

# letter to shareholders

## *Dear Shareholders,*

**On behalf of the Board of Directors and the management of Tenaga Nasional Berhad (TNB), it gives me great pleasure to present the Annual Report and Accounts for the Financial Year ended 31 August 2004.**

The year 2004 marks an important milestone for the country as we celebrate the first year under the leadership of Prime Minister Datuk Seri Abdullah Ahmad Badawi. Similarly, 2004 proves to be a significant year for TNB as the Company moves forward towards a more focused management structure under a new leadership and management team that combines the strength and expertise of the old and new.

As Chairman of the Board of TNB, I am indeed proud to be part of the team, having joined TNB effective 12 April 2004. I would like to thank the Government for its trust and confidence in me. I am honoured to take up this challenge to exercise the mandate entrusted upon me to ensure that TNB remains an efficient and competitive powerhouse and that as a Government-linked company (GLC), it is able to stimulate domestic private investments and help strengthen the country's economy. There are many challenges and expectations placed on TNB as a responsible corporate citizen and one of the largest companies in Malaysia in terms of market capitalisation and financial performance.

In moving forward, TNB will certainly benefit and be further strengthened by the strong corporate finance background and successful track record of the new team of Dato' Che Khalib Mohamad Noh and Encik Izzaddin bin Idris as the new President/CEO and Chief Financial Officer respectively.

DATUK AMAR LEO MOGGIE  
Chairman



# Letter to Shareholders

At the same time, we have to make sure that we are always in line with the overall Government policy. In my capacity as Chairman, I consider it my duty and the duty of the Board to ensure that TNB complies with the given guidelines and at the same time able to function as an operating company.

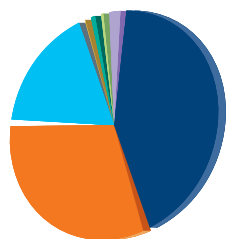
I am confident that with the injection of new leadership, a more focused managerial structure and the strong support of our motivated and experienced personnel, TNB will be able to focus on efforts to further strengthen our core business and fulfill its commitments to providing excellent products and services to support and facilitate economic growth in the country.

Towards this end, TNB's priority remains that of avoiding power disruptions by delivering reliable, quality and affordable electricity while ensuring reasonable returns on shareholders' investments and enhancing our role as a socially responsible corporate citizen.

At the same time, I believe TNB should continue to be guided by policies and practices such as good corporate governance, transparency and prudence that are already in place, as well as others that will add value to the organisation, stakeholders and customers. It is also important to ensure that a high level of professionalism continues to be advocated and implemented at all levels of TNB.

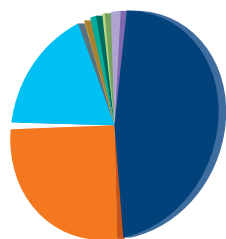
The Financial Year ended 31 August 2004 represented my first year as Chairman of the TNB Group. In dispensing my duties, I believe I am at an advantage in being able to fall back on my experiences as a former Minister responsible for Energy which had allowed me to follow and monitor TNB's development and progress over the years.

This year TNB celebrates its 55th Anniversary – a history that began in 1949 with the establishment of the Central Electricity Board to 1965 when it became National Electricity Board and subsequently as Tenaga



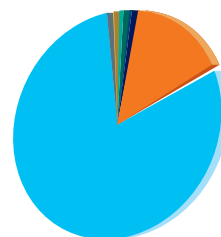
**SALES OF ELECTRICITY (RM' MILLION) (GROUP)**

INDUSTRIAL	45.67%	- RM7,863.9 million
COMMERCIAL	33.47%	- RM5,762.9 million
DOMESTIC	17.97%	- RM3,093.9 million
MINING	0.04%	- RM7.7 million
PUBLIC LIGHTING	0.68%	- RM117.2 million
EXPORT	0.36%	- RM62.3 million
OTHERS (TNB LPL)	1.81%	- RM311.5 million



**SALES OF ELECTRICITY (GWh) (GROUP)**

INDUSTRIAL	50.02%	- 36,479.3 GWh
COMMERCIAL	28.64%	- 20,882.6 GWh
DOMESTIC	18.23%	- 13,290.6 GWh
MINING	0.07%	- 54.3 GWh
PUBLIC LIGHTING	0.99%	- 719.5 GWh
EXPORT	0.43%	- 311.6 GWh
OTHERS (TNB LPL)	1.62%	- 1,183.5 GWh



**NUMBER OF CUSTOMERS BY CLASSIFICATION (GROUP)**

INDUSTRIAL	0.378%	- 23,877
COMMERCIAL	15.679%	- 991,495
DOMESTIC	83.280%	- 5,266,419
MINING	0.001%	- 31
PUBLIC LIGHTING	0.662%	- 41,897

Nasional Berhad in 1990. Today, 15 years after it was incorporated, TNB remains as Malaysia's leading power supplier with assets worth more than RM60 billion dedicated to providing quality service to more than six million customers nationwide.

As part of the new management, I came in at a time when TNB's foundation as the leading corporate organisation in the power generation and distribution business in the country is strong and intact. Under the leadership of my predecessor YB Dato' Dr. Awang Adek bin Hussin and President/CEO Dato' Pian bin Sukro, they were able to give renewed emphasis and focus on efforts to turn TNB into a more agile and competitive company by further enhancing the Company's efficiency, consolidating its financial strength and improving on its work culture in order to reinvent itself and better serve the customers. This strive towards efficiency remains a major challenge facing the current management of TNB in line with the Government's call for GLCs to take the lead in stimulating private investment and in enhancing the role of the private sector in the economy.

### Increasing Efficiency

In the course of the year, our immediate priority has been on managing operating costs and increasing operational efficiency. These would translate to better customer service as well as the generation of positive free cash flow.

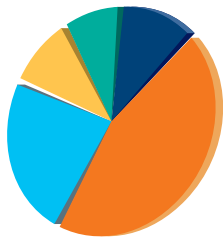
We have achieved some success in managing costs in the last few years. Operating costs per unit sold have reduced further despite an increase in IPP cost, which accounts for approximately 42 per cent of the Company's operating costs.

Even though IPP costs have been increasing in absolute amount over the years, in Financial Year 2004 cost per unit purchased from IPPs has reduced from 14.9 sen/kWh in 2003 to 14.7 sen/kWh. The lower IPP cost per unit was a result of the commissioning of IPP plants under Second Generation PPAs, which have lower tariff rates. Meanwhile, under the Third Generation PPAs, demand risk sharing has been introduced to allow for sharing of electricity demand risk. In previous PPAs, this was totally borne by TNB alone.

Efficiency continued to improve as evidenced by the 6.2 per cent increase in operating expenses against a 7.6 per cent growth in revenue. Cost per unit sold of 19.8 sen/kWh declined from 20.2 sen/kWh of the previous Financial Year. In pushing for efficiency, TNB has also been addressing the issue of loss of electrical energy, both in the transmission and distribution systems which amounted to about 12.1 per cent of generated energy. There are also non-technical losses as a result of theft of electricity, billing errors or faulty metering systems, among others which constituted about half the distribution losses and the loss of revenue of as much as RM800 million a year.

TNB has been focusing on the reduction of these non-technical losses and actions have been taken which include the formation of a special task force to handle this issue, apart from strengthening processes and controls and conducting checks on metering systems and on customers suspected of theft of electricity. Over the past year, distribution losses have been reduced by about one per cent, resulting in substantive savings for the Company.

# Letter to Shareholders



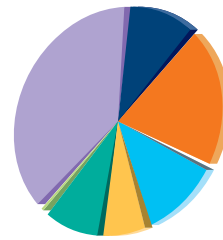
**TNB GENERATION MIX**

- HYDRO 11.6% - 4,710.0 GWh
- CONVENTIONAL THERMAL (COAL) 46.6% - 18,965.6 GWh
- COMBINED CYCLE 24.0% - 9,746.5 GWh
- CONVENTIONAL THERMAL (OIL/GAS) 9.4% - 3,837.6 GWh
- GAS TURBINE 8.4% - 3,404.1 GWh



**TNB INSTALLED CAPACITY - AS AT 31 AUGUST 2004**

- HYDRO 18.2% - 1,911.0 MW
- CONVENTIONAL THERMAL (COAL) 35.0% - 3,670.0 MW
- COMBINED CYCLE 19.6% - 2,050.0 MW
- CONVENTIONAL THERMAL (OIL/GAS) 11.4% - 1,197.0 MW
- GAS TURBINE 15.1% - 1,585.0 MW
- DIESEL 0.7% - 68.0 MW



**TOTAL INSTALLED CAPACITY INCLUDING IPPS**

- HYDRO 11.0% - 1,911.0 MW
- CONVENTIONAL THERMAL (COAL) 21.2% - 3,670.0 MW
- COMBINED CYCLE 11.8% - 2,050.0 MW
- CONVENTIONAL THERMAL (OIL/GAS) 6.9% - 1,197.0 MW
- GAS TURBINE 9.2% - 1,585.0 MW
- DIESEL 0.4% - 68.0 MW
- IPPs 39.5% - 6,845.4 MW

Efforts to improve collections and the settlement of bills have also been successful. During the course of the year, we have made public our concern about major customers with outstanding bills. I am happy to say that this has had positive results with the defaulters having agreed to scheduled programmes for repayments which have already started as of August 2004. We believe that this cooperation will continue in the future.

Another challenge for TNB will be to review our level of borrowings. Heavy borrowing, as we know, is not unusual in a big utility such as TNB. Having said that however, we need to benchmark ourselves to similar utilities elsewhere.

From as early as 1998, TNB has effectively lowered its cost of funds from 6.9 per cent per annum to the current level of approximately 5.3 per cent per annum – an impressive feat considering the size of the Company’s total long term debt. Management has also become more critical on the need to control and prioritise capital expenditure.

Since the Asian financial crisis, TNB has also taken active steps to manage our foreign currency debt exposure. With the active development of our domestic capital market, a significant portion of new borrowings will continue to be tapped in Ringgit Malaysia from our domestic market. We are also considering more equity-linked financing structures in order to reduce our current gearing levels.

In moving forward, our key initiatives would be to build momentum aimed at improving working capital, improving profitability, achieving higher generation market share, managing fuel cost, improving gearing and lowering forex exposure, improving operations and reducing power theft.

I am confident that TNB as a company has great potential to show better performance and to forge to greater heights.

## Electricity Supply Industry

Malaysia's approach to the development of the power sector has been a pragmatic and prudent one which gives priority to meeting demand and ensuring security of supply through the adoption of the managed electricity market approach.

The current structure has served us well. It provides for system security. At the same time, it has also allowed for private sector participation and investment. Within this structure, Malaysia has also been able to achieve the tangible benefits like stable, competitive and affordable electricity prices and maintain a secure, reliable and quality supply that is comparable to that of many developed countries in the world.

Our overall average selling price is among the lowest in the ASEAN region for our domestic and industrial tariffs, and is second lowest for commercial customers. Our System Average Interruption Duration Index (SAIDI) is also at par with developed countries such as the United States and Australia.

These indicators are proof of the success that the country has achieved as a result of steps taken both at the policy and operating levels. For example, the policy to introduce extensive use of natural gas in the power sector in the 1990s has made it possible for us to maintain electricity tariff at the present levels. We have also adopted a fuel diversification policy to reduce total dependence on any single source of fuel.

TNB, on its part, has embarked on coal as part of ensuring our sustainable energy in the future. We have also continued to invest in transmission and distribution networks.

As the national utility provider, TNB will continue to play its role.

As we know, power demand is keeping abreast with economic demand. In our push for efficiency TNB has ensured a healthy reserve of electricity supply margins. We are also continuously upgrading the quality of supply. At the same time, there is no immediate need for additional capacity building due to our strong reserve in generation capacity compared with the 1990s.

Meanwhile, in support of the Government's efforts to promote the development of Renewable Energy (RE), TNB continues to be one of the first movers in the field of Renewable Energy. The use of RE such as co-generation, solar and biomass for power generation is being encouraged to achieve a diversified fuel mix.

Our researchers and scientists are also continuing to work on RE in order to meet the Government's target of five per cent use of RE for generating electricity by year 2005. This includes working in close cooperation with other private sector corporations on research projects for biomass, biogas, municipal waste, solar and mini hydro.

Apart from RE, we have also stepped up efforts to develop expertise on other energy resources and technology related to integrated energy supply, co-generation and energy efficiency. Through our subsidiary TNB Energy Services, TNB also offers various energy efficiency services to help customers translate energy efficiency into energy cost savings.

To date, TNB has signed five renewable-energy power purchase agreements (REPPAs) with Small Renewable Energy Programme developers in Peninsular Malaysia, with a total export capacity of 26.2 MW.

Meanwhile, during the year, the Jana Landfill Small Renewable Energy Programme (SREP) Project which uses landfill gas at the Puchong Landfill site in Selangor and developed by a subsidiary of TNB, commenced commercial operations, beginning April 2004.

## Economic Environment

Over the last couple of decades, Malaysia has transformed tremendously and made significant progress in terms of development and economic growth. The nation's readiness and ability to adapt to challenges has been fundamental to the success in the overall development of the country, as it is to the electricity supply sector. We believe the challenges facing the sector in the future will be more demanding for Malaysia. The economy has returned to growth after the economic downturn of 1998. Consequently, energy demand has also risen.

The emergence of China as an economic power will also mean increased demand by China for energy reserves, putting pressure on global supply and pricing. Indeed we are already seeing that in the rising trend in the prices of coal.

For the full Financial Year 2004, electricity consumption has risen to 69,275.1 GWh, an increase of 7.6 per cent as compared to the same corresponding period last Financial Year for Peninsular Malaysia. It is well to remember that historically electricity has always grown higher than GDP growth.

Electricity demand growth for Peninsular Malaysia in the next few years is expected to grow in tandem with the country's buoyant economic growth projection. Current projection till 2010 indicates that system peak demand is expected to increase at seven to eight per cent annually. However, there are global forces beyond our control that could impact operating costs and pose a challenge to our performance.

## Financial Performance

### Revenue

For the year ended 31 August 2004, the Group's total revenue increased to RM17,712.1 million against RM16,457.8 million recorded in 2003, reflecting an increase of 7.6 per cent as a result of stronger demand for electricity.

Revenue from sales of electricity contributed to 97.2 per cent of the Group's total revenue, an increase of 7.8 per cent to 17,219.4 million from RM15,973.9 million registered in 2003. Total units sold amounted to 72,921.4 GWh in 2004 compared to 68,254.3 GWh in 2003, reflecting an increase of 6.8 per cent. Included in the Group's total sales of electricity is revenue from export sales to Electricity Generating Authority of Thailand (EGAT) which recorded a 294 per cent increase from sales recorded in 2003. This substantial increase was attributable to the power shortage situation in Southern Thailand.

