dato' Sri Che Khalib Mohamad Noh had earlier said that TNB would try to achieve this; "...through the inculcation of an effective goal-oriented culture underpinned by the core values of integrity, customer focus, business excellence and being caring."

Meeting point: (From left) Zulkeple Hussin, Special Officer (Technical) to VP; Ir. Aishah, VP (Distribution) and Abdul Rahim Jamil, Special Officer (Commercial and Administration) to VP.

He said that a key element of this transformation rested on TNB's extensive housekeeping initiatives which include maximising value by recovering long-term outstanding debt from delinquent customers, curbing electricity theft and addressing the high cost of fuel.

The August 31 date when TNB delivers on its T7 target dovetails significantly with the 50 anniversary of this nation's Independence. The baton in this constant quest of excellence will then be passed on to a fresh initiative; TNB's 20-year Strategic Plan. This is a series of five-year targets which ultimately takes the utility company all the way to Global Leadership by 2025.

The target in this plan's first five-year phase (2006-2010) revolves around achieving Service Excellence. Issues that

are key indicators revolve around electricity supply and delivery quality which also trains the spotlight on the Distribution Division. Acronyms like SAIDI (System Average Interruption Duration Index) and UOR (Unplanned Outage Rates) are frequently bandied about which may appear remote to the consumer but becomes major talking points when consumers complain about service quality or when performance lags.

"The Distribution Division therefore has a key role to play in achieving these targets," says Aishah, who's at the forefront of things.

How did Aishah come this far? After completing her Form Five exams locally, Aishah joined a batch of 30 TNB scholars (back then it was called the National

> Electricity Board or NEB) to study electrical engineering in the United Kingdom.

> Upon completion of her studies, she served her bond by reporting for work with TNB where she has served in various capacities and subsidiaries.

Always one to acquire the highest levels of achievement in her profession, Aishah worked her way to achieve her professional qualifications which entitles her to attach the 'Ir.' honorific to her name. This must have counted in her favour when she successfully applied to fill the VP (Distribution)

position back in October 2004.

How demanding the job has been can be gauged by the amount of time Aishah spends in the office. "A typical work day can be as short as 14 hours or as long as 20 hours" she says matter-of-factly.

Having spent all her professional life with TNB, Aishah looks forward to retirement which is just over a year away. She unwinds by spending 'quality time' on the domestic front. Of her two children, a son is an engineer while her daughter is more artistically-inclined. When she does retire, her close-knit family will surely stand to reap all her meticulous managerial devotion once unselfishly lavished in service of the nation for its exclusive enjoyment.



Perwaja's Men of Steel: (From left) Amat Jasri Manap, Che Amdilah Abdullah, Henry Pheng, Thanda Yithabani and Kanto Lew

Question: It has been reported that Perwaja can expect a revenue of about RM3 billion in 2008 if all goes well and continues the way they are now. How have you managed to turn around this company which made accumulated losses amounting RM2.9 Billion, in such a short time?



Resolve

Riddled with accumulated debts amounting billions several years ago, steelmakers Perwaja wasn't really a shining example of a successful venture. But as of a couple of years back since Kinsteel's 51 per cent buy into the business, the company is gleaming again with much promise. Indeed, the future looks bright.

Tenaga Link talks to Perwaja
Steel's Chief Executive Officer
Henry Pheng about this
amazing turn around.

Henry Pheng: Firstly, I'd like to reiterate that the figure of RM3 billion is just a forecast. It was provided by the analysts. We took over the management of this company in October 2005 while the acquisition of Perwaja was complete in September 2006.

I think Perwaja's problem has always been due to the low utilisation of its facilities, which resulted in low production. This was due to poor cash flow and not enough banking support. When costs increased eventually, losses were made. Over the years, they grew bigger. Honestly, just before we took over the company, it was already turning around... Perwaja was already on the right track. Only now, the market has truly begun to pick up. We are also getting good financial support, which has allowed us to expand on capacity and output. We are really looking forward to the years ahead. We have a few more good projects in front of us. If everything goes forward smoothly, our capacity can go even higher than what we are doing now.

Q: Your assessments of Perwaja and that of the analysts', do they jive?

A: The analysts do their own judgements and profit calculations. Our results often fall within the analysts' expectations. So, when they are announced, there isn't really much of a surprise.

Q: How do people view the Perwaja name today as opposed to, let's say five years ago?

A: A lot more positively. We are better accepted. The number of financial institutions willing to work with us today is a good indication. We have gone from having 0 bankers to six. Of course it was initially very tough for us. But our performance has helped prove our worth. Down the road, I'm confident we'll be getting more and more support.

After the announcement of results last year, our share price and market capitalisation jumped. It trippled from 100 million to 700 million. Now we even have foreign institutions — Stanley Morgan, JP Morgan... All of them are investing in Perwaja. The confidence is there.

Q: Did you foresee this upward trend and Perwaja coming out of the quagmire this quickly?

A: Not really. No. This business moves in cycles. There are short term and long term cycles. It may go up and then very suddenly, drop. Currently, with a lot of movement worldwide; a lot of merging, consolidating of steel mills, and with China's move to strengthen the control on exports... these have caused the steel price to become more stable. These positive developments started last year and they're ongoing.

Q: What have you and your team done to encourage such positive growth for Perwaja?

A: Our concentration has been on cost-control and cost-cutting measures. We are diversifying our products. We are increasing production and thus productivity. That's how we've recovered. But by increasing productivity we've also had to bring in more staff. So far, we are doing 500 additions, and we will increase our workforce if and when we feel the need to do so, which could happen soon as we are still expanding, increasing our capacity towards even higher production levels.

Q: What do you need to put in place to continue with this kind of growth?

A: For some of our products, we are the only ones manufacturing them. There might be a measure of monopoly here but we should work towards covering the volume and items of different sizes that our consumers need. We need to reduce our reliability on imported items and produce them ourselves.

Bankers' support is always welcome. And should be working towards even higher production, have better downstream marketing support... With better support from the downstream local market, we can secure substantial turnover minus the headache of having to look for

customers. With the export market, there is always the risk of fluctuating, erratic international prices. The local market is more stable. If we can capture 50 per cent of this market, that would be good. And there will be less pressure to deal with the export market.

We are actually strong here in the local network. But we want to be stronger. Also, we haven't really achieved international standards. We are gearing towards that. Taking these steps would hopefully work positively for us.

Q: Are you the biggest steel mill in Malaysia?

A: I don't really know. Maybe one of the biggest. More accurately, I think we can be classified as the most diversified, most integrated (with both upstream and downstream products) steel mill in Malaysia at this moment. We are also one of the most integrated mills in the South East Asian region.

(Note: Upstream activities conducted in Perwaja's Kemaman mill include the production of direct reduction iron (DRI) and billets. The Kemaman mill is the only billetmaking factory in the country that makes steel products through direct reduction of iron ore. The steel produced is known for its strength and is used in shipbuilding and construction of bridges and railway lines. Meanwhile, downstream products manufactured at the company's other plant in Gurun include wire rods, beams, sections, bolts and nuts, nails and wire meshes.)

Q: Is China a threat to the local plants?

A: China is a threat to the world, not just us. Fortunately for us, there is still a tax element on some imported steel materials, and there are steel items that cannot be brought into the country. So, while there is possible impact, it won't be strong or immediate. Being such a huge market force, China's move towards more control is helping prices stabilise. And hopefully, the price of steel products will continue to be more stable in future. This would also mean that the cycles will be less drastic.

Q: You must be very pleased with Perwaja's current performance?

A: No. It's still very much below par. We need to do better than what we are doing now. Based on the initial investment into Perwaja — on the technology and amount of money invested—we can definitely do better. After the announcement of last year's result, local banks were saying "wah, so good", but the analysts were hoping for an even better outcome as they had already projected our results way in advance and felt that we merely achieved the target specified. That's why I want Perwaja to do better and I think we can do it.

Q: How much does Perwaja depend on TNB to run its operations? And what is your comment on TNB's reliability and performance in providing efficient services?

A: All the while, Tenaga has been our biggest suppliers of power. We don't use as much natural gas. I think we are the biggest power users in the East Coast. Our consumption





is 144 Megawatts per month, this is 12 per cent of our costs. It's a substantial amount. Basically, it means that if there is any breakout in power supply, it could cost the company quite a bit of money.

A power stoppage of about five minutes due to a surge for instance could cost Perwaja some RM2 million. If there is a breakdown, or power supply interruption lasting an hour or so, the cost for upstream products could amount to RM6 million and downstream RM2 million. Totalling RM8 million...

But we consider TNB our partners. Normally, they provide us with very good support. Any problem at our plants, they would come immediately. Technical response and support are very strong, very swift. TNB staff are very helpful. We really appreciate this.

Q: What are your future plans for Perwaja?

A: We are expanding on our capacity. In fact, we plan to double our power consumption from last year. We would like to expand on the types of products – especially more towards downstream production. We have another plant in Gurun. After we achieve full capacity here in Kemaman, Terengganu we will start concentrating on maximising our capacity at the Gurun plant in Kedah.

For now, downstream manufacturing is rather low at 30 per cent capacity. We are targetting 50 per cent by next year. It won't be easy, but we are working hard towards this. Last year it was at 20 per cent.

Q: Increase in capacity would mean increase in productivity as you said. So, that would translate to good news for you in the near future, right? A: Yes. And I'm sure it's also good news for our "partner" TNB too (laughs).















Rolling along nicely

Vice President (Distribution) Dato' Ir. Aishah Dato' Hj. Abdul Rauf recently visited Perwaja Rolling Mill and Development Sdr Bhd, previously known as Perwaja Steel Sdn Bhd.

This is Dato' Ir. Aishah's second visit to Perwaja, which happens to be TNB's second biggest Prime Customer in Sunga Petani.

Operating from the Gurun, Bedong Industrial Area in Kedah, Perwaja chalks up an average monthly bill amounting RM800,000. In recent months, the company also managed to reduce its electricity bill from RM20 million to RM3.4 million.

Apart from Dato' Ir. Aishah, TNB's team members from the Distribution Division included En. Roslan Ab. Rahman, Genera Manager (Customer Services and Marketing); Pn. Hjh. Nazariah Ibrahim, General Manager (Finance); En. Abdul Haris Abdu Karim, General Manager (Kedah), En. Zullkeple Hussin, Special Officer (Technical) to VP, En. Mohd Fairuz Mohd Yusof Sungai Petani Area Manager; En. Ahmad Khalil Ibrahim, Manager (Customer Services and Marketing) Kedah and Pn. Salina Abd. Malik, Management Assistant (Customer Services and Marketing) Sungai Petani. Kedah.