In 2004, the Group recorded a foreign exchange translation loss with the strengthening of the Yen against the Malaysian Ringgit. The weakening of Malaysian Ringgit against other currencies over the 12-month period under review further contributed to the foreign exchange translation loss of RM361.9 million compared to RM28.6 million in the previous year.

### Operating Profits

With the higher volume of unit sales and as a result of management's efforts to reduce costs and increase efficiency, operating profits increased by 16.2 per cent.

### Pre Tax Profit

However, despite higher sales and higher operating profit, the Group recorded a pre-tax profit of RM1,482.7 million, representing a 10.1 per cent decline over the performance of RM1,648.5 million in 2003. This was mainly attributable to higher financing cost as a result of the strengthening of the Yen and UK Sterling.

### Dividend

The Board of Directors is pleased to recommend a final gross dividend of 10.0 sen per share and a special gross dividend of 4.0 sen per share making a gross total of 14.0 sen per share in respect of the Financial Year ended 31 August 2004 subject to shareholders' approval at the forthcoming Fourteenth Annual General Meeting of the Company.

Together with the interim tax-exempt dividend of 3.0 sen per share (equivalent to a gross dividend of 4.2 sen per share) paid on 7 July 2004, the total equivalent gross dividend for the year amounts to 18.2 sen per share.

### Earnings Per Share

For the year under review, the Group registered earnings per share of 26.08 sen compared to 34.12 sen per share in 2003, reflecting a reduction of 23.6 per cent.

### Group Assets

During the year under review, the Group's assets expanded to RM63,381.6 million compared to RM59,956.5 million in 2003.



*Financial Briefing to Analysts in Progress.*

### Corporate Governance

The Company and Group have formulated a code of corporate governance which is based on the principles and best practices set out in the Malaysian Code on Corporate Governance.

To protect and enhance shareholders' value, the Board of Directors remains committed to ensuring that the highest standards of corporate governance are observed throughout the Group as an imperative part of discharging its responsibilities.

The appointment of Board members and a non-executive Chairman with separate regulatory and operating functions demonstrated this. There is also a heightened awareness of audit functions while strong support to the various audit committees minimises risks of conflict of interest. These committees and the ensuing system of check and balance stand testimony to the Board's commitment to ensuring fair corporate governance in place.

At the same time, under the new system of Key Performance Indicators (KPIs) all staff performance from senior management right down to rank and file will be audited.

In a separate section of this annual report, a comprehensive disclosure of TNB's Corporate Governance is presented.

# Letter to Shareholders

## Customer Focus

In upholding our responsibility and accountability toward our shareholders and customers, TNB is fully committed to better utilisation of its assets. These efforts however, will not be at the expense of quality, reliability and security of supply. To us in TNB, Customer is King.

TNB has invested in various initiatives and cutting-edge technology to continuously improve the Company's performance to benefit our customers. These include reliability condition monitoring, installation of Supervisory Control and Data Acquisition system (SCADA), Energy Management System, Enterprise Resource Management System (ERMS), Enhanced Customer Information Billing System (ECIBS), Remote Metering and Customer Services.

Over the last 13 years, TNB has invested more than RM50 billion to improve its service level. It plans to further improve its service via system reinforcement, rehabilitation projects and improving monitoring and failure analysis of our system.

The Company will be spending as much as RM1 billion a year to upgrade the transmission grid and about RM1.9 billion a year to expand and strengthen the distribution network to provide supply to new customers, as well as cater for the additional demand of existing customers.

Meanwhile, one of the immediate challenges facing TNB is correcting public perception about the Company. Our objective is to continuously enhance customer relations management through various channels of communication and technology deployment.

TNB has continued to demonstrate its corporate social responsibility commitment by supporting various causes including subsidy on cost of electricity supply to customers, discount and subsidy for learning institutions and places of worship, development of intellectual capital through Universiti Tenaga Nasional (UNITEN), scholarships and study loans, welfare and charity programmes amounting to RM1.2 billion a year. TNB has also committed a total of RM33 million for rural electrification projects to be completed by the end of 2005.

## Prospects and Challenges

Global developments will continue to have pronounced implications on the political, economic and financial environment we operate in.

A major challenge is rising fuel costs which will have an impact on the operating costs of most power generators globally. In view of the volatility of fuel costs, an important concern will be the ability of utility companies to sustain their viability for future investments. While increased operating efficiency continues to afford opportunities for further costs reduction, fuel costs are by and large outside management control.

The implication is that we need to ensure that the electricity supply industry is able to earn sufficient revenue in order to invest in generation, transmission and distribution networks to meet future requirement for the country. In this regard, policy makers, the regulating agency, operating companies, financial institutions and the customers need to share this common undertaking.

From TNB's perspective, the likelihood of continuing increases in fuel costs would be a major challenge to fulfilling its obligation to provide adequate power for national needs, unless TNB can recover such increased costs from customers.

However, as a result of the multi-fuel strategy adopted by TNB, we have been more fortunate than some other utilities in that we have some flexibility to realign and optimise on the fuel mix, whilst ensuring the security and reliability of energy supply.

Nevertheless, with the strong outlook for the economy next year, TNB may face challenges in the fuel mix in the next financial year due to their rising prices that could impact operating costs.

Tenaga Nasional Berhad however is a very solid company with a thriving business. It has a lot of core strengths, the necessary technical skills and expertise and a good combination of capable people. We will continue with our pledge and are resolute in our determination to undertake the best efforts to ensure that TNB achieve its goals and become a formidable and reputable company in the country.

### Appreciation

I am extremely grateful to our loyal and valued customers for their support, cooperation and valuable interaction that have helped the Company and Group to better serve our customers. TNB's success for the year 2004 is attributed to their continued confidence in the Company and Group. For this, I wish to thank all of them.

I would also like to offer my gratitude to the Ministry of Finance, Ministry of Energy, Water and Communications and the Economic Planning Unit for their guidance, understanding and assistance throughout the year.

To the Government, shareholders, investors, suppliers, contractors, the media and all parties who have contributed and given their support to the Company, I would like to express my appreciation and gratitude for making it another good year for TNB.

I would also like to thank former Chairman Dato' Dr. Awang Adek bin Hussin who resigned with effect from 31 March 2004, and Dato' Pian bin Sukro, President/Chief Executive Officer/Non-Independent Executive Director who resigned with effect from 1 July 2004. My appreciation also goes to other Directors and Alternates who have resigned during the year for their valuable contribution to the Company. At the same time, I wish to welcome all new Directors to the Board, namely Dato' Che' Khalib bin Mohamad Noh, Datuk Mohd Zaid bin Ibrahim, Dato' Azman bin Mokhtar and Dato' Abdul Rahim bin Mokti.

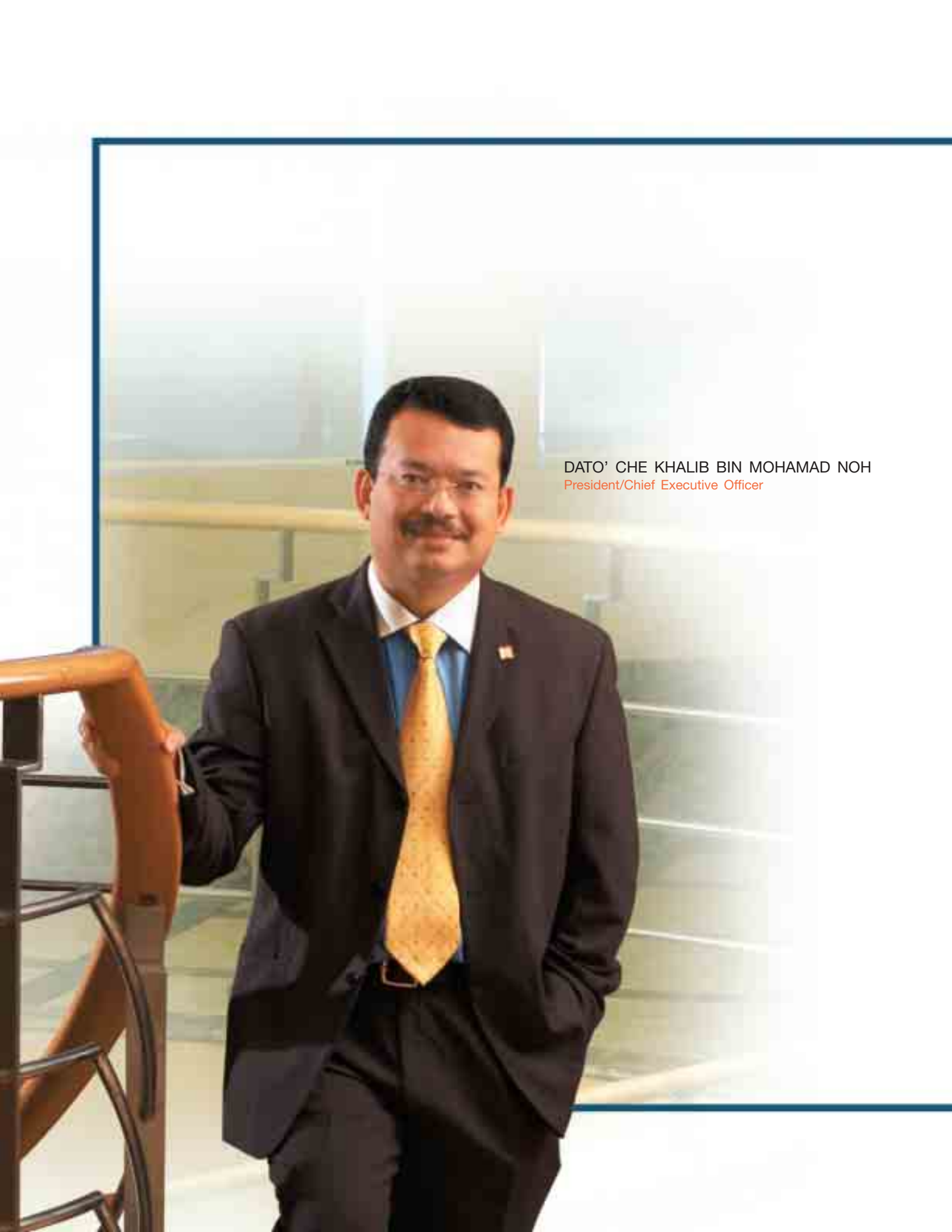
Finally, I would like to convey my gratitude and appreciation to all Board members, the management and employees for their commitment and contribution to the continued strength of the Group.

Let us continue to power the nation with our commitment to deliver the best in our products and services and illuminate the lives of the people of Malaysia.

**"POWERING THE NATION'S PROGRESS"**



**Datuk Amar Leo Moggie**  
Chairman



DATO' CHE KHALIB BIN MOHAMAD NOH  
President/Chief Executive Officer

# President/CEO's

## R E V I E W

### INTRODUCTION

GLC reform was a major corporate theme in 2004. As the primary GLC in the strategic power sector, Tenaga Nasional Berhad (TNB) too received the mandate to restructure and instill a performance-driven culture.

Increasing efficiency and competitiveness and stimulating growth are central to achieving a paradigm shift at TNB. During the year under review, TNB renewed its focus on mission-critical areas, which include formulating and executing relevant leadership, financial and operational strategies, working towards improvements in key systems, processes and controls, and ensuring values-driven management through the upgrading and empowerment of people.

As the incoming President/Chief Executive Officer of TNB, I am honoured to be entrusted with the challenging task of reinventing one of Malaysia's most historic corporations and guiding it to greater heights. Nonetheless, the mission is a communal one, and I wish to record my gratitude to the Board of Directors, management and all the employees for their overwhelming support and commitment.

For the Financial Year 2004, the Group recorded encouraging results. Turnover increased by 7.6 per cent to RM17.7 billion from RM16.5 billion in the previous year.



CEO meeting the staff.

### Setting Priorities

TNB has set an ambitious goal of becoming the best corporation in Malaysia by August 2007, and we aim to achieve this target via our focus on the T7 strategy and the implementation of an aggressive performance-driven culture.

The success of several fundamental T7 initiatives has significantly raised the effectiveness and efficiency of our business processes. Key to T7 are the Seven Building Blocks for Transformation as well as the three strategic objectives of 'Defending the Core Business, Getting the House in Order and Positioning for Growth', which provide the foundation for TNB's Vision and Mission. Currently, there are 38 initiatives under the T7 strategy, pared down from the original 46 initiatives which were proposed in 2002.

Performance management and measurement systems that feature well-defined measures and demonstrated values are fundamental in moving towards a performance-driven culture. TNB has implemented a new performance management system and set stringent Key Performance Indicators (KPIs) for all senior managers in order to improve organisational efficiencies and enhance accountability. Notably, this performance-oriented system has raised the level of employee commitment to TNB's corporate and business goals and has challenged each person to go the extra mile to fulfil our universal mission.

To complement TNB's current shared values of Integrity, Business Excellence, Customer Focus and Caring, I have encouraged our people to adopt my personal values of Dedication, Integrity and Discipline (DID) which I hope will further reinvigorate our work culture and create an open management style based on trust and transparency.

### Putting Customers First

As a service organisation, customers come first. Part of our T7 strategy is to focus on delivering value and satisfaction to our six million customers by improving our revenue collection efforts and simplifying and facilitating the supply connection process.

Improving our revenue collection will reduce overall losses, particularly non-technical losses arising from billing errors, while facilitating supply connection entails anticipating and fulfilling customers' expectations.

Customer feedback is vital to improving service. We gather feedback through surveys, interviews, print and direct interface with customers via our Customer Outreach Programmes (CROP), Mesra Rakyat and Jawatankuasa Kerja Kampung (JKKK) Dialogues. TNB also conducts an Annual Survey to determine customer satisfaction and future customer requirements. These expectations are quantified as indices in the Customer Service Index (CSI) to track TNB's performance among satisfied customers. Our aim is to take customer satisfaction to the next level by raising the index from the current 6.7 to about 7.0 to 8.0 within the next few years.

We have also established our Customer Charter which outlines customer and regulator requirements and service expectations. Performance compliance with the charter is tracked monthly by all operating areas, states and headquarters and these monthly reports are submitted to the regulators.

In terms of quality of service, our customer response times have improved. Total disruptions have been substantially reduced to 106 minutes per customer as shown in the System Average Interruption Duration Index (SAIDI) results. Our customer enquiry and complaints-handling procedures at the Company's 24-hour Call Management Centre (CMC) are smoother. Meanwhile, the implementation of Program Aduan Pelanggan System (PAP) Version II, a superior user-friendly in-house software system, is in the pipeline and will enhance Customer Complaint Management. Customers may also lodge service complaints via the TNB Feedback Form on our website.

Furthermore, we try to anticipate stakeholder demands by conducting regular dialogues with captains of industries, investors, the general public and other stakeholders. We hold on-going discussions with relevant regulators and government bodies such as



*Our Kedai Tenaga at Putrajaya.*

the Ministry of Energy, Water and Communications, the Ministry of International Trade and Industry, and the Energy Commission to seek advice and guidance on how best to further improve our services and at the same time adhere to prevalent industry policies, rules and regulations.