Perwaja Rolling Mill's General Manager, Hj. Abdul Hadi Abdullah was at hand to brief TNB staff members about the company's activities and operations.

Meeting with Megasteel

TNB Vice President (Distribution), Dato' Ir. Aishah Dato' Hj. Abdul Rauf paid a visit to the office of Megasteel Sdn Bhd located at the Olak Lempik Industrial Area in Banting on January 17.

This is aptly the curtain raiser for the company's Prime Visit calendar for 2007 as Megasteel tops the list of TNB's Prime customers with an average monthly bill of RM18 million.

The visit is part of TNB's efforts to forge goodwill among its Prime users and to strengthen business ties aside from being able to hold discussions on issues pertaining to electricity supply and so forth.

discussions on issues pertaining to electricity supply and so forth.

The high level management entourage from TNB's Distribution side comprised En. Roslan Ab Rahman, General Manager (Customer Services and Marketing); Pn. Hajah Nazariah Ibrahim, General Manager

(Finance); En. Zulkeple Hussin, Special Officer (Technical) to Vice President; En. Zainal Ujang, Area Manager TNB Banting and En. Mokhtar Ishak, Senior Manager (Key Account Management) and En. Johar Bosri, Assistant Senior Manager (Customer Services and Marketing) TNB







Selango

A talk on business and factory operational activities was given by Mr. Khor Toong Yee, Director of the Lion Group/Megasteel Sdn Bhd.



Salute to Shah Alam Staff

While sipping coffee at the Tenaga Nasional Berhad canteen recently, this writer bumped into an old colleague. We have not met in ages since both have been busy. The friend disclosed that the staff at TNB Shah Alam are fortunate to have been given the opportunity to initiate or try out new things.

He seems to know that I was there for the presentation of a new project called Mobile Field Force Automation (MFFA) to the technical team in the Shah Alam Area Manager's office. The event was officiated by the Vice President (Distribution), Dato' Ir. Aishah Dato' Hi. Abdul Rauf.

During that short time, I found out that there is something special indeed about the workers in the Shah Alam branch - they are open to change and are willing to work towards improving the level of their performance as this will only translate to a more efficient service for customers.

With this positive attitude, the employees in TNB Shah Alam greeted Dato' Ir. Aishah with enthusiasm at the recent MFFA launch.

MFFA is a system that provides better communication link between ground staff and the administrator in the Supply Management Centre, not to mention the Customer Service Assistant at the Call Management Centre.

This system, jointly formulated by the Engineering and ICT Departments, will enable information especially with regard to power interruptions, to be conveyed instantly to customers.

Cementing ties with Cement Industries of Malaysia Berhad (CIMA)

On April 4, TNB Senior General Manager (Operation - Region 2) Ir. Hj. Azman Mohd together with TNB Perlis' General Manager, Hj. Suid Othman and several accompanying executives made an official visit to CIMA Perlis, a Prime user. Many things were discussed during this trip, which also brought CIMA and TNB closer.

CIMA officials declared how pleased they were with TNB for the excellent services rendered. They hoped that this efficient trait will be maintained.

As a Prime industry user in Perlis, CIMA's average power usage amounts to RM3.2 million a month

In attendance for CIMA was Plant Manager, LC Chow who represented the company's Managing Director, En. Che Halin Mohd Hashim who was in Kuala Lumpur on business.



"Power-packed" presence at AMD

The office of Advanced Micro Devices Export Sdn Bhd (AMD) in Bayan Lepas got an 'electrifying' visitor recently by an entourage led by TNB Penang's General Manager, Hj. Ismail Abdul Rahman. The TNB entourage, comprising five Senior Managers from the company's Penang branch, was met by AMD's Managing Director, Dr. Mohd Sofi Osman.

AMD, listed amongst TNB's Prime users, is a reputed manufacturer of micro-processors for use in computers other than Intel. The visit was to discuss the progress of the additional 2MW load project aside from the existing 6MW. The party also spoke about increasing the current 11kV supply system to 33kV.

More TNB seminars soon

TNB recently held a discussion with the Federation of Malaysian Manufacturers, Negeri Sembilan Investment Centre and Negeri Sembilan Industry Liaison Centre. The objective of this meeting was to get a list of large power users and identify suitable topics for a seminar to be organised by TNB.

Among the issues highlighted during the session included the need to hold dialogues more frequently, to organise a seminar on electricity, safety and precautionary measures; also ways to save electricity; as well as other sessions discussing the more technical aspects of TNB's operations.

Those who attended this session were En. Mokhtar Ishak, Senior Manager (Key Account Management); Pn. Roselaini Dato' Seri Abu Zahar, Manager (Customer Services and Marketing); Raziyah Abdul Razak, Assistant Manager (Commercial Management/Government Liaison and Special Project) and En. Wan Muhammad Balyan Wan Othman, Assistant Manager (Customer Communications Management and Marketing). Representing NSIC were En. Ramli Othman, NSIC CEO and Pn. Siti Salwa Said, NSIC Executive. Meanwhile NSILC was represented by Pn. Hamidah Ali, Executive Secretary NSILC. Representatives of FMM comprised En. Maizol Hazidy Mahady, FMM Committee Member and Mr. Murugan A/L Purushothaman, Branch Manager FMM Negeri Sembilan.

The discussion took place in a meeting room at Negeri Sembilan Area Manager's office, Geremban

YB Dato' Seri Rafidah Aziz

Uplifting comment lights up TNB Spirits

"You people (TNB) must be doing something right. (Because) I don't have any problems with TNB...."

The Minister of International Trade and Industry, YB Dato' Seri Rafidah Aziz said this recently when she dropped by the TNB booth after officiating an event at Berjaya Times Square Hotel and Convention Centre, Kuala Lumpur. Needless to say, her very positive, spontaneous remark was most inspiring. It truly lifted the spirits of all those manning the booth including En. Roslan Ab. Rahman, General Manager (Customer Services and Marketing) who was also present.

Dato' Seri Rafidah's honest comment inadvertently tells us that TNB is on the right track. It's an indication that should spur us to do even better as we work towards attaining excellence while dispensing our duties. It's a call for us to have more pride in our work and be more effective and efficient. Her words of encouragement run parallel to our Vice President (Distribution) Dato' Ir. Aishah Dato' Hj. Abdul Rauf's motto encouraging us to Keep the Lights On...

Hopefully, we will be able to make it burn brightly all the time, for the well-being of all Malaysians.

The event, National Investment & Trade Dialogue and Seminar On The Manufacturing And Services Sectors: Towards Global Competitiveness was organised by the Malaysian Industrial Development Authority (MIDA) and Small and Medium Industries Development Corporation (SMIDEC) together with other agencies under the Ministry of International Trade and Industry (MITI) like MATRADE. The TM Group, SME Bank and NPC were also there. The seminar was attended by over 600 participants including investors and manufacturers.

MIDA loads up on power quality

Thanks to the efforts of Jamilah Kamal, Senior Manager (Customer Services and Marketing) who is currently based at MIDA's Headquarters as TNB's representative there and Emilia Rosemera Uzir, Manager, Key Account Management (Customer Services and Marketing), TNB successfully presented a comprehensive "briefing" to update MIDA officers on the subject of Power Quality.

Among other things, the forum discussed minimum Power Quality levels, Online Information, Gebeng areas and the reason for bad voltage sags, the issue of over voltage and the purchase of electricity from other companies.

Others involved were Mohd. Fuad Faisal from TNB's Engineering Department, TNB - Energy Services (TNB-ES), and a Power Quality Solutions Provider from Singapore.

Also present were Vice President (Distribution) Dato' Ir. Aishah Dato Hj. Abdul Rauf and Datuk R Karunakaran, Director General of MIDA





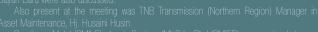
Dato' Ir. Aishah Dato' Hj. Abdul Rauf

Fostering better communications with CDL

On February 26, 2007, TNB Kuala Lumpur Distribution Division General Manager Dato' Ir. Mohd Ghazali bin Haji Sulaiman and a group comprising executives from the Customer Services and Marketing Department including some Area Managers made a special visit to one of its Prime customers, CDL Hotels (M) Sdn Bhd (Hotel Regent KL).

The TNB entourage was greeted by top hotel staff. In a meeting that followed, several matter

Servicing Sumitomo





A visit to Oriland







Constantly striving to provide TNB clients with optimum performance, Region 1 Senior General Manager, Dato' Ir. Hj. Amir Nordin Abdul Aziz doesn't just work to ensure a smooth flow of electricity but that the human link is also maintained via good communications.





hen sheets of rain came down unrelentingly in Johor last December and early this year, the devastation was unimaginable.

Not only were some 300,000 people evacuated in the flooding, the damages to the infrastructure in the affected areas were also massive.

When natural disasters happen, one company that has to spring into action is Tenaga Nasional Berhad (TNB).

As its Senior General Manager for Region 1 (Operations), Dato' Ir. Hj. Amir Nordin Abdul Aziz explains; being a company that operates the national power transmission and distribution grid, supplying about two thirds of electricity to Peninsula Malaysia, the safety of its customers is of utmost importance.

"As soon as the waters reached the 'danger' level, we had to turn our powers off," he says, adding that this caused some dissatisfaction. "Many parties sought compensation from TNB for losses suffered due to the power cut. There were letters sent to us by the score. However, once it was explained that it would have been more dangerous to keep the electricity flowing, people understood."

"It does prove what I've always upheld, that communication is key when it comes to dealing with customers. During the floods, our concern was for the people. And fortunately, nothing untoward happened. Once the waters subsided, we got the power supply back on and people were happy."

Aside from Johor, Amir oversees TNB's Distribution operations in four other places namely Selangor, Negeri Sembilan, Melaka and the Federal Territory (Kuala Lumpur and Putrajaya).

These states are important revenuegenerating areas, he discloses as the company's Prime users such as the government (departments), manufacturers and commercial centres are located there.

"My job is to see that the system is running well in each of these places," he says, devoting his day to a myriad of duties directed at ensuring TNB's good performance. TNB customers seek three main things, Amir says, they want to pay electricity at a relatively reasonable price, supply must be uninterrupted but if is interrupted, rectification must be fast.

being monitored. For such huge undertakings, Amir's team has to make sure that its set-ups are ready well before the other parties (involved in the other areas of construction and development) come in.