### **Efficiency Measures**

Apart from topline growth, management, operational, financial and service efficiency are key factors for long-term sustainability. We have reorganised the Company into three major areas in order to create a more focused and streamlined organisation.

# President/CEO's REVIEW



*UNITEN Campus in Bangi.*

The first is the Company's foundation and core business of Generation, Transmission and Distribution. The second incorporates all our non-core functions such as Information Technology (IT) and Investments Management, while the third incorporates Management Support Services which covers Finance, Corporate Services and Human Resources. This restructuring of our core and non-core businesses and support services will streamline the reporting structure and facilitate a faster decision-making process.

Meanwhile, the management of Productivity and Quality – which are integral elements of global competitiveness, has been placed directly under the CEO's office. Our first step will be to embark on the review and

documentation of day-to-day processes and procedures beginning with the Distribution Division. Processes will be standardised with the aim of achieving ISO 9000 in all business units, reducing losses and optimising performance.

Importantly, capability building will be our strategy for the next twelve to eighteen months. We will create opportunities for middle management to acquire new management skills and groom them for larger challenges, intensify human resource development and improve our internal control systems.

Moving forward, financial house-cleaning will be key, and we will focus on debt reduction and improving cashflows through efficient billing and collections. We are in the process of developing a superior financial model that illustrates our 20-year cashflow trends and will enable better management of funds and debt. By matching capital expenditure with income flows, we aim to reduce the current gearing level from two to a more comfortable 1.5 times over the next five years. Meanwhile, future Capex is being revised to a level that will not burden the Company with high debt.

Strategic initiatives to improve service efficiency include the installation of a RM35 million Supervisory Control and Distribution Automation System (SCADA) in the Klang Valley to track breakdowns and minimise supply downtime. The system will be extended to most other parts of the country within three to five years.

The Company is also focused on creating a culture of regular maintenance, which would not only reduce the incidence of blackouts but will ensure better operational performance. Overall, our operational efficiency has improved tremendously with fewer power interruptions, resulting in greater economic benefits to the country.

Improving supply connectivity is another important service measure which will generate added revenue in the long run. We are also working to improve our other operational efficiencies such as reducing non-technical losses and power thefts, improving procurement systems and increasing staff productivity. Central to our operational strategy is the challenge of reducing our reserve margin from 46 per cent to an efficient 30 per cent in the next two to three years.

However, efficiency is a moving target; we pledge to strive unceasingly towards providing better quality of service and a more reliable supply of electricity to all our customers.

### Capability Building

A competent and professional workforce is an important prerequisite to achieving the Company's objectives. Thus, TNB's Human Resource Division has accelerated education, training and development programmes for its staff. Training is designed to develop both core and leadership competencies and technical/functional competencies. Skills levels are enhanced in addition to increasing the knowledge and intellectual capacity of employees. Qualified non-executives also receive training to prepare them for promotion to executive positions. We encourage career advancement in order to ensure sustainability and long-term career satisfaction.

To fulfil our human resource goals, the Institut Latihan Sultan Ahmad Shah (ILSAS) is being upgraded to provide better facilities to carry out more training and multi-skilling programmes. ILSAS also collaborates with other technical and management institutes to enhance its training and education programmes using the latest state-of-the-art tools, equipment and technologies.

Universiti Tenaga Nasional (UNITEN) deserves special mention for its strengths. TNB is committed to raising UNITEN's quality, and the university has successfully obtained regional recognition and accolades for its first-class teaching programmes as well as its research and development and training programmes. UNITEN's mission is two-fold; it contributes to the nation's and TNB's manpower needs and it is the hothouse for the development of new technologies that sustains industry and business.

Apart from funding its own institutes, TNB invests tremendously in human capital by sponsoring students and employees for further studies, many of whom have attained first class degrees from both home and overseas universities. It is estimated that the cost of sponsoring the higher education of a TNB executive from first degree to PhD level ranges between RM800,000 to RM1.5 million. The monetary cost might be substantial, but we are proud to support the Government's efforts to create the deep talent pool that is necessary to succour the country's economy.

### Engineering and Technology

An independent study conducted by the Energy Commission has demonstrated the robustness of our electricity infrastructure and show that Malaysia has built a world-class system.

However, modernising our electricity delivery infrastructure using the appropriate technologies is critical if TNB is to keep producing and delivering a secure, efficient and reliable supply of electricity. To that end, we have developed a comprehensive Electricity Technology Roadmap, which identifies routes and timelines for the application of new technologies that will eventually fulfill our vision of an efficient, reliable and robust electricity production and delivery system.



*Liberty Power Plant in Pakistan.*

We are currently embarking on a more effective method of analysing technologies, encompassing assessment, adoption and standardisation decisions. Currently, the market offers a wealth of technologies and TNB needs to proactively seek out the most cost-effective solutions, which are relevant to its technical and business issues, objectives and priorities. Any future decision to adopt or integrate a certain technology will require a detailed study of the product's overall system design, operation ability and performance within the TNB system.

Upgrading human capital ranks on par with technology deployment in a service entity, and building intellectual capacity will enhance our delivery of robust and economical electricity products and

services to our customers in the long run. As TNB is largely an engineering organisation, our staff is encouraged to pursue professional development and participate in professional bodies in technical fields such as mechanical and electrical engineering. As an award-winning employer, TNB provides a wealth of incentives and support for the further development of our engineers and technical employees.

### Share Performance

TNB's share price increased by 11.1 per cent during the year under review and peaked above the RM11.00, before stabilising at this level. The stock's upward spike has been attributed to a positive rerating by the domestic and international investment community following the restructuring of GLCs, including TNB. In addition, investors are bullish on TNB in light of positive economic growth projections which should buoy top-line growth, as well as its ongoing commitment to reduce costs. Notably, TNB received encouraging feedback after unveiling its restructuring initiatives and financial projections to international analysts, fund managers and investors at a recent investment conference in Hong Kong.

We are pleased to note that our foreign shareholdings increased from just under three per cent to approximately 4.8 per cent recently.

### Illuminating Lives

Electricity is a necessity for every individual, business and community. As a socially responsible company, TNB makes the effort to deliver electricity to even the most remote regions of the country. Our aim is to improve the quality of life for every Malaysian; therefore, our rural electrification programmes cover many areas regarded as non-viable by other businesses.

We also supply public lighting and electricity to schools, mosques and temples at special tariff rates. Subsidies provided by TNB amounted to about RM32.6 million for the year under review.

### The Way Forward

The economic outlook for the 2005 Financial Year is promising. Based on projected economic growth rate of 6.0 per cent as published in the Malaysian Economic Report 2004/2005, projected demand for electricity should remain buoyant.

This positive scenario provides room for TNB to explore new sources of sustainable revenue and earnings growth, and carve out added efficiencies. Human capital will be a vital source of competitiveness. Our new performance-driven culture has stimulated our people to work harder and smarter to achieve our goal of transforming our Company into a more agile, responsive and efficient entity.

Nonetheless, challenges remain, primarily in the area of fuel and commodity prices. Escalating fuel prices will impact upon TNB's performance. Fortunately, TNB is shielded against gas price increases for the present as the price of gas has been fixed by the Government until December 2005. Although coal prices have increased substantially and at unprecedented rates, prices are stabilising. Similarly, the rising price of steel and other metals will have an inflationary effect on TNB's future CAPEX.

Eventually, our aim is to be a leading regional industry player. Opportunities in developing economies with high potential could be an avenue for sustainable growth. Currently, TNB already has a presence in Pakistan through its wholly-owned stake in TNB Liberty Power Limited, which operates a 235 MW plant there. TNB is also open to forming joint ventures with local companies in foreign destinations.

Energy sales abroad could also mitigate the impact of the industry's current high reserve margin, which has been a perennial trial throughout previous years. TNB has concluded an agreement to sell a maximum of 300 MW of power to Thailand and is currently looking for options to increase energy sales. Apart from energy sales, TNB's expertise and technical assistance could also be saleable to other countries in the region.

These innovative measures suit the challenging times we live in, and are a reflection of TNB's paradigm shift. We hope that every stakeholder takes pride in TNB's evolution. Similarly, we hope that all TNB employees throw their full weight and commitment behind TNB's transformation. I wish to stress that all of you have played an important role in this dynamic shift, which will hopefully enable us to illuminate even more lives in a meaningful fashion in future.

As we continue on this challenging journey, I want to take this opportunity to express my deepest appreciation to all employees as well as the management and Board of Directors for their solid support. I trust that all stakeholders will continue to give us their backing as we grapple with new tests and record fresh successes.

**"POWERING THE NATION'S PROGRESS"**



**Dato' Che Khalib Mohamad Noh**  
President/Chief Executive Officer

## GENERATION BUSINESS OVERVIEW

The Generation Division aims to create better value in the core business chain with emphasis on the various business groups, making TNB a stronger, sharper focused and more successful electric utility in Malaysia.

The Division headed by Vice President (Generation), is responsible for the operations, maintenance and development of all generation assets of TNB in Peninsular Malaysia. It also manages TNB power producing subsidiaries in Peninsular Malaysia and overseas.

# generationdivision

## POWER PLANT OPERATIONS

### TNB Thermal Plant

TNB's thermal plants produce power using conventional steam turbine generators principally fired by coal, oil or natural gas (steam power plant), gas-fired or diesel-fired open cycle gas turbine generators, and gas-fired or diesel-fired combined cycle turbine generators.

### TNB Janamanjung Sdn Bhd

TNB Janamanjung Sdn Bhd is a wholly owned subsidiary of TNB responsible for the development and operation of the 2100 MW (3 X 700) coal-fired power station in Manjung, Perak.

All the three units are currently within a two-year warranty period as provided in the EPC contract. The warranty period for the last unit will end in September 2005.

The Manjung Power Plant has been operating successfully, supplying power to the National Grid under the direction of the National Load Dispatch Centre.

### Kapar Energy Venture

Kapar Energy Ventures Sdn Bhd (KEV) is a special purpose company that was incorporated in 2000 with TNB holding a 60 per cent share and 40 per cent owned by Malakoff Berhad. The Kapar power station is the largest, and the country's only, multi-fuel generating power plant with a 2,420 MW capacity. The power station divestment to KEV in July 2004 was a strategy adopted by TNB in order to improve asset performance and efficiency.



*A scenic view of Manjung Power Plant.*

THERMAL POWER PLANT		
Station	Capacity	Plant Type
Sultan Ismail, Paka	1,139 MW	3 X 290 MW Combined Cycle 1 X 269 MW Combined Cycle
Sultan Iskandar, Pasir Gudang	729 MW	2 X 110 MW Open Cycle Gas Turbine 1 X 269 MW Combined Cycle Plant 2 X 120 MW Conventional Thermal (Oil/Gas)
Tuanku Jaafar, Port Dickson	360 MW	3 X 120 MW Conventional Thermal (Oil/Gas)
Serdang	625 MW	2 X 110 MW Open Cycle Gas Turbine 3 X 135 MW Open Cycle Gas Turbine
Connaught Bridge	832 MW	1 X 312 MW Combined Cycle 4 X 130 MW Open Cycle Gas Turbine
Gelugor	758 MW	3 X 120 MW Conventional Thermal (Oil/Gas) 3 X 110 MW Combined Cycle 2 X 34 MW Open Cycle Gas Turbine (Diesel)
Kapar Energy Ventures (KEV)	2,420 MW	2 X 300 MW Conventional Thermal (Oil/Gas) 2 X 300 MW Conventional Thermal (Oil/Gas/Coal) 2 X 500 MW Conventional Thermal (Oil/Gas) 2 X 110 MW Open Cycle Gas Turbine
Manjung (TNB Janamanjung Sdn Bhd)	2,070 MW	3 x 690 MW Conventional Thermal (Coal)
<b>Total</b>	<b>8,933 MW</b>	

### Hydro Plant Capacity

Hydro-Electric Scheme		Total Installed Capacity (MW)
1	Sg. Perak including Pergau and Chenderoh	1,248.0
2	Cameron Highlands	262.5
3	Sultan Mahmud, Kenyir	400.0
	<b>Total</b>	<b>1,910.5</b>

### Hydro Plants

TNB's hydro stations consist of both run-of-the-river and pondage stations. In addition to producing power from its own generating facilities and purchasing power from the IPPs, TNB also purchases small amounts of electricity from the Electricity Generating Authority of Thailand and Singapore Power to satisfy peak demand.

### Liberty Power Limited

Liberty Power Limited (LPL) is a subsidiary operating in Pakistan and is involved in the generation and sale of electricity to the Water and Power Development Authority of Pakistan (WAPDA). It operates a 235 MW combined cycle natural gas power plant located at Mirpur Mathelo in the province of Sindh since its commencement on 10 September 2001.

LPL has been operating satisfactorily and returned a profit of RM21 million during the year under review. With the continued good performance of the plant, the company is expected to maintain this profitability.

### SERVICES

#### Generation Asset Development & Hydro Department (GADH)

New power stations are commissioned from time to time to meet the increasing national demand for electricity. Currently, the sources of energy for TNB's power stations are gas, coal, oil and hydro power, consistent with TNB's Four Fuel Policy which is aimed at utilising the four indigenous sources of energy to provide a more diversified electricity generation mix. This ensures the reliability and security of the nation's power supply.

GADH is responsible for developing TNB's new power stations and re-powering or rehabilitating existing power stations. GADH also provides project management and engineering services for the implementation of all TNB's generation projects.

In addition GADH strives to improve the technical specifications, streamline work processes, automate communication links and update conditions of contract for the implementation of power stations. The department continuously reviews and re-engineers its internal processes to improve operating efficiencies and enhance engineering excellence in order to ensure the smooth implementation and timely completion of projects. In order to promote professionalism and effective management principles, the department also attaches priority to human resource training and development.

The generation asset development projects under tendering or construction stage during the year under review were:-

Project Name	Description
Port Dickson Phase 1	To build a 750 MW combined cycle plant to replace the old 4 x 60 MW conventional thermal plants at Port Dickson, Negeri Sembilan
Port Dickson Phase II	To build a 750 MW combined cycle plant to replace the old 3 x 120 MW conventional thermal plants at Port Dickson, Negeri Sembilan
Kedah Project	To build a 220 MW open cycle turbine in Kedah
Cameron Highlands & Batang Padang Life Extension Project	To rehabilitate the Cameron Highlands & Batang Padang Hydro electric Schemes in Pahang and Perak respectively and consisting of seven power stations which were constructed between 1959 and 1968

A REMACO staff at work.



### TNB Repair and Maintenance Sdn Bhd

As a wholly owned subsidiary established in 1995, TNB Repair and Maintenance Sdn Bhd (REMACO) primarily focuses on all TNB power plants and energy industries within Malaysia and also in the ASEAN region, particularly Myanmar.