"Still, for new areas, our timing is crucial as it will only work to our detriment if we invest heavily and too soon only to find our revenue falling short of our expectations later," he explains, adding that before any new



In a nutshell, TNB customers seek three main things, Amir says, they want to pay electricity at a relatively reasonable price, supply must be uninterrupted but it is interrupted, rectification must be fast.

"My day starts early, I usually make sure the necessary correspondences are done and updated and pressing issues addressed," he says. Also on the agenda are checks on recent power cuts and black-outs.

"We try to be immediate on damage control and if need be, we'd go right down to the customers to see what can be done. These 'mopping up' processes are important for good rapport and to "For new areas, our timing is crucial as it will only work to our detriment if we invest heavily and too soon only to find our revenue falling short of our expectation later."

forge trust," adds Amir who confers with the TNB Vice President on important matters as well.

Meantime, progress on upcoming projects like the massive Bandar Iskandar township in Johor is township opens, TNB would have started work some two to three years prior.

"It might be a year or two longer for the bigger areas as sometimes, there are certain specifications we need to see to, like underground cabling and so on," Amir says.

There are a number of activities going on currently in Region 1. For instance, the authorities in Negeri Sembilan have asked TNB to fix street lights along the main road from Tampin to Gemas (Johor) and Seremban to Kuala Pilah

"In Melaka, for instance, the Minister

is championing a 'clean state' campaign which calls for "no power breakdowns," says Amir whose work includes representing TNB in the company's monthly-held Community Leaders Outreach Programme (CLOP).

Officials make it a point to meet Menteris Besar, wakil rakyats and parliamentarians in dialogues and discussions within and out of town. "This way, we could keep our ears to the ground and find out what the other parties need and vice versa."

"For TNB, getting our concerns across to the kampong folks or general public is important and usually half the battle would be won if we have the community leaders and politicians with us," reckons Amir.

The way forward is, however, still marred by some unscrupulous people. Along with companies like Telekom Malaysia Berhad (TM), Syarikat Bekalan Air Selangor Sdn. Bhd. (SYABAS) and Indah Water Konsortium Sdn.Bhd. (IWK), TNB has long faced problems related to cable and utility thefts.

Thieves have helped themselves to anything made of metals and iron cast from electrical power and communication cables to manhole covers. "We need help from those in the corridors of power to help us battle this kind of problem," says Amir.

Early this year, the companies jointly launched a public awareness campaign

"I believe the strength of any company lies in our weakest workers. So, if there are weak ones among us, we need to bring those people up to the level of the others," he concludes. "For me, the satisfaction is in making things happen for people."

to appeal to the public to play a more pro-active role in preventing the thefts. It was necessary as they are the ones who would end up victims when mishaps occur as a result of the thieving.

Indeed, having a strong link with all concerned, from ordinary folks to high end users goes a long way. But of course, with experience on his side, Amir has picked up the knack of dealing with the many types. "Those in the city tend to be less patient than ones in the suburbs or rural areas," he says. "Foreigners want everything to be done fast as well."

"But generally, what all complainants do not realise is that the tariff Malaysians pay are far cheaper that ones imposed in many other countries. When you pay higher, the service will undoubtedly be better."

Amir joined TNB in 1977 and rose

through rank and file, holding the post of engineer for some 10-15 years. In 1997, he managed the TNB office in Kedah where he "learnt to integrate with the masses and talk to them no matter how bad the situation was."

"This is also what I advice my staff. Also, they needn't be intimidated by anyone, even irate customers. Talking will always help everyone come to a better understanding," he says sagely.

Amir, who retires in two years, says he has managed to overcome many obstacles by applying the basic rules of goodwill and communication. "It always augurs well to gain the confidence of both the government and the industrial sector along the way."

He aims to continue making himself useful in supporting the company's objectives of being in the same league as some of the world's best. "We aspire to always improve the quality of services with new materials and equipment."

As for manpower, TNB is also sprucing things up by sending employees for courses in their areas of specialisation like customer relations and technical training.

"I believe the strength of any company lies in our weakest workers. So, if there are weak ones among us, we need to bring those people up to the level of the others," he concludes. "For me, the satisfaction is in making things happen for people."



ELECTROMAGNETIC COMPATIBILITY REQUIREMENT FOR SEMICONDUCTOR PLANTS

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Engineering Department, Distribution Division of TNB

Introduction

Before the era of solid-state electronics, power quality was not discussed because it had little or no effect on most loads connected to electrical distribution systems. When an induction motor suffered a voltage sag, it didn't shut itself down but simply "spun out" fewer horsepower until the sag ended. The same was true for incandescent or fluorescent lighting systems in a facility—the lumen output just decreased temporarily.

Today however, as sensitive equipment and processes become more complex and downtime costs increase, contractors and engineers have to specify and install specialised equipment that automatically 'shuts off" in order to reduce dangerous situations.

The ideal power-supply voltage for sensitive electronic equipment is an uninterrupted sinusoidal waveform of constant amplitude. Any event that reduces this condition is called a power quality disturbance. Power quality disturbances as brief as one-half cycle can affect the operation of sensitive electronic equipment

In the case of external faults to the power system, for example due to lightning or 3rd party digging on the underground cable system, the network protection schemes (relays), will immediately isolate the faults and thus give rise to a power quality event called voltage sag. This voltage sag event can damage or disrupt sensitive electronic devices in industrial plants connected to the same substation with the faulty feeder. The impact of the voltage sag event however, can be minimised if the industrial plants are designed to be immune to this power quality event.

In this article, the recommended minimum immunity requirement for semiconductor plants against voltage sag will be presented in brief. These requirements are based on the semiconductor industrial standards (SEMI F47, SEMI F49,SEMI F50) and Malaysian Standards (MS IEC 61000-2-4, MS IEC 61000-4-34).

Understanding EMC

According to IEC standards (IEC 61000-2-1 and IEC 61000-2-4), power quality is actually an electromagnetic compatibility (EMC) problem. Is the equipment connected to the power grid compatible with the events on the grid, and is the power delivered by the grid, including the events, compatible with the equipment that is connected? Compatibility problems often have at least two solutions: in this case, either clean up the power, or make the equipment tougher.

Ideally, electric power would be supplied as a sine wave with the amplitude and frequency given by national standards (in the case of mains) or system specifications (in the case of a power feed not directly attached to the mains) with an impedance of zero ohms at all frequencies.

However, no real life power feed will ever meet this ideal condition. It can deviate from it in the following ways:

- Variations in the peak or RMS voltage.
 When the RMS voltage exceeds the nominal voltage by a certain margin, the event is called a "swell". A "dip" (in British English) or a "sag" (in American English the two terms are equivalent) is the opposite situation: the RMS voltage is below the nominal voltage by a certain margin.
- An "undervoltage" or brownout occurs when the low voltage persists over a longer time period
- Variations in the frequency
- Variations in the wave shape usually described as harmonics
- Quick and repetitive variations in the rms voltage. This produces flicker in lighting equipment.
- Abrupt, very brief increases in voltage, called "spikes", "impulses", or "surges", generally caused by large inductive loads being turned off, or more severely by lightning.
- Nonzero low-frequency impedance (when a load draws more power, the voltage drops)

 Nonzero high-frequency impedance (when a load demands a large amount of current, then stops demanding it suddenly, there will be a dip or spike in the voltage due to the inductances in the power supply line)

Electromagnetic Compatibility (EMC) is the branch of electrical sciences which studies the unintentional generation, propagation and reception of electromagnetic energy with reference to the unwanted effects that such an energy may induce. To this purpose, the goal of EMC is the correct operation, in the same electromagnetic environment, of different equipment which involve electromagnetic phenomena in their operation.

For all electrotechnical equipment, EMC must be considered right from the initial design phase and the various principles and rules carried on through to manufacture and installation.

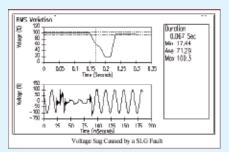
This means that all those involved, from the engineers and architects that design a building to the technicians that wire the electrical cabinets, including the specialists that design the various building networks and the crews that install them, must be concerned with EMC - a discipline aimed at achieving the "peaceful" coexistence of equipment sensitive to electromagnetic disturbances (which may therefore be considered as the "victim") alongside equipment emitting such disturbances (in other words, the "source" of the disturbances).

EMC is now becoming a discipline aimed at improving the coexistence of equipment or systems which may emit electromagnetic disturbance and/or be sensitive to them.

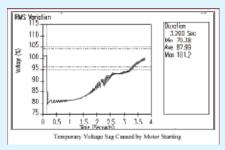
Voltage Sag & EMC

Voltage sags are one of the electromagnetic phenomena that exist in the electromagnetic environment that affects sensitive equipment. The MS IEC 61000 series defines voltage sag as a sudden reduction in voltage to a value between 90% to 10 % of nominal voltage, for duration of 10 ms (1/2 cycle) to 60 seconds.

When the voltage sags, it means that the required energy is not being delivered to the load and this can have serious consequences depending on the type of load involved.



Voltage sag due to external fault



Voltage sag due to Motor Starting

The primary source of voltage sags observed on the supply network is the electrical short circuit occurring at any point on the electricity supply system. Many short circuits are caused by over voltages, which stress insulation beyond its capacity. Atmospheric lightning is a notable cause of such over voltages. Alternatively, the insulation can be weakened, damaged or bridged as a result of other weather effects by the impact or contact of animals, vehicles, excavating equipment, etc., and as a result of deterioration with age.

The switching of large loads, energising of transformers, starting of large motors and the fluctuations of great magnitude that are characteristic of some loads can all produce large changes in current similar in effect to a short circuit current. Although the effect is generally less severe at the point of occurrence, the resulting changes in voltage observed at certain locations can be indistinguishable from those arising from short circuits. In that case they also are categorized as voltage sags.

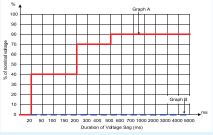
Standards for Voltage sag immunity

In this article, three voltage sag immunity standards: MS IEC 61000-4-11, MS IEC 61000-4-34, and SEMI F47 are discussed for EMC analysis for semiconductor plants. However there are also many other voltage sag immunity standards, including CBEMA, ITIC etc.

MS IEC 61000-4-11 and MS IEC 61000-4-34 are a closely related pair of standards. They both cover voltage dip immunity. MS IEC 61000-4-11 covers equipment rated at 16 amps per phase or less. MS IEC 61000-4-34 covers equipment rated at more than 16 amps per phase. SIRIM Malaysia has adopted both standards as Malaysia Standards.