Among the services offered by REMACO are:-

- Repair and scheduled maintenance of gas turbines, steam turbines, hydro turbines, generators, boilers and other power plant auxiliaries
- Refurbishment of gas turbine components and Ebara rotating equipment
- Test services for plant performance, generator performance, availability, dependable capacity, protection and calibration of electrical meters and instrumentation equipment.

Other services provided include NDT, vibration, borescope inspection, thermography, technical audit and power plant due diligence. To date, REMACO has secured works with several IPPs and is actively pursuing strategic partnerships with Original Equipment Manufacturers (OEMs) to expand its capabilities.

REMACO has been accredited with an ISO 9001:2000 certification and has participated in quality related programmes such as Quality Customer Service-Improvement Team (QCS-IT), "5S", the TNB President's Quality Award (PQA) and Safety Excellence Management System (SEMS).

During the period under review, REMACO realigned its strategies to contribute towards achieving T7 goals by:-

- Increasing service and product offerings to TNB's core Divisions
- Optimising plant outage durations and minimising maintenance costs for TNB's power plants
- Increasing sales to non-TNB markets within ASEAN and the Middle East region.

To maintain a competitive advantage in facing global challenges, REMACO provides opportunities for workforce development to enhance the competencies and skills of its human capital.

# OperationsReview

## DELIVERING T7 OBJECTIVES

### Driving towards Excellence

The Generation Division continues its emphasis on improvements towards efficiency and excellence with respect to the key initiatives expounded in the T7 strategies. These initiatives are to

1. Reduce unplanned outages
2. Complete projects on time and within budget
3. Improve plant efficiency
4. Optimise management of maintenance and planned outages
5. Develop technical competency of employees
6. Improve engineering and technical support
7. Improve procurement.

Several activities have been carried out to ensure that unplanned outage reduction can work effectively. Attention has been focused on the root causes of unplanned outage incidents and planned outage overruns through the Unplanned Outage Review and Planned Outage Review Committees. Supporting these committees is the Major Incident Investigative Panel bringing expert scrutiny to major power unavailability incidents at the various station sites.

The Division considers the experience gained from each individual incident to be highly valuable. Twice yearly, forums are organised for operations and maintenance representatives to disseminate and share information, experiences and knowledge amongst all stations. The resolutions from these forums are tracked and brought to divisional management's attention for endorsement and implementation.

While Unplanned Outage reduction remains the main focus of the Division, other initiatives to support the overall objectives are as follows:-

- a) In recognising the importance of delivering projects according to schedule and the premium placed on skills, a mentoring program has been developed and implemented in the Generation Asset Development and Hydro Department to ensure that skills and experience gained in project development are perpetuated.

Practice guidelines have been created to encourage the sharing of information, experiences and knowledge among power station personnel and these have recently been expanded to include all project development personnel to further widen the knowledge base of these communities.

- b) Emergency procurement processes have been designed and tested to avoid procedural delays in cases of long unplanned outages and are currently being monitored on a case-by-case basis.
- c) Uplifting human resource skills in the Division is being undertaken.

For the year under review the Division undertook several major initiatives to enhance the technical competencies of its staff. Some of the more significant efforts undertaken were:-

1. Implementation of a Human Resource Development System (HRDS) for technical competency management in all TNB power stations. Software known as HRD Power was installed at each power station by January 2004 to enable baseline assessments and periodic competency evaluations to be carried out;
2. Implementation of the "Programme Peralihan Juruteknik" commenced on 31 May 2004 whereby 434 staff holding technician's positions but without the required academic qualifications were involved. The duration of this one-off programme is 15 months and will be completed by end-September 2005;
3. Implementation of mandatory training programmes for all non-executives in line with TNB's HR Development Policy started in January 2004;
4. Other intervention programmes were identified and implemented from time to time to support the business of electricity generation. Examples of such programmes are:-
  - Mentoring services to production staff at Gelugor Power Station (March – June 2004)
  - PC-based simulator training for Kapar and Manjung Power Station (May 2004)
  - Simulator training for plant operators at Bang Pakong, Thailand
5. The 300 MW Coal-fired Simulator at ILSAS was rehabilitated in March 2004. Simulator training for production staff from Kapar Power Station commenced in April 2004. Similar simulator training will be extended to production staff from the other thermal power stations beginning in September 2004 to continuously enhance their skills and operation techniques in thermal power plant operations;
6. The 300 MW Combined-Cycle Simulator sited at UNITEN will also be repaired by January 2005 to provide quality training for staff from the combined-cycle power stations.

# nationalgridchart



KAPAR (2,420 MW)

CONNAUGHT BRIDGE (832 MW)

SERDANG (625 MW)

TENAGA NASIONAL	
POWER PLANT	
	500kV OHT
	275kV OHT
	132kV OHT
	132kV OHT
	66kV OHT



The Transmission Division is responsible for the entire spectrum of transmission activities within TNB ranging across planning, engineering, project management, implementation and maintenance of its transmission assets. As one of the core divisions of TNB, the Division also manages and operates the transmission system forming the integrated backbone network known as the National Grid. In the Northern part of the Peninsula, TNB's National Grid is interconnected with Thailand's transmission system operated by the Electricity Generating Authority of Thailand (EGAT) with a 300 MW capacity via the HVDC Gurun-Khlong Ngae interconnection and also a 132kV Chuping-Sadao overhead line with 80 MW capacity.

# transmissiondivision



*We transmit power continuously and efficiently.*

Transmission Division's key focus is to ensure the safe, adequate, reliable and economical operation of the grid system in conformity with the Malaysia Grid Code. The power generated by TNB and Independent Power Producers' (IPPs) power stations is transmitted at 132kV, 275kV and 500kV to the main intake substations for subsequent supply to customers via TNB's distribution network. In the South, TNB's transmission system at Plentong substation is interconnected with Singapore Power transmission system at Upper Jurong via two 230kV submarine cables with a total capacity of 500 MW.

The incorporation of TNB Fuel Services Sdn. Bhd. in 1998 has successfully ensured the reliability and secured supplies of coal commodity to TNB power-stations. By having a single purchaser for coal in the electricity sector as requested by the Governments, effective management of coal supplies to the Company is thus ensured and sustained in the long run.

## Strategic Directions

In striving for business excellence and improving its efficiency, the Transmission Division remains committed to its three focus areas established in line with the T7 strategies in reaching the "Tiger" status by the year 2007. These are a Safe, Reliable and Economic Grid System, Prudent CAPEX Management and A Good Place to Work. These focus areas have been integrated into the Transmission Division's Business Plan for 2004 to 2008 and were based on the strategic direction of TNB's Vision and Mission. This is to ensure consistency and clear focus for the various departments and subsidiaries within the Division.

The Balanced Scorecard methodology is used as a tool in communicating the strategies of the Division, translating the strategies into meaningful objectives and monitoring the progress of these initiatives.

# OperationsReview

The first focus area, a Safe, Reliable and Economic Grid System covers the bread-and-butter issues of the Division which is in line with the T7 Strategy of “Defending Our Core Business”. As such, activities are designed to ensure high system reliability, high security of supply, high system availability, improvement of restoration time and high quality of supply. A Condition-based Maintenance Management System (CMMS) Project was implemented by the Transmission Division.

Efforts to strengthen the security of the power system are focused on reducing voltage violations, conducting dynamic system security assessments, optimal hydro management and reviewing the spinning reserve policy to ensure system security. Planning activities also complement efforts to enhance system reliability by balancing customer demands with effective cost and a reliable network.

During the year, the priority was on maintenance whereby concerns relating to the availability, reliability and efficiency of the transmission assets were placed at the forefront. Data obtained from analyses conducted was used as a basis for improvement, whilst new and innovative engineering solutions towards enhancing the performance of the transmission assets were developed.

In this regard, effective maintenance policies and practices play an important role in ensuring that the performance of the transmission assets is in accordance with their specifications.

The Division also placed emphasis on Vegetation Management to reduce trippings caused by vegetation to the minimum. Techniques include the use of laser scanning technology by helicopter to monitor remote conditions.



*Live-line maintenance work in progress.*

Risk management is accorded high emphasis and risk mitigation activities incorporated into its annual business plan through the T7 initiatives.

The second focus area, Prudent CAPEX Management, is in line with TNB’s Vision towards being efficient and having effective financial management. Initiatives that have been identified are focused on an integrated planning process whereby the planning activities of both core divisions, Transmission and Distribution are synchronised to prevent inefficiencies and to ensure that installed facilities operate in accordance with design.

Additionally, three strategic imperatives under the T7 initiatives have been identified, namely, Improved Asset Utilisation, Optimum Substation Design and Timely Completion of Projects within Budget.



*View of a main intake substation.*

In order to improve asset utilisation, strategies to improve cross-divisional planning amongst the core divisions were put in place to increase net efficiency and thus utilising existing facilities in an efficient manner. These include deferring the installation of non-critical transformers, reinforcement of the distribution system and increasing transformer loading capacity. Improvement in asset utilisation would help in reducing the capital expenditure incurred by TNB as well as ensuring that TNB's assets are utilised efficiently.

Strategic initiatives have been put in place to achieve optimum substation design. These include reviewing Substation Control System (SCS) projects and increasing the implementation of Remote Terminal Units (RTU), giving preference to Air Insulated Switchgears (AIS) as opposed to Gas Insulated Switchgears (GIS), optimising conventional substation design and introducing design guidelines for substations.

Focus shall be given to ensure that the management of projects from wayleave management, project identification, tendering and project implementation are completed on time, within budget and satisfying all the quality standards set by the Group.

The third focus area emphasises the importance of human capital to the Division. It focuses on having a conducive environment to excel in work, motivating the staff to work and remain committed in carrying out the objectives and goals of the Division and the Group. During the year under review, the Transmission Division introduced the concept of "Gung Ho" to set the foundation for teamwork to realise these objectives. This concept emphasises the importance of shared goals and values, achievement of stretched targets and goals and the power of encouragement. It was chosen to highlight the importance of teamwork and esprit-de-corps in the Division. This spirit of teamwork will help position the Division towards realising improved efficiency and business excellence.

# OperationsReview

Distribution Division, which deals extensively with TNB's external customers is the largest Division in TNB in terms of human resource. Its role is to deliver adequate, reliable and quality supply of electricity together with excellent customer services. Providing distribution engineering services and solutions to customers, effective revenue collection and actively participating in the socio-economic development of Peninsular Malaysia are also fundamental roles of the Division.

## distributiondivision



Wisma TNB Perda in Bukit Mertajam.

### Strategic Initiatives

To satisfy and balance the needs and requirements of the various stakeholders, the Division uses the Balanced Scorecard to map its strategies. Eight initiatives are being undertaken to improve its internal processes under the T7 strategy:-

1. Reduce losses
2. Improve supply reliability and quality
3. Consolidate relationships with Government
4. Strengthen customer relationships
5. Improve material availability and quality
6. Improve operation and maintenance of assets
7. Connect supply on time
8. Improve employee competency

Some of these initiatives have already yielded significant benefits to TNB, such as the loss reduction initiative which has contributed RM106 million of revenue recovery. The other initiatives are progressing in accordance with the various stages of implementation.

### Quality of Supply

Despite further network expansion and complexity in meeting continuously growing demand and customers' needs, the performance of the distribution system as measured in terms of SAIDI – System Average Interruption Duration Index, was maintained at 2002/2003 levels.

Two significant efforts which have contributed to SAIDI performance are:-

1. System-wide programme for the detection and replacement of faulty cable joints through special very low frequency (VLF) testing.
2. Implementation of condition assessment techniques on all major equipment for early detection of possible malfunction.

The SCADA/DA project will bring about further marked improvement in SAIDI. On-going efforts aimed at improving underground cable system performance through the introduction of new joint technologies is expected to improve overall system reliability in the medium to long-term. The Phase 1 project for the Klang Valley will be commissioned in early 2005 and Phase 2 project for other cities will be commissioned by 2007.



24-hour CMC staff at work.

Power quality (PQ) variations is another critical parameter of supply quality especially for most industrial and commercial customers. During the year under review TNB embarked on extensive programmes encompassing PQ awareness programmes for customers and enhanced PQ investigation and advisory services. The PQ awareness programme explains the sources of power quality variations, joint responsibilities of TNB and customers in addressing PQ issues and possible solutions of respective economic value.

In an effort to proactively manage and improve power quality performance, a major move forward is the on-going implementation of the on-line Power Quality Monitoring System (PQMS). This capability would facilitate TNB accessing the status of PQ performance across its systems on a continuous basis and assess their possible impact on critically sensitive existing and prospective customers.

TNB is also gearing itself towards providing more professional and comprehensive PQ services ranging from PQ auditing and PQ monitoring of customer installations, load-side solutions and maintenance.

<b>SUMMARY OF DISTRIBUTION SYSTEM RELIABILITY PERFORMANCE</b>				
<b>Reliability Performance Indicator</b>	<b>FY 2000/2001</b>	<b>FY 2001/2002</b>	<b>FY 2002/2003</b>	<b>FY 2003/2004</b>
SAIDI contribution due to faults	197.00	116.00	96.43	<b>100.00</b>
SAIDI contribution due to scheduled outage (maintenance)	60.06	13.72	5.09	<b>5.60</b>
<b>Distribution SAIDI</b>	<b>257.06</b>	<b>129.81</b>	<b>101.53</b>	<b>106.00</b>

The pattern of electricity consumption was seen to be steadily increasing during the year under review as compared with previous years.

<b>ELECTRICITY SALES AND REVENUE</b>						
<b>Sales and Revenue for FY 2003/2004</b>						
	<b>Units (KWh) 2003/04</b>	<b>Units (KWh) 2002/03</b>	<b>%</b>	<b>Value (RM) 2003/04</b>	<b>Value (RM) 2002/03</b>	<b>%</b>
Domestic	12,529,777	11,764,503	6.50	2,923,777	2,742,978	6.59
Commercial	19,966,553	18,367,206	8.71	5,497,719	5,095,045	7.90
Industrial	35,731,517	33,440,146	6.85	7,688,481	7,100,195	8.29
Mining	54,255	56,426	-4.00	7,696	8,034	-4.21
Public Lighting	681,455	663,483	2.71	106,183	103,473	2.62
<b>Total</b>	<b>68,963,557</b>	<b>64,291,764</b>	<b>7.27</b>	<b>16,223,856</b>	<b>15,049,725</b>	<b>7.80</b>

### Number of Customers

Total registered customers as at 31 August 2004 was 6,010,087, reflecting an increase of four per cent over the previous year's figure of 5,750,976.

NUMBER OF CUSTOMERS		
	FY 2003	FY 2004
Domestic	4,788,255	5,009,377
Commercial	903,981	940,359
Industrial	21,317	21,249
Mining	32	31
Public Lighting	37,391	39,071
<b>Total</b>	<b>5,750,976</b>	<b>6,010,087</b>

The Sunday Tariff Rider (STR) and Off Peak Tariff Rider (OPTR) introduced in February 2002 expired on 31 May 2004. In view of its effectiveness to stimulate growth and improve the energy efficiency of industrial and commercial customers, both the STR and OPTR were extended until 31 May 2005.