SEMI F47 is the other voltage sag immunity

standard used in the semiconductor manufacturing industry. It is used both for semiconductor equipment, and for components and subsystems in that equipment.



MS IEC 61000-4-11/4-34 (Class 3)

All the three standards specify voltage sags with certain depths and durations, for example 70% of nominal for 500 milliseconds. The percentage is the amount of voltage remaining, not the amount that is missing. These sags are applied to the Device Under Test (DUT). Each standard specifies pass-fail criteria for DUT when a voltage sag is applied; the IEC standards have a range of pass-fail criteria, but the SEMI F47 standard is more explicit.

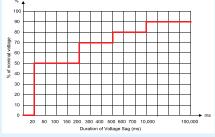
Approaches to improve EMC for semiconductor equipment

The first step in identifying the suitable solution for improvement to voltage sag, is to identify the components that frequently fail during a voltage sag event.

These components are commonly known as the "Weak Links" of the system. For a chiller, it has been found that the controller circuit is the weak link that gives way whenever a voltage sag event happens. The rest of the chiller circuit will typically behave normally during these voltage sag event. In general we can conclude that if the controller circuit of the chiller can be hardened, the chiller will be able to function properly when a voltage sag event happens.

Voltage sag immunity testing

After identifying the weak link in the chiller, a suitable voltage sag mitigation needs to be selected to harden the system. The mitigation selected shall be able to provide voltage sag protection according to the industry standards. A voltage sag immunity testing is necessary to verify the equipment sensitivity and choice of solution.



SEMI F47

A voltage sag generator is a piece of test equipment that is inserted between the AC mains and the DUT. It generates voltage sags of any required depth and duration.

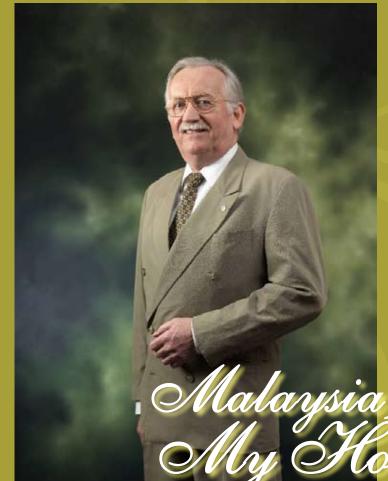
The standards for equipment testing standard are SEMI F42 and MS IEC 61000-4-11/4-34. These standards define the test procedure and parameters used to characterize the susceptibility of equipment to voltage sags.

After the testing was done, the types of suitable solutions for improving the equipment susceptibility to voltage sags can be identified & justified.

Approaches to improve EMC

Some of the common approaches to improve the equipment sensitivity to voltage sags are:

- Harden the control circuit for selected equipment, for example chillers, compressors etc, to voltage sags by installing single phase power conditioner such as the Dynamic Sag Corrector (DySC), Voltage Dip Compensator (VDC), Dynamic Compensator (Dynacom) or Dip Proofing Inverter (DPI). This measure will protect the microprocessor power supply, relay circuits and other instrumentation to be more robust during voltage sags.
- Adjust the settings on the motor protection circuit to make the parameters less sensitive to voltage sags and voltage unbalance. The proposed delay settings for the voltage and current relay are at least 2 seconds. The proposed unbalance current setting is between 20 to 30 percent, and the voltage unbalance to at least 3 percent (for motors with service factors of 1.15 or greater). It's also important to disable any feature that will make the chiller shutdown on the dropout of a single cycle of voltage.
- Built-in software programming within the sensitive device. Several small adjustable speed drive models have user programmable automatic restart. Typically, they wait 30 to 60 seconds for the circuit to stabilize before trying to restart. The number of retries can be programmed, typically it is set at 5 retries. This strategy is commonly used in HVAC fans and pumps in an unattended environment. This applies to both sags and momentary interruptions.
- Install 3-phase low voltage power conditioners to protect the overall supply schemes for the sensitive process. Examples are DySC, Dynacom, Active Voltage Conditioner, Flywheel UPS etc.■



Jean Wasser feels in these parts that

LSACE in France may be where Jean Wasser, the general manager of Seri Pacific Best Western was born but it is here in Malaysia, that the 57-year-old hotelier feels at home and is planting his roots.

He is serving a second stint at the same hotel he used to helm, only this time, management has changed hands, and it's undergoing renovation and sporting a whole new concept in branding and service.

It was just over two decades ago that the then 38year-old hotelier came to Kuala Lumpur to manage the 600-room, five-star Pan Pacific which was and still is; owned by the Seri Pacific Group and operated then by Tokyu Hotels.

True to the peripatetic professional style of the global operator, Wasser left after two years to work all over the region with the Tokyu Hotels group as well as a stint with the Meritus organisation.

July 1 last year saw him return to the bosom of the Seri Pacific fold when the hotel management changed hands; this time to the Residence Hotels and Resorts group. His former employee at Pan Pacific, Rohanna Ramli was by now its Managing Director. She had tracked him down to a small boutique hotel in Colmar. France - which Wasser owned and ran with his wife and made him an offer to head the operations at the old Pan Pacific, now renamed Best Western Seri Pacific. The name change reflects Seri Pacific's association with the United States-based Best Western which is the world's largest hotels management group.