The 'Sinaran Merdeka 2004' incentive scheme was once again offered by TNB to all its commercial customers in conjunction with the Merdeka Day Celebrations and also to support the government's aspirations to brighten and illuminate buildings in city centres. The incentive was offered from 1 August 2004 until 30 September 2004.

### Government and Customer Services

During the year, various commercial activities were introduced and implemented. These included dialogues and meetings with industry leaders and large power customers (LPC), to improve relations, sharing information on latest developments within the electricity industry and also to obtain feedback. This helps TNB understand the needs of the business environment and facilitates the improvement of its services to its valuable customers.

TNB also organised Customer Relations Outreach Programmes (CROP) to foster goodwill with society at large, held in selected areas, with the intention of creating an everlasting impression of TNB as a caring corporate entity. Activities included 'gotong-royong', sports, exhibitions, motivational courses and tuition classes for local students.

For the convenience of customers, to date Distribution has 13 offices at state level, 36 area offices, 53 branches, 27 small branches, 13 call management centres and 145 Kedai Tenaga throughout Peninsular Malaysia to provide better facilities, convenience and more efficient customer service.

### Rural Electrification Programme

Rural electrification is one of the Government's strategies to improve and uplift the socio-economic standing of the rural population. During the year, a total of 62 projects were completed benefiting 3,792 households at a cost of RM10,705,774. This effort has improved the quality of supply so these customers can enjoy the same comfort and reliability that in urban areas enjoy.

### Bill Settlement Facilities

Currently, there are numerous facilities provided for customers to settle their electricity bills; such as the following:-

- a) TNB counters
- b) One-Stop Collection Centres (Telekom, Pos Malaysia, Local Councils)
- c) Direct debit through savings/current accounts (participating banks are Maybank, Public Bank, Bank Pertanian Malaysia, Bank Simpanan Nasional and HSBC)
- d) Maybank, Citibank, AMEX and MBF Auto Debit Payment via Credit Card
- e) Payment online via websites of Citibank, HSBC, Bank Islam, Maybank and MBF
- f) Over-the-counter payment at Public Bank, Public Finance, Bank Islam, Bank Pertanian and Bank Simpanan Nasional
- g) Payment via ATM at UOB, Public Bank, Maybank, Bank Rakyat, BCB, RHB, BSN, Bank Islam and all MEPS automated teller machines
- h) Payment via phone banking for MBF credit card and Maybank savings/current accounts
- i) Mobile collection through Bank Pertanian vans (rural areas).

During the year under review TNB widened the coverage of its direct debit scheme through an additional participating bank (Bank Islam), whilst HSBC opened up a direct debit scheme for its corporate customers. The direct debit scheme will be extended further to include Alliance Bank and EON Bank in the near future.

### eCIBS

The existing system in use for maintenance of customers' information, billing and collection is currently being upgraded under the eCIBS project. The eCIBS will centralise and modernise the existing software providing TNB with a more reliable and flexible platform for continued use and future enhancements.

The upgrade will also provide significant new functions such as comprehensive Large Power Customers' meter maintenance, customers' load profiles, online real time bill payment updating, online nationwide customers' enquiries, and streamlined business processes that will all provide immediate benefits.

The new system will leverage on current systems and new technology in TNB such as internet bill payments web-enabled for customer interaction and self-service, interface with Remote Meter Reading systems for efficient billing processes, and utilising existing ERMS and EHRMS.

### Support For Renewable Energy Development

The signing of three new Renewable-Energy Power Purchase Agreements (REPPAs) totalling 19 MW this year with Naluri Ventures Sdn Bhd, Sunquest Sdn Bhd and Recycle Energy Sdn Bhd underlines TNB's continuous support for the Government's Small Renewable-Energy Power (SREP) Programme. This brings the total number of REPPAs signed by TNB in Peninsular Malaysia since the launching of the SREP Program to five, with a combined capacity of 26.2 MW. TNB also commenced importing electricity in April 2004 from the Jana Landfill SREP project in Selangor, the first project to be commissioned under the Government SREP Program.

# Operations Review

Two of the three new SREP projects utilise oil palm waste as the renewable energy (RE) fuel while the remaining project produces gas from municipal solid waste as input fuel for electricity generation. TNB is also actively negotiating REPPAs with other developers of mini hydro, landfill gas and biomass (oil palm waste, wood waste, rice husk etc) SREP projects. These three RE fuels currently represent the best potential for commercial exploitation in Malaysia.

## TNB Energy Services Sdn Bhd

TNB Energy Services Sdn Bhd (TNB-ES) specialises in providing quality and reliable energy solutions to TNB customers. TNB-ES offers a complete package to undertake and develop Renewable Energy, Power Quality, Energy Efficiency, District Cooling System and Thermal Energy Storage projects.

During the year, the Power Quality Unit of TNB-ES completed four supply side studies namely at Nippon Electric Glass and Southern Wire, six customer side studies/tests at Kamaya and Kaneka, 2 PQ mitigation equipment trial-runs at Southern Wire and Carsem, and one special project on Power Quality Monitoring System (PQMS).

Jana Landfill Sdn Bhd (JLSB), a subsidiary of TNB-ES, has successfully completed a premier showcase 2.0 MW Renewable Energy Power Plant project using landfill gas at Puchong, Selangor. The plant is currently supplying electricity to the distribution network in Puchong commencing in April 2004, based on a Renewable Energy Power Purchase Agreement (REPPA) signed in Oct 2001.

In addition, TNB-ES is currently installing a remote 24-hours Solar Hybrid Power Supply system to four islands off Mersing, Pahang for Ministry of Rural and Regional Development and Wilayah and Ministry of Energy, Water and Communications through TNB and this is scheduled for completion by the end of 2004.

TNB-ES completed the Thermal Energy Storage projects for both Sg. Buloh and Serdang Hospitals and in addition, UNITEN has also appointed TNB-ES to undertake the maintenance of the District Cooling Plant. TNB-ES through Pendinginan Megajana Sdn Bhd, a joint venture District Cooling company, is currently selling chilled water for air conditioning to 16 buildings such as Setia Haruman, DHL, Shell, Ericsson, NTT, MDC and Telekom in Cyberjaya.

The Finance Division of TNB has overall responsibility over the financial management of the Group covering Budgeting, Financial and Management Reporting, Treasury Management, Funding and Investor Relations. The Division is also responsible for Strategic & Financial Planning, Business Development as well as Enterprise Wide Risk Management.

## financedivision

The Division maintained the four main strategic imperatives as its key focus areas in line with the Group-wide transformation initiatives. These are to:-

- Achieve operational excellence;
- Improve human resource competency and motivational levels;
- Review and upgrade financial information systems and processes; and
- Enhance financial risk management.

In addition, the Division strived to achieve a more efficient debt liability management programme by the effective and dynamic administration of debt obligations and cash balances.

The Finance Division, as one of the main users of the Enterprise Resource Management System (ERMS), led a comprehensive review exercise to fine-tune and enhance the various finance-based applications of the System. The approved Group financial policies and procedures were also reviewed together with the corresponding financial operating procedures in line with other systems being implemented, in particular the ERMS. The Division reviews and maintains the Enterprise-Wide Risk Management (EWRM) framework for the Group to ensure that the business risks are identified, analysed and mitigated adequately and effectively.

In the area of Strategic and Financial Planning, the Division played a key role in the Company's strategy formulation, business planning, performance management, benchmarking, as well as preparation of the Group's financial projections and a simulation exercise thereof assuming different business environments. The latter analysis provides Management with guidance and direction as to optimal alternatives and strategies to adopt to ensure sustainable earnings growth. The emphasis therefore was to:-

- i. analyse various alternatives to internal housekeeping and their contribution towards the Company's profitability;
- ii. establish the debt liability management programme for TNB to effectively manage the Company's total borrowings;
- iii. assess TNB's long-term financial obligation for capital expenditure and debt servicing of both principal and interest; and
- iv. analyse TNB's long-term financial risk and exposure.

These initiatives were aimed at delivering enhanced accounting and financial support to improve TNB's competitive position and added value whilst providing tools for better financial controls and corporate governance.



*Signing of Corporate Bonds agreement for Kapar Energy Ventures.*

### **Funding & Debt Liability Management Activities**

During the year under review, the Ringgit short-term interest rate environment continued to be accommodating, as it was in the year before. TNB took advantage of the scenario by utilising short-term facilities such as Bankers Acceptances (BA), Revolving Credits (RC) and Commercial Papers (CP) substantially to meet its funding and working capital requirements. The total amount of BA, RC and CP facilities utilised on an average three month tenure was RM5,225 million.

The year under review also saw the completion of the Private Placement of a 30-year ¥26.0 billion loan facility with the American Family Life Assurance Company of Columbus, USA (AFLAC Facility). The transaction was structured as a "Reverse Dual" arrangement where the principal obligation is denominated and payable in Japanese Yen whilst interest is to be serviced in US Dollars.

TNB had also completed the issuance of 5-year RM200 million Convertible Redeemable Income Securities (CRIS) in May 2004. The CRIS as structured will enable TNB to enjoy the benefits of a low coupon rate and upon conversion into ordinary shares, raise the equity component of the balance sheet whilst eliminating the obligation of principal repayment. This is consistent with the main objectives of the debt liability management program, more specifically to manage and attain an acceptable level of debt and gearing position.

On 8 July 2004, Kapar Energy Ventures Sdn Bhd (KEV), a 60 per cent subsidiary company of TNB issued RM3,402 million non-recourse Al-Bai Bithaman Ajil debt securities as well as a RM200 million Murabahah working capital facility. This marked the completion of the long-drawn divestment exercise of Kapar Power Station to KEV. As a result of this sale, TNB received RM3.4 billion cash after deducting

TNB's equity contribution in KEV and the deposit paid by Malakoff Berhad, the 40 per cent shareholder of KEV. The net proceeds will be utilised to finance capital expenditure and to repay short-term facilities such as BAs, RCs and CPs on maturity.

As part of its financial risk management strategy, TNB manages its exposure to market rate movements of its financial liabilities through the use of derivative financial instruments.

During the year under review, TNB entered into forward and currency option agreements with banks to minimise the exposure to currency volatility. Typically, these agreements are for a period of less than one year.

As an example, TNB entered into several long-dated currency option agreements with a notional amount of ¥26.0 billion to hedge its AFLAC Facility. This arrangement enables TNB minimise its exposure to foreign exchange losses that may arise from adverse fluctuations in foreign currency exchange rates relative to the AFLAC Facility.

As a matter of policy, TNB enters into derivative transactions with counter parties (i.e. financial institutions) that are creditworthy largely based on their respective financial standing. Accordingly, the Directors of TNB are of the view that counter-party risk that is the threat of non-performance by these institutions is unlikely if not remote, based on their respective financial position.

Notwithstanding, an independent and comprehensive review is being undertaken of the derivative position of TNB with the main purpose of clearly identifying potential exposures both inherent in the transaction as well as forthcoming changes in accounting standards.

## Financial Ratios

It should be noted that the targeted results of the debt liability management programme will only be apparent and translated into stronger financial position in years to come. Coupled with internal efforts to improve the level of operational efficiency, optimal operating cost structure as well as close monitoring over capital expenditure, TNB is determined to improve its financial position which could be benchmarked as reflected by the following financial ratios:-

Financial Ratios	Financial Year				
	2000	2001	2002	2003	2004
Self-Financing Ratio	46:54	-5:105	19:81	40:60	<b>25:75</b>
Effective Weighted Average Cost of Funds*	5.9%	5.3%	5.3%	4.9%	<b>5.3%</b>
Currency Mix (RM: Foreign)*	47:53	46:54	48:52	49:51	<b>51:49</b>
Debt Service Cover Ratio	1.6x	0.8x	1.5x	2.0x	<b>1.6x</b>
Debt-Equity (Net of Cash) Ratio	1.85	1.66	1.98	2.11#	<b>1.94#</b>

\* reflective of RM equivalent of currency exposure

# after MASB 25 – Income Taxes and MASB 29 – Employee Benefits

## Strategic and Financial Planning

TNB is determined to transform itself into a “value-driven” organisation providing the appropriate returns to its stakeholders. An integral component of this initiative is for the Strategic and Financial Planning team to formulate and formalise the overall strategic plan of TNB moving forward. This team encompasses what was previously the Corporate Planning function together with the Financial Planning activities of the Finance Division.

A central element of the “value-driven” initiative as well as the comprehensive tariff review process is the engagement of a firm of external consultants to undertake among others the benchmarking exercise to provide TNB the “point of reference” vis-à-vis utilities worldwide. Strategic Planning is the designated project owner to among others institutionalise the benchmarking methodology within TNB as well as continuously update the database to the extent possible.

The Financial Planning team led the comprehensive tariff study coordinating the inputs from the entire organisation and simulating the future financial implications to TNB given differing circumstances. More recently, TNB engaged a firm of external consultants to develop a cashflow-based dynamic strategic planning model as an additional management tool to formulate policies and strategies. This model will encapsulate all aspects of the business and operations with sufficient granularity and adequate flexibility with “menu-driven” features to simulate numerous “what if” scenarios and generating various financial indicators. As the project owner, Financial Planning will be the custodian of the planning model that will be the “nervous system” of TNB.

As part of the Strategic and Financial Planning function, a Strategic Unit is responsible to facilitate and support the Division’s T7 initiatives with the main objective of preparing the Division’s business plan and monitor, update and avail the KPI data of the Division at all times.



*Launching of the EWRM Policy and Guidelines by our former President/Chief Executive Officer.*

## Business Development

The Business Development team is responsible for implementing the Group strategic investment policy and decisions, providing support, advice and leadership of new business ventures, collaborations and projects. The team is the focal point for all new business/project ventures working closely with members of the core divisions and subsidiaries of TNB co-opted to specific proposals.

During the year under review, the team played a key role in the major divestment activities of TNB, a function that is now assigned to the Investments Management Division. Specifically:-

- (a) On 26 September 2003, TNB concluded the acquisition of 70 per cent of Dynamic Acres Sdn Bhd, the company with the concession rights over a coal mine in Kalimantan, Indonesia. The acquisition exercise was financed through an offshore non-recourse financing totaling 80 per cent of the purchase price of USD85.0 million.
- (b) On 25 February 2004, TNB entered into a Share Sale Agreement with Sime Darby Berhad and Hypergantic Sdn Bhd for the full divestment of TNB's interest in Port Dickson Power Sdn Bhd. The transaction was completed on 9 August 2004.
- (c) On 11 June 2004, TNB entered into a Share Sale Agreement with Malakoff Berhad and the Employee Provident Fund Board for the disposal of TNB's 20 per cent equity interest in Segari Energy Ventures Sdn Bhd. The completion of this transaction is pending the fulfillment of certain condition precedents of the said agreement.