The way Rohanna managed to track him is worth an entry in the annals of the hospitality industry. Wasser remembers a colleague in Colmar calling him one day to say he had received a fax with the simple salutation - 'To Whom It May Concern'. It was from Rohanna who had sent what could only be called an 'SOS' a la 'cold call' fashion to appeal to anyone who knew of her former boss' wherabouts. 'Could he get in touch with her as she had an offer for him to run a hotel in Kuala Lumpur?,' the note added.

"The offer came at a very opportune time as the small

"I believe in the 'Malaysia Boleh' spirit. Everyone has the inherent ability to succeed and perform to the best of their abilities provided management sows the seeds of success and nourishes their dormant 'boleh' spirit."



Wasser welcoming HRH, Princess Moody (left), who is the niece of King Abdullah of Saudi Arabia.

boutique hotel my wife and I owned and managed had caught the attention of a buyer who made a very attractive offer. I was contemplating retirement and readily agreed to the sale – then came Rohanna's call, I boarded a plane and here I am!" he says.

Wasser flew 'home' and immediately got to work to reestablish the erstwhile Pan Pacific to its former glory. He believes a hotel's brand and image filters through from the staff it hires, trains and then lets loose on its guests.

"I believe in the 'Malaysia Boleh' spirit. Everyone has the inherent ability to succeed and perform to the best of their abilities provided management sows the seeds of success and nourishes their dormant 'boleh' spirit.

People management therefore is top priority with Wasser as can be seen in the verve and vitality displayed by the staff in their brand new uniforms as they march about purposefully going about their daily chores.

Wasser is so thoroughly at home that he peppers his speech with the *bolehs* and *lahs* – at the right places it must be added – in the pleasing combination of slightly accented French and expatriate Malay that suggest friendliness without a trace of any condescending familiarity.

Physically, Seri Pacific is undergoing a refurbishment exercise which began in September last year, with the work spread over 14 months at a cost of over RM36 million. Remodelling works are being carried out to the rooms, food & beverage outlets as well as public areas. Wasser says the complete make-over will

again give the Hotel the edge needed to compete and position itself as a leading Hotel in Kuala Lumpur.

"A hotel like Seri Pacific needs a fresh new identity to reflect its new brand, new management and new heights of service quality and excellence," he says.

All the branding, the marketing and all the publicity being generated to attract guests to stay at the Seri Pacific will come to naught if the backroom functions suffer any breakdown.

That means power to the hotel has to be delivered uninterrupted and supplied at the optimum quality. And the man given the task of overseeing this 'powerful' position is K H Toh who was brought in by Wasser to replace the previous engineer who had been headhunted to start off a production facility in Indonesia.

Toh has a team of three electricity chargeman working in three shifts. They are responsible for the smooth running of operations at the main 11kVA intake substation down in the hotel basement which taps into the underground main power grid for the city center.

As far as he can remember, there was just the one occasion when the hotel emergency generator was automatically turned on due to an internal fault.

As with all electricity users, Toh is mindful of the need for a regular and smooth flow of power supply to the quality that enables all the equipment, especially the lifts in the hotel run at an optimum level. "As users, we take on the precaution of installing stabilisers that ensure smooth operations should there be a power surge" Toh says.

For Tenaga Nasional, a hotel like Seri Pacific falls under the category of Prime customer. The hotel runs up a monthly power bill of between RM200,000 to RM300,000 now. This follows the recent tariff hike which saw 'off-peak' rate increased from RM0.128 per kWh to RM0.144 per kWh.

is concerned with smooth delivery of a service. It is a mark of good service delivery when we have little need to see each other, perhaps once in a while when it is time to celebrate our wonderful festive occasions," he says.





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Wasser finds plenty of similarities between TNB and the Seri Pacific in terms of trying to give the customer what they want. "We are in an industry that

If Wasser finds that Malaysia offers the perfect locale to spend one's dotage, who can quibble with his assessment. He is indeed well-qualified to make such pronouncements.

Upon graduation from catering school in Strasbourg in France, the young Wasser headed for the South Pacific to work in various hotels in the French outposts of New Caledonia and Vanuatu. In the late 1970s he moved to Jakarta and had hotel stints in Honolulu before landing in Pulau Pangkor and then Kuala Lumpur. He also had stints in Thailand and Singapore which gives him all the credentials needed to become a trusted regional diviner in the quest for *Shangri La*.

So, when he finally retires after this second stint running the Seri Pacific in some lonely lagoon somewhere in Langkawi, he'd better cut himself off from every form of modern communication if he wishes to be left alone. Beachcombing should be avoided lest a glass bottle slowly bobbles by with another 'SOS' from Rohanna!

Wasser finds plenty of similarities between TNB and the Seri Pacific in terms of trying to give the customer what they want. "We are in an industry that is concerned with smooth delivery of a service. It is a mark of good service delivery when we have little need to see each other, perhaps once in a while when it is time to celebrate our wonderful festive occasions," he says.

A towering performance from everyone at TNB



Today, TNB can stand tall among other global organisations. For this, we would like to thank our dedicated staff for their continuous effort in helping TNB secure prestigious awards and recognitions over the years. Among them are; The Platts Top 250 Global Energy Company 2005, Best Investor Relations Across Asia by Asiamoney, 2nd Best Corporate Governance Award in Malaysia by Asiamoney, Most Improved Company in terms of Corporate Governance by Deutsche Bank, Most Promising Employer Award 2005 (Malaysia), the MS ISO 9001:2000 Certification and many more.