Notwithstanding, given the immediate need to streamline the core businesses and activities of TNB and its group of companies, the Company has consciously embarked on a strategy to develop its internal resources and formalise a competent and proficient O&M (operations and maintenance) capability. The investment strategy henceforth will be focused on this O&M capability minimising significant equity involvement in core projects or businesses.

The Overseas Ventures unit of Business Development is focused on coordinating activities in international cooperation and networking, and conducting policy research on international cooperation such as the World Trade Organisation and GATS. Key achievements include the management of TNB activities in several forums including Head of Asean Power Utilities and Authorities (HAPUA), The Association of The Electricity Supply Industry of East Asia and Western Pacific (AESIEAP) and developing and maintaining relationships with utility companies worldwide from Japan, China, Tanzania, Bosnia, Kingdom of Saudi Arabia, Thailand, Yemen, Indonesia, Vietnam and the government of Syria.

## Investor Relations

The Investor Relations Unit (IRU) played an integral role in disseminating corporate developments by providing the platform for regular inter-active communication between TNB and its existing and potential investors as well as research analysts.

During the year under review, alongside leading investment banks IRU coordinated several investor conferences with the participation of the leadership management team of TNB. The Company participated in several "Malaysia Corporate Day" Conferences both in Asia and Europe. A total of three (3) non-deal roadshows were arranged covering major cities in Europe including Stockholm and Copenhagen where Asian corporates rarely visit as well as the Middle East and subsequently Tokyo.

As part of the investor relations program, TNB maintains an active dialogue with the credit rating agencies to ensure that information is continuously updated hence providing fixed income investors with a credible information base.

As part of the human capital development efforts of TNB, two (2) executives participated in the Investor Relations Society (IRS) education programme in the United Kingdom. The programme provides essential information for investor relation practitioners at every stage of their career improving the communication skills and techniques, a prerequisite for effective investor relations in an increasingly complex regulatory regime.

With the increased sophistication amongst investors, premium is typically accorded to companies that provide easy access to quality information on a timely and consistent basis. The reliability, accuracy and timeliness of information disseminated to the investors is crucial. It is for this reason that IRU implemented the Investor Information System, a fully integrated database system to centralise, manage and control information that is provided to the investment community. This complements the information and database that TNB's website [www.tnb.com.my](http://www.tnb.com.my) already provides.

### **Enterprise Wide Risk Management (EWRM)**

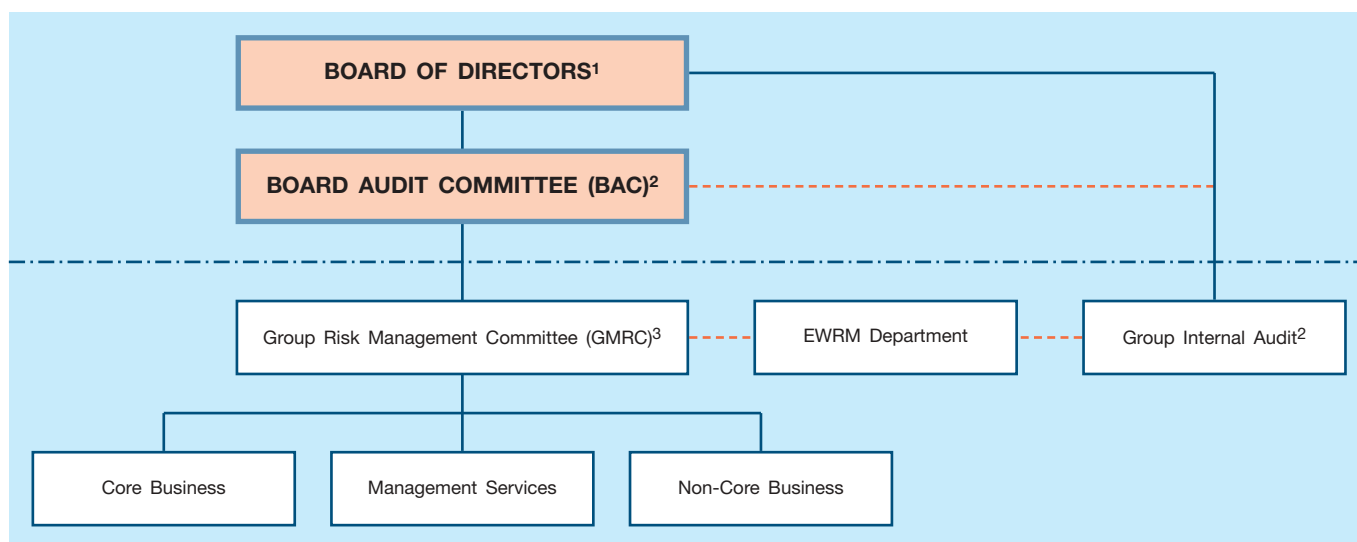
Enterprise Wide Risk Management (EWRM) is tasked with the responsibility to integrate and formalise a risk management system and its processes for TNB and its group of companies given the Company's strategic initiative to identify, analyse and mitigate the business risks in a systematic and structured manner. These functions comprise of the implementation of an effective risk management framework and programme, the arrangement and maintenance of operational insurances for TNB assets, personnel and liabilities, and the insurance programme insurances of TNB projects.

#### **Risk Management**

During the year, EWRM had successfully implemented the final phase of the risk management framework across the TNB Group and SESB. As a result, risk profiles that have been prepared by the respective department/division/subsidiary enables the management team to make conscious and visible risk management decisions by formulating necessary action plans, implementing them and monitoring its results.

The EWRM Policy and Guidelines were established to ensure that principles of the risk management framework are consistently adhered to across the Group.

The EWRM Policy and Guidelines state that the operating divisions are responsible for the management of risk within their own areas of responsibilities. It also defines the roles and responsibilities of the various parties involved in the risk reporting structure as shown below:-



1. Board of Directors is responsible for risk management and internal control and communicating the requirements of the policy and guidelines. The Board must satisfy itself that significant risks are appropriately managed, the group-wide risk management system is robust to respond to changes in the business environment and the appropriate reporting structure is in place to support the delivery of the policy and guidelines on an ongoing basis.
2. Board Audit Committee (BAC) is assisted by Group Internal Audit to independently review the adequacy and effectiveness risk management at the TNB Group and its associated controls. BAC will report on its deliberations and findings to the Board based on the reports received. In addition, it

assists the Board to establish appropriate policies on risk oversight and management, to oversee the implementation of the risk management system and to review its effectiveness. It is also to keep the Board informed on risk management matters and has the authority to direct special investigations, on behalf of the Board, into significant risk management activities.

3. Group Risk Management Committee (GRMC) is responsible for the continuous development of risk management, supervision of its implementation and presentation of periodic reports to the Board via the Board Audit Committee.

Among the activities carried out were risk management awareness seminars, risk management software development and installation, and more than 30 risk assessment workshops.

With the completion of the final phase and the implementation of the policies and guidelines, a uniform application of risk management is being carried out across the Group to cultivate a comprehensive risk culture that enhances productivity and shareholders' value. Half-yearly risk reports are being submitted to EWRM from all divisions/

subsidiaries/departments to be analysed and compiled for onward reporting to the Group Risk Management Committee and the TNB Board of Directors.

#### Financial Control

Given the relentless efforts to institutionalise the Group Financial Control Risk Management Framework in the previous Financial Year, the focus during the year under review was to harmonise accounting practices and procedures throughout the Group to create a common pool of knowledge and reference in terms of good accounting practices and internal control systems.

This, in turn, promotes a cost effective and timely compilation and communication of accounting procedures throughout the Group by eliminating any potential duplication of efforts by the respective divisions and subsidiaries. It also creates greater mobility of the Division's accounting personnel given the commonality in accounting procedures and internal control systems practised throughout the Group.

Another impetus for cost effective harmonisation of accounting practices and procedures is risk management. With an adequate understanding especially of the financial risk profile of the Group within the context of the EWRM framework, Management will be able to formulate and rank the best accounting practices and control mechanisms that effectively mitigate such risks.

In the area of Treasury risk management, various funding and hedging proposals were reviewed and detailed reports incorporating assessment of risks and policy compliance requirements tabled. Milestones were achieved in reviewing existing treasury management policies, procedures and manuals with the goal of ensuring that these are in line with the best current market practices.

#### **Insurance**

EWRM had also successfully arranged and procured adequate annual insurances for TNB Group and its major projects during the year. EWRM ensures adequate financial protection to TNB's operating assets, personnel and liabilities due to insurable risks. This year the overall cost of insurance has been successfully reduced by nine per cent in addition to improvements in the policy coverage compared to the previous year.

In comparison to the previous year, the total number of new claims reported for the year had decreased by 25 per cent.

EWRM continues to arrange relevant insurances for TNB projects through locally based insurance companies, manage the associated claims and offer assistance and advice with regards to better risk management in project implementation. Relative to the previous year, there was a slight increase in the sum insured declared and the estimated loss amount for the year reduced by 46 per cent. The total number of claims from as early as 1995 up to 2003 had also been substantially concluded resulting in a reduction of more than 17 per cent of such claims as compared to the year before.

EWRM is also actively involved in discussions regarding insurance and risk management clauses for the implementation of the FIDIC (International Federation of Consulting Engineers) form of contracts for the standardisation of all future TNB project contracts.

#### **The Way Forward**

EWRM will continue to monitor the implementation of the risk management framework across TNB Group and to embark on continuous risk management awareness programmes and seminars.

In addition, EWRM aims to review and continue to improve on the arrangement of insurances for TNB and its group of companies and its major projects by ensuring adequate insurance cover at reasonable costs. EWRM would be expanding its functions to introduce, implement and monitor a structured and comprehensive Emergency Response Plan (ERP) within TNB Group.

# Operations **Review**

## INTRODUCTION

The Corporate Services Division is a new division established from the recent TNB macro restructuring. Comprising six departments, its main activities and responsibilities are to provide support services to TNB in the areas of Legal, Procurement, Property Management, Logistic, Research and Security.

# corporateservices division



UNITEN College of IT, Bangi

Although the division is new, the various component departments were already functioning previously. Streamlining and reprioritisation of all departmental activities to be in line with the new division strategies and overall TNB objectives will be the main focus of Corporate Services for the coming Financial Year.

### 1. PROCUREMENT SERVICES

The Procurement Services Department (PSD) is tasked with formulating procurement policies, provides related procurement advice and ensures policy compliance on all procurement-related activities for the Group.

The revised Procurement Policy and Procedure, launched during the year under review, was developed to enhance the effectiveness of the procurement process for TNB, incorporating best business practices and good corporate governance. A series of seminars was organised to disseminate the new policy and procedures to all TNB staff.

### 2. LEGAL AFFAIRS

The Legal Affairs Department (LAD) is charged with the role of providing quality and timely services in all legal and corporate matters while continuing to effectively manage litigation matters in order to protect all TNB interests.

During the year under review the Department embarked on the implementation of the Legal Management System (LMS). This web-based LMS enables all legal officers to access and update vital information on all their cases.

### 3. PROPERTY SERVICES

The Property Services Department (PSD) provides comprehensive property-related services such as project planning, asset procurement, property management and property maintenance to the Group.

### 4. LOGISTIC SERVICES

The Logistic Services Department is a new department, comprising of the Workshop and Freight Forwarding Departments. It focuses on repair and maintenance of vehicles, supply of mobile generating set for emergency power and acting as a one stop integrated center in coordinating and providing logistic services. During the year in review, the department undertook the implementation of the Enterprise Resource Management System (ERMS). With this system in place, all information may be accessed in real time from a single source that will subsequently improve business efficiencies.

The Department also implemented and practiced the quality initiative 5S (Seiri, Seiton, Seiketsu, Seiso, Shitsuke) system which leads to cleanliness and uniformity, hence increasing employee efficiency.

*Men at work in the TNB workshop.*





*TNBR's office and research centre in Bangi.*

## 5. TNB RESEARCH SDN BHD

TNBR Research Sdn Bhd (TNBR) is the research arm of Tenaga Nasional Berhad. Its main role is to enhance the core business of TNB in the area of power Generation, Transmission and Distribution through Research and Development, Laboratory Services, Quality Assurance and Environmental Studies.

TNBR has been accorded the status of an approved R&D company by the Malaysian Industrial Development Authority (MIDA). This allows organisations that use its expertise to enjoy a double taxation exemption on their research funding.

The company obtained the MS ISO 9001: 2000 Quality System certification in Management and Implementation of R&D projects and MS ISO 17025 for Laboratory services.

TNBR's qualified researchers from various disciplines are recognised as experts in their own specialised fields. TNBR is represented in various prominent professional bodies and societies including Panel Penilai Pemantauan Projek Penyelidikan IRPA RMK8 (Kumpulan Fokus Tenaga); Technical Committee on Power Quality (Malaysian Standards); Technical Committee on Electromagnetic Compatibility (Malaysian Standards); Working Group for Utility Interfaced Solar Photovoltaic System (Malaysian Standards); Committee for Electron Microscopy Society; Organisation and Management of Energy Efficiency Award for Energy Commission and Selected External Examiner and Supervisor for postgraduate studies.

Equipped with state-of-the-art facilities to support research activities as well as to provide technical services to the Electricity Supply Industry, the Research Centre is located next to the main campus of University Tenaga Nasional. This creates good synergy on collaborative research and services.

TNBR has completed its technology roadmap which is a long-term plan in undertaking research for the Electricity Supply Industry (ESI).

Currently, 95 per cent of the research projects undertaken by TNBR cover important areas in TNB generation, transmission, distribution and the environment. Most of these projects have direct linkage to TNB T7 initiatives.

The other businesses of TNBR are services Laboratory Testing, Quality Assurance and Environmental Impact Assessment (EIA) Studies. The five laboratories (Advanced Material, Transformer Oil Testing, Water and Air, HV Testing and Mechanical Engineering Design and Prototyping) currently offer their services to TNB as well as to other industries.

As the appointed quality agent for TNB, TNBR has to ensure that products supplied to TNB meet relevant quality standards. These include the Factory Acceptance Test (FAT), Second Party Audit, Product Acceptance and Product Certification.

TNBR is a registered EIA consultant with the Department of Environment, Malaysia and has also been engaged to carry out environmental studies mostly by TNB. These include the Emergency Response Plan as well as the Pre- and Post- Project Environmental Monitoring Plan.

TNBR's contribution to these research activities has received several important recognitions such as The TNB President Quality Award for the "Most Improved Subsidiary" from our parent Company and as "Customer Of The Year" from SIRIM Berhad.

TNB has adopted TNBR projects such as "Vegetation Management" to help reduce forced outage in the distribution system, and "Optimisation of Hydro Energy Utilisation" to help increase the power generation capability of the hydro system.

## **6. SECURITY SERVICES AND INTELLIGENCE**

The Department is responsible for providing security services for the Group especially the Core Divisions of Generation, Transmission and Distribution by implementing security operations at power stations, substations and regional warehouses. The main business of the Department is to provide efficient and cost effective security services to ensure all TNB key installation operations remain secured and protected. The essential function of the Department is to prevent intrusion and protect all TNB assets to ensure uninterrupted power supply to the nation. In line with the above, the Department has embarked on a few strategies to improve its service. One is to identify and differentiate all TNB electrical installations and buildings so as to be able to focus on crucial ones where security of the installation is critical. More hi-tech monitoring systems will be installed where necessary.

With a staff strength of over 900 consisting of senior managers, executives, including State Security Officers, and other security personnel of various ranks, the Department is well placed to play its role in providing security to all TNB key installations.

In order to maintain professionalism and high standards of service, personnel are sent regularly for training. Training methods run from on-the-job to classroom training and range from motivational to technical courses.

In line with its role as an auxiliary police force, the Department also maintains a close relationship with the nation's police force. This close relationship enables the department to call for police assistance whenever necessary.

In support of TNB's long-term human resources strategies and initiatives set out under the implementation of T7, the year under review saw the Group Human Resources Division focus on realising the full potential of human capital within the organisation.

# group human resource division

## Human Resource Planning and Development

A key planning area is the concept of Succession Management which is a deliberate and systematic effort to ensure continuity of leadership in key positions, retain and develop intellectual and knowledge capital for the future, and encourage individual advancement.

The objectives here are to identify and assess talented leaders for key positions, develop potential leaders by closing their competency gaps, retain talented leaders to serve TNB thereby ensuring continuity, and that the external recruitment for key executives is only carried out in the event that there are no suitable internal candidates to draw upon.

The implementation of Succession Management by TNB is in line with good Corporate Governance. It provides employees with continuous education and learning opportunities based upon their competency gaps. These programmes, providing training to both newly recruited as well as existing employees, also groom employees for their career development within the Group.

Training and development interventions were also made available to provide employees with the required knowledge and skills to perform their tasks.

TNB also aims to foster strong teamwork and the sharing of responsibilities when there is a lack of manpower to tackle any crisis situations that may arise.

During the year under review, the Division has embarked on a long-term plan for a Specialist Career Path Scheme. The objectives of this scheme are to develop and retain technical expertise, encourage enhancement of career interest and to promote and sustain technical excellence within the Group.

## Compensation Benefits and Performance

The first phase of the Enterprise Human Resource Management System (EHRMS), was successfully implemented as scheduled on 5 July 2004 comprising six modules i.e. organisational management; personnel administration; payroll, loans, retirement benefits and time management.

All TNB's employees have been provided with training on the Performance Management System (PMS). Two main components of the system, Key Performance Indicators (KPIs) and competencies, were used to evaluate their performance during the year under review.

In line with TNB's Business Process Re-engineering the following processes were streamlined:-

- Loan Management Process (for housing, vehicle, computer, electrical appliances and club membership loans). Effective approval systems were introduced. For housing loans the approval period was reduced from two months to two weeks and for all other loans from two months to one week.



Staff striving together during TNB Family Day.

- Retirement Benefits Management Process which enable immediate payment upon retirement.
- Leave Management Process is which centralises and updates staff leave information system.
- Loans Recovery Process which has successfully recovered a sum of RM2.2 million of outstanding debts from ex-staff.

### Staffing and Recruitment

One of the initiatives of the Staffing and Recruitment is to provide a career path policy for employees under the new scheme of service. This will ensure that employee productivity is continuously increased and upgraded. The objectives of these initiative are to provide a developmental career path for their promotion and upgrading, establish an integrated and meaningful career path in alignment with the training and development of employees and establish a competitive scheme of service similar to other organisations in the private sector.

A complete process mapping of all human resource work processes has been developed. This is due to the migration of the previous Human Resource Information System (HRIS) to the Enterprise Human Resource Management System (EHRMS). The objectives of this initiative are to align the human resource policies, guidelines and work processes with TNB's requirements and direction, to create and develop an efficient staffing and recruitment process and to standardise the human resource work processes throughout TNB.

### Industrial Relations

There are three registered trade unions and one association representing about 83 per cent of the workforce in TNB. The Company continues to enhance employee relations and harmony by having regular discussions and meetings between the unions, associations and management.

Joint Consultative Council meetings were held regularly during the year to resolve employment and related issues amicably. TNB regards the Unions as its strategic partners and they have been very supportive.

### Institut Latihan Sultan Ahmad Shah (ILSAS)

In order to achieve the vision to be the "Centre of Excellence in Power Utility Training" and to be recognised internally and internationally, ILSAS began cooperation with its technology partners, The Welding Institute of the UK (TWI) and Turboinstitut of Slovenia (TI).

To date it has become one of the Reference Centres for Nepal Electricity Authority (NEA), Vietnam Electric Company and Pusat Listrik Negara of Indonesia (PLN). Internally, ILSAS has been providing several technical courses to Sejangkat Power (an IPP in Sarawak), Sabah Electricity Sdn Bhd (SESB) and for external participants the 'Electrical Chergeman Competency Certificate' for the Energy Commission of Malaysia.

Under the umbrella of long-term strategic cooperation and transfer of knowledge between TI and TWI using their respective research and technology bases, training and services in state-of-the-art fabrication, inspection and maintenance, ILSAS, is now offering internationally recognised courses and examinations aimed at general maintenance covering thermal, hydro and CCGT power plants (Turbo-generator, Boiler and Balance of plants).

ILSAS training practices will result in an appropriate balance between education and development of a "competent workforce" and provider of Engineering Support for thermal, hydro and CCGT power plants. Engineers and students will be more motivated, finding interesting and innovative ways to employ technological solutions to Power Plant O&M challenges and other interesting ways to bring 21st century technology into the workplace.

The Information and Communication Technology (ICT) Division was formed to synergise and consolidate all TNB's Information Technology (IT) and telecommunication services.



*A Royal visit to TNB booth during ACM 2004.*

## ICT division

In essence, the Division's responsibility is to provide a total ICT solution for the TNB Group and eventually to external customers. This would encompass serving internal customers in terms of providing both IT and communication services and the external market through TNB's, Fibrecomm Network (M) Sdn Bhd.

The Division is responsible for planning, designing and implementing IT and telecommunication projects to meet TNB Group requirements. In line with TNB's T7 objectives, the year under review saw the Division undertake several major projects, among others, the expansion of TNB's telecommunications network, implementation of the Enterprise Resource Management System (ERMS) and, trials and implementation of Digital Power Line (DPL) communication.

Power utilities worldwide build, operate and maintain their own dedicated telecommunications network to provide services for critical applications such as teleprotection, SCADA, voice, and business applications such as ERMS, e-mail and the Internet. Realising that the ICT services are critical in delivering TNB's utility business, and driven by the need to provide a highly secure, fast and reliable network which must not fail under any circumstances, the Communication Department undertook several projects to complement and enhance the present telecommunications network.

With over 8000 km of fibre optics, TNB is currently upgrading the network to meet the required bandwidth demand to cater for TNB's internal requirement for a more reliable network, and for possible commercial use in the future.



*A system analyst monitoring, TNB's data network.*

In 2003, the IT Department successfully rolled-out the ERMS project, based on the SAP platform. This system integrates all TNB's business and administration applications, providing a standard application across TNB. The ERMS project addresses TNB's T7 strategic objectives to improve, among others, project planning and delivery, capital budgeting, materials, financial and asset management, and maintenance planning. This system streamlines applications and assists in the decision making process by providing an all-in-one central information depository, active budget checking and better project planning, tracking and monitoring of project progress.

The Department is also on the verge of implementing the Enterprise Human Resource Management System (EHRMS) which would provide a better system in monitoring TNB's human capital. In becoming a more customer-focused organisation, the Department is upgrading the Enhanced Customer Information Billing System (e-CIBS) to cater for the diverse customer needs.

Besides fibre optics, TNB is looking for an alternative cost-effective communication medium for its last mile communication to various TNB offices peninsula-wide. The Digital Power Line (DPL) technology utilises low and medium voltage powerlines (electrical cables) as a physical medium for data transmission. The technology is expected to cater for the various internal business and operational applications. Among the applications and services identified are SCADA, remote meter reading, the provision of high-speed broadband Internet access, and video conferencing.

With the implementation of ERMS and the expansion and upgrading of TNB's fibre optic network, the ICT Division expects to accrue savings to TNB. Besides these, cost savings are also expected to be derived via various other ICT initiatives and current projects, including the setting-up of a self-sufficient internal network telephony system, and in-house Application development.

As a dynamic player in such a fast moving industry, TNB is moving towards creating a more efficient and dynamic working culture. In this light, the Division is inculcating initiatives and team based KPI's to enhance our products and services. Realising the need for a faster and more responsive customer service, the Company has planned to set up several ICT offices all over Peninsular Malaysia. The ultimate aim is to serve our customers better, and provide a quicker response, especially to the regional offices. The ICT Division is thus preparing itself to become a one-stop IT and telecommunication service provider for the TNB Group, thereby reacting directly towards customers' needs and demands.

Investments Management Division is a new division with the sole focus of ensuring all current and potential investments bring a positive value addition to the group. The objective of this division is achieved by closely monitoring all TNB investments whether in the form of subsidiaries, associates or other long-term investments. The investment equity value under its purview is worth RM1.4 billion.

# investments management division

The roles and responsibilities of this Investment Division will be to oversee the performance of all long-term investments of subsidiaries as well as associates, comprising core and non-core businesses. Each of their strategic fits will be reviewed within the framework of the Group's strategy. Short and long-term business evaluations are to be carried out periodically.

The Division will recommend either to fix, sell or close actions and conduct turnaround activities as required. It will also identify and determine relevant tools for analysis, format and content of the respective business performance reports, prepare and submit monthly or quarterly management and Board reports.

Investments have been divided into four categories:

- a) Investment for immediate closure
- b) Investment for closure after clearing the accounts and/or clearing legal issues
- c) Investments requiring some fixing before possible full or partial divestment
- d) Investment requiring some fixing with potential growth and positive value addition to the Group.

The Division is also given the duty to reduce the stranded costs associated with unprofitable investments. Few of these unprofitable investments will be fixed in terms of management improvement, profitability and overall quality of profits and services. Merger exercises may also be considered with strategic partners while investments that do not fit the current Group business strategy may be closed down or divested.

The Division is in the process of reviewing suitable tools for business performance analysis and reporting. This includes initial training and continuous competency development programmes. All programmes will be driven by Investment Management Division to ensure effective investment management and to help meet TNB's strategic plans.

Investment Management Division's main responsibilities include Liberty Power Plant in Pakistan and Sabah Electricity Supply Board both of which are involved in the utility business; Malaysia Transformer Manufacturing Sdn Bhd, Tenaga Cable Industries Sdn Bhd, Tenaga SwitchGear Sdn Bhd that operate as the manufacturing arm for TNB; Fibrecomm Network (M) Sdn Bhd which is involved in the communication and IT related business; University Tenaga Nasional (UNITEN) in the area of education and knowledge development; TNB Properties Sdn Bhd that focuses its business in property development; and REMACO, TNEC, TNBE and TNB-ES in the engineering services and related functions. Details on some of the major investments are as follows:-

### **Liberty Power Plant**

Liberty Power Plant is a 235MW gas-fired combined cycle power generating station located at Daharki, in the province of Sindh Pakistan. The power plant achieved commercial operations on 10 September 2001 and it is in its third year of operations. The company employs 90 per cent of the locals in various capacities at the Power Plant.

### **Sabah Electricity Sdn Bhd**

The year under review marked the fifth anniversary of the privatisation of Sabah Electricity Sdn Bhd (SESB).

During the year under review SESB focused its activities on turning around the company through the T7 initiatives whilst improving the reliability and supply of electricity. Many projects were implemented to strengthen the supply as well as the transmission system in Sabah and the Federal Territory of Labuan.

The available generation capacity is 690 MW and the maximum demand throughout the state is 518 MW. SESB is serving about 330,000 customers for Commercial, Industrial, Domestic and Public Lighting.

The total sales of SESB in the year under review were RM566.92 million compared to RM581.30 million the year before. Total operating cost was RM847.95 million as compared to RM966.67 million in the year before. The loss before taxation in the Financial Year 2004 was RM227.36 million compared to RM301.76 million in the previous year.

With manpower strength of 2,102, SESB continues to develop its staff competency in order to enhance the productivity of the company.

### **SESB Generation**

The average Cost Per Unit (CPU) for six major SESB plants in the year under review is 15.9 sen/kWh (all generation cost including depreciation costs). The generation cost (RM) ratio for the six major stations and 47 minor and rural stations is 1:3. Therefore the key initiative in reducing overall generation cost was to focus on the six major stations. With the completion of grid projects, most minor stations will be decommissioned. The key steps to reduce generation cost will focus on the following:-

- (a) Reduce diesel based generation,
- (b) Increase generation of hydro and gas plants and
- (c) Improve maintenance

### **SESB Distribution**

The main focus in the year under review is the implementation of the key initiatives identified under the T7 strategy to reduce distribution system loss and to improve supply reliability and quality.

Under the key initiative to reduce system loss, 100 per cent physical checking of all low voltage Large Power Customers (LPCs) metering was carried out. A total of 1,650 customers were checked and 140 were found to have irregularities in their metering. Monitoring of unbilled accounts, meter reading and sales have all been stepped up in an effort to reduce administrative losses.

# Operations Review

Towards strengthening the distribution networks and to provide new injection points, several 33/11kV substations are being implemented under the Eight Malaysia Plan (RMK8). These include Labuan, Limbawang (Beaufort), Balung (Tawau) and Sim-Sim (Sandakan) substations. The Labuan and Limbawang substations are almost completed and expected to be in use before the end of 2004. 11kV projects such as installation of auto-reclosers and changing from bare to aerial cable have also been implemented to improve the supply reliability and quality.

## SESB Transmission

During the year under review, SESB continued the implementation of the Northern Transmission Grid Project, scheduled to be completed in December 2004. SESB has established a dedicated way leave team to adhere to the way leave and construction planning.

For the year under review SESB Transmission Division achieved the following:-

- (a) A reduction of SAIFI from 2.19 to 0.63 over the target of 1.97
- (b) A reduction of System Minutes from 220 to 86.31 over the target of 192
- (c) Under frequency load-shedding scheme up to 55 per cent has been completed
- (d) Saving of RM10 million per annum by implementing 50 per cent ramp up and 5 per cent ramp down spinning reserve

## Prospects

A comprehensive Master Plan for SESB that covers all aspects of Generation, Transmission and Distribution. This will enable the timely identification and implementation of projects and optimisation of SESB's overall resources.

In its effort to contribute towards the social and economic development of Sabah, SESB has set a target of 90 per cent electrification by 2010 to enable more people in the state having access to electricity.

## Malaysia Transformer Manufacturing Sdn Bhd

Malaysia Transformer Manufacturing Sdn Bhd (MTM) was established in 1977. As a pioneer manufacturer of transformers in Malaysia, MTM has maintained a leadership position for more than 25 years. With an annual plant capacity of up to 3000 MVA of distribution transformers, 2500 MVA of 33kV power transformers and 3000 MVA of 132 and 275kV power transformers, MTM has been able to provide its customers with various product ranges.

MTM also provide its customers with a broad range of services including retrofitting and refurbishment of power transformers. The company has steadily assisted TNB in the repairing and refurbishing of transformers in the various store yards and power stations. Utilising these services gives TNB major cost savings in not having to send transformers back to their country of origin for repair and refurbishment. In addition, MTM commitment to quality underpins its reputation and success as a reliable manufacturer.

In moving towards achieving the company's vision of being "a world class player in the transformer business by year 2008", MTM has embarked on many initiatives such as KAIZEN for continuous improvement, Safety Excellence Management System (SEMS) for safety and health, Enterprise Wide Risk Management (EWRM) to identify MTM's profile in order to mitigate risk, QCS-IT in which MTM won a silver award in the TNB Logistic Support's QCS-IT convention, and many more. With these ongoing initiatives MTM is proudly attained position 14 out of 54 in the TNB President Quality Award 2003 (AKP) in our first attempt.

In its efforts to produce high quality transformers MTM brought in new machines to upgrade existing machinery at its manufacturing plant.

Looking ahead, MTM will continue to help its customers and support them in their efforts to accomplish their objectives through MTM quality products and services.

### **Tenaga Cable Industries Sdn Bhd**

Tenaga Cable Industries Sdn Bhd (TCI) manufactures and distributes a wide range of power cables including low to medium voltage cross linked polyethylene (XPLE) cables, low voltage general cables, aluminium rods and aluminium alloy rods.

TCI manufactures quality products that comply with various international standards such as International Electrotechnical Commission (IEC) Specifications, British Standard (BS), Japan Institute of Standards (JIS) and American Society for Testing and Materials (ASTM) Standards. TCI also provides total cabling solutions which include engineering services from the design of power cabling systems and transmission lines to the actual installation and maintenance of these systems.

### **Tenaga Switchgear Sdn Bhd**

Tenaga Switchgear Sdn Bhd (TSG) was established to focus on three areas with a view to providing complete solutions; supply of high voltage switchgears, specialised maintenance and turnkey contracting for substations. TSG manufactures 275kV and 132kV Gas Insulated Switchgears (GIS), Gas Circuit Breakers (GCB), and Disconnectors (DS).

Quality products and services are vital to TSG in order to secure a foothold in the competitive high voltage power equipment global market. TSG's products are accredited internationally with Type Test Certificates for conformity to IEC standards and safety. TSG's commitment to quality, safety, and reliability is also demonstrated in its ISO 9001:2000 certification by Standards and Industrial Research Institute of Malaysia (SIRIM).

As part of its ongoing diversification, TSG has increased its involvement in specialised switchgear maintenance with emphasis on critical and specialised services that are currently performed by Original Equipment Manufacturers (OEMs). Through collaboration with these OEMs, TSG will help support TNB by providing services to minimise time for outages and through the application of reliability centred maintenance.

The most significant project during the year under review was the Jalan Pantai Substation 132kV GIS rehabilitation works. The scope of work was to repair 17 bays of 132kV GIS, supply a new Local Control Panel (LCP) and all associated cabling works for the substation which is a critical station in the Klang Valley Grid System. The project was successfully commissioned in March 2004 without encountering any major problems. A great deal of experience and core competency was attained from this project especially on the assembly works of the GIS parts and components. The experience and knowledge gained from this project is very beneficial to TSG for future projects especially in specialised maintenance works of different makes of GIS.

# Operations Review

TSG also embarked on retrofitting the Bersia and Kenering power stations, Connaught Bridge generator circuit breaker, retrofitting of the old BBC breakers in the TNB transmission system, as well as the maintenance of disconnectors in the SESB transmission system.

Apart from updating technology on existing products to cope with current market trends, TSG also needs to be innovative in order to realise its vision to be the leader in the high voltage switchgear industry in the region. As part of TSG's reengineering efforts, it is currently working on developing its own technology and design of a 145kV Disconnector.

TSG continues to evolve from assembly activity to manufacturing to development of new design, plans are underway to develop and type test our own indigenous high voltage switchgears by 2005.

## TNB Properties Sdn Bhd

TNB Properties Sdn Bhd (TNBP) is responsible for the implementation of property development projects for the Group.

During the year under review, TNBP managed 27 projects, totaling RM123.7 million. These comprised the development of UNITEN buildings (58 per cent), offices (21 per cent), renovation works and interior design (19 per cent). Efforts were made to achieve greater transparency and efficiencies through restructuring of its functions and roles in TNB, improve project delivery adhering to time and cost, and redefine financial operations as well as promoting continuous learning in its present workforce.

## Fibrecomm Network (M) Sdn Bhd

Fibrecomm was established in 1997 to address opportunities within the booming Information Communication Technology (ICT) industry. TNB holds a 59 per cent stake in Fibrecomm while the remaining 41 per cent is held by Celcom Transmission (M) Sdn Bhd.

During the year under review Fibrecomm Network (M) Sdn Bhd (Fibrecomm) successfully secured several major customer projects. One such project is leasing of dark fibre to Malaysia Institute of Microelectronics System (MIMOS) and Ministry of Defence (MINDEF), thus positioning itself as the nation's leading internet service provider. This project has certainly helped in spreading awareness of Fibrecomm as a carrier's carrier.

To-date, Fibrecomm has already installed about 98,000 km of fibre optics network and has access to an additional 40,000 km of TNB fibre optics network covering the whole of Peninsular Malaysia. This forms the basis of Fibrecomm's backbone network. Utilising Synchronous Digital Hierarchy (SDH) technology, the backbone network is capable of carrying data at speeds of up to 622 Mbps. By optimising TNB's readily available electricity infrastructure to deliver telecommunication services to the service providers or carriers, Fibrecomm is able to shorten time to market and offer competitive pricing due to the significant infrastructure cost savings. This enables Fibrecomm to contribute a new revenue stream to the TNB Group.

Since its inception, Fibrecomm has progressively expanded in terms of technological and product offering, network coverage and most importantly, in terms of financial performance. Revenue for the year under review was RM44.8 million, registering a 15 per cent growth compared to the previous year.

## Universiti Tenaga Nasional

Universiti Tenaga Nasional Sdn Bhd (UNITEN) is a wholly-owned subsidiary of TNB. UNITEN provides higher learning opportunities in engineering, information technology, business management and other related areas to meet TNB's skilled manpower requirement and also the human resource need of the nation.

All UNITEN programmes have been accredited and recognised by the National Accreditation Board (LAN) as well as local and international professional bodies such as the Board of Engineers of Malaysia (BEM), the Malaysian Institute of Engineers as well as the Malaysian Institute of Accountants (MIA), the Association of Certified Accountants (ACCA), Chartered Institute of Management Accountants (CIMA), and the Institute of Secretaries and Administrators (ICSA), all institutions from the United Kingdom and most recently the Chartered Public Accountants, Australia, (CPA Australia), thus enabling UNITEN graduates to follow the Australian CPA programmes.

This favourable situation attracts students from Yemen, Iran, Sudan, Pakistan, Oman, China, India, Brunei Darussalam and others to pursue first degrees and post-graduate studies in the university. Thirty-two executives of the Indonesian National Board of Electricity (Perusahaan Listrik Nasional) were accepted into the Masters in Engineering Management and Masters in Business Administration programmes.

UNITEN'S academic excellence is further enhanced by research projects conducted by its academic staff. Thirty-three research projects under the IRPA grant amounting to RM7.1 million were undertaken by the College of Engineering. About 150 research papers were published and 122 conference papers presented at International conferences. UNITEN also successfully organised an international conference on Non-Ionizing Radiation in 2003 with the Ministry of Health Malaysia which served as a platform for researchers and academics to share research findings.

# group internal audit

The Malaysian Code of Corporate Governance states that “the Board should maintain a sound system of internal control to safeguard shareholders’ investment and the Company’s assets”. In line with this requirement, the Board has the responsibilities of:

- Identifying principal risks and ensuring the implementation of appropriate systems to manage these risks; and
- Reviewing the adequacy and integrity of the Company’s internal control systems and management of information systems, including systems for compliance with applicable laws, regulations, rules, directives and guidelines.

TNB Group Internal Audit (GIA) function was established to assist the Board, through the Board Audit Committee, in carrying out their fiduciary responsibilities. Thus, the core role of the GIA is to provide assurance to the TNB Board of Directors on risk management, the control environment, accountability and efficiency of business operations of TNB Group.

The GIA is divided into several units that focus on the core business, projects and contracts, non-core subsidiaries, corporate and support services as well as information systems.

These units perform audits to assess critical business and control areas in the TNB Group such as:-

- the reliability of electricity supply
- the efficiency of business operations
- the awarding of contracts and project implementation
- the technical performance of power stations
- the metering and billing process as well as revenue collection
- the security, controls and contingency plans of internal information systems
- the performance of manufacturing subsidiaries and educational institutions under the TNB Group

GIA carries out a two-year audit cycle for the entire TNB Group. Some audits of non-core subsidiaries have been outsourced to professional audit firms in order to complete the audit cycle on schedule.

During the year under review, GIA conducted 63 audits covering various activities of core business, corporate services, non-core subsidiaries, computerised billing system and human resource management.

The GIA is actively improving staff competency through seminars and on-the-job training to meet the ever-rising expectations and challenges of internal audit work. The staff of GIA were also given training on the process of Risk-based Auditing as part of the implementation phases of Enterprise-wide Risk Management.

The Company Secretary's Office (the Office) fulfills its statutory responsibility to the Company by providing corporate secretarial and corporate advisory services to the Board of Directors of TNB and its group of companies. In addition, the Office also provides secretarial services to the Group Executive Council and Group Management Committee. The main focus of the Office is to ensure effective functioning of the Board with respect to policy making and other fiduciary duties to TNB Group within the purview of Company Laws, Securities Laws, Securities Commission Guidelines and Bursa Malaysia Listing Requirements.

# company secretary's office

The Office ensures that all General Meetings, Board of Directors' Meetings and various Board Committee Meetings are convened and transacted in accordance with the Company's Memorandum and Articles of Association and all the applicable laws, rules and regulations. The Office effectively conveys the resolutions of the Board to the Management and there from ensures effective execution by the Management. Throughout the Financial Year under review, the Office convened 19 Board Meetings, 54 Board Committee Meetings as well as 65 Board Meetings of subsidiaries and 16 Board Committee Meetings of subsidiaries.

The Office strives to facilitate an environment which enables the Board to focus on effective decision making. Among the continuous efforts of the Office towards creating such environment is the ongoing compilation of a set of reference documents to assist the Board. One of the documents is the Board Manual which outlines the duties and roles of a director, be it collectively or individually, as well as the established processes and best practices of the Board. The other is the Terms of Reference for each Board Committee, which sets out the decision making parameters and mechanisms to be adopted by each Committee in relation to its purview. The Office also facilitates the participation of Directors in training programs such as the Mandatory Accreditation Program and Continuing Education Program as well as initiating a comprehensive and formal in house training program for the Board of Directors.

The Office ensures that the statutory returns and relevant documents are lodged with the Companies Commission and other regulatory bodies within the stipulated deadlines. The Company's statutory records are properly kept, maintained and regularly updated within prerequisite statutory periods by the Office and are in good order for due diligence purposes.

The Office is also responsible for share administration matters which include maintaining records of substantial shareholders, maintaining the register of depositors and its statistical report, managing dividend entitlement, administering the allotment of shares under the Employees Share Option Scheme (ESOS) for more than 20,000 eligible employees, providing advisory services to shareholders on matters pertaining to their shareholdings as well as administering the remittance of unclaimed monies in accordance with Unclaimed Monies Act, 1965.

In adopting the disclosure-based regime introduced by Bursa Malaysia, the Office upholds the Company's best corporate practices on disclosure and other compliance aspects in accordance with the guidelines laid down by the Malaysian Code on Corporate Governance. In accordance with the Code, the Office compiles information on directors' remuneration for the purpose of disclosure. The Office also plays a role in steering TNB Group of Companies to keep pace with new developments in the corporate regulatory environment.

## CORPORATE RELATIONS

Corporate Relations is responsible to help create a climate which is as advantageous as possible to support the business of TNB. This include managing internal and external communication towards creating a favourable image and perception, branding, strengthened rapport/networking and relationship with stakeholders resulting in greater intangibles for TNB.

# otherservices



*Second T7 Implementer Workshop in progress.*

Corporate Relations which drives TNB's image and reputation is now directly reporting to the CEO. Major functions under Corporate Relations include Corporate Communications and Media Relations, Government Relations and Regulatory Affairs, Event Management and Community Relations.

During the year under review, various programmes and activities were implemented towards improving preception and relationships with key stakeholders. A Perception Audit carried out during the year under review to gauge stakeholder perception and communication gaps with TNB, showed an improved perception of TNB. Plans, strategies and programmes are underway to further build positive perception and strengthen the TNB brand.

### Productivity and Quality Management

Productivity and Quality Management Department (PQM), was formed in August 2004, reporting to the President/Chief Executive Officer. The department is responsible for Policy Management, Change Management, Quality and Organisational Development and T7 Promotion.

Policy Management Unit is to review and document the Company's processes and procedures and assist Divisions in developing processes and procedure manuals. The Change Management Unit will continue to handle the T7 Project by assisting the implementers for improvement and formulating detailed work plans to achieve the planned milestones and targets. It also facilitates removal of blockers through coordinating and liaising with other Divisions. The Unit is also taking up other relevant and critical projects implementation and facilitation to further enhance and expedite the achievement of T7 objectives.

To date, 42 key initiatives are being implemented by the various divisions across TNB. The accomplishments have been encouraging and significant improvements recorded by various divisions.

The T7 Promotion Unit is responsible for promoting awareness, understanding and commitment amongst staff towards achieving the T7 objectives. Some of the channels used include e-mail, newsletters, T7 video, posters and workshops.

The Organisational Development and Quality Unit is responsible for promoting quality initiatives such as TNB President's Quality Award, ISO documentation and at the same time organisational development within the Company by embedding shared values and building the right culture.

### **Internal Affairs**

Internal Affairs department was formerly known as Disciplinary Management Department. Functionally, this department reports directly to the Board Disciplinary Committee and operationally reports to President/CEO.

The role of Internal Affairs is to ensure compliance to the Company's disciplinary procedures by the staff. Other functions include coordinating relevant Training and Education, Investigation, Prosecution, Negotiation and Coordinating court proceedings on behalf of the Company.