

Supplement to

***ELECTRICAL INDUSTRY OF BURMA/MYANMAR* (Fourth Edition)**

Articles for November 2012

This is the seventh in a series of supplements to the fourth edition of *The Electrical Industry of Burma/Myanmar* which was published in April 2012. Approximately 350 cross-linked articles in the original cover many aspects of the industry including the development of the hydro and thermal power resources of the country, the increasing intervention of foreign and national companies in this economic sector, the production of electrical and electronic goods, government plans and regulation of the industry, the development of the national power grid and alternative and sources of electricity, among others. This supplement covers articles published in November, 2012.

Burma 'Energy Poor' Despite Vast Resources

The Irrawaddy, 28/11/12.

Burma has vast energy resources but decades of under-investment have caused power supply to fall short of domestic needs, an Asian Development Bank report said on Tuesday. Burma is "an extreme example of 'energy poverty'" and only one in four citizens has electricity. Two-thirds of all energy comes from burning firewood, charcoal and animal dung, which puts households at risk of "acute respiratory diseases and high mortality/morbidity rates." Yet Burma's reserves—estimated at 2 million tons of coal, 447 trillion cubic feet of natural gas, 206 million barrels of oil and hydropower potential of 100,000 megawatt—could be developed with the right policies, foreign expertise and an influx of capital.

Power lines for privileged customers snapped in Chin State capital

Khonumthung News, 24/11/12. Edited and condensed.

<http://www.khonumthung.org/?p=1171>

The special lines for supply of electricity to VIP's in Hakha, the capital of Chin state, Burma were snapped by the local authorities as of the last week of November. These lines to hotels, monasteries of Buddhists, army camps, civil hospitals and the homes of government officials were installed during the tenure of the military government in Burma, said a local. "The VIP lines will be removed to maintain equality in supply to public areas," a local newspaper reported. "There was no equality in electricity supply. We get power once in four days in public areas of the capital. The supply to VIPs was regular. Students are finding it difficult to study for lack of regular power," said a town elder from Hakha. The demand is for 5000 kilowatts in the capital, but the supply is only 700 kilowatts, said a staff member of the local electric power station.

Details of joint-venture electric power projects revealed

Myanmar News Agency, 21/11/12. Edited and abridged. (from p. 5 of the print edition of NLM on 22/11/12)

<http://www.burmalibrary.org/docs14/NLM2012-11-22.pdf>

At the session of the Amyotha Hluttaw on 21/11/12 three representatives spoke to a proposal urging the Union Government to review the investment by the State in electric power projects under the B.O.T. and JV/B.O.T. systems. The proposal was submitted by U Myo Myint of Mandalay Region Constituency No.6. With regard to the proposal, Union Electric Power Minister Khin Maung Soe said that the ministry had signed contracts related to three of six electric power projects to be implemented under the B.O.T. system. MoUs had been signed for the remaining three projects. Forty-six projects are under consideration for implementation under JV/B.O.T provisions. Of these three are already joint-ventures, 22 are have signed MoAs and 20 are in the MoU phase. The one remaining is the Chiphwenge project in Kachin State and this is 98.59pc complete. The Hluttaw approved the proposal. Eight representatives spoke to a proposal urging the Union Government to implement the swift development of small-scale hydropower projects submitted by the member for Mandalay Region Constituency No.6. With regard to the proposal, Union Electric Power Minister Khin Maung Soe said that according to the State Constitution, the Union Government did not administer directly medium and small hydro power supply. Plans are already under way for such projects. The Hluttaw approved the proposal.

Debate over fuel sources for new electricity generating plants stepped up

William Boot, The Irrawaddy, 22/11/12. Edited and abridged.

<http://www.irrawaddy.org/archives/19548>

As the Burmese government prepares to host an energy forum in Rangoon with proposals for coal fuel imports, a study of the country's severe electricity supply deficiencies recommends a combination of natural gas and river hydro dams. The study, by David Dapice, a Southeast Asian economic development specialist linked with Harvard Kennedy School in the US, also recommends avoiding the trend among neighboring countries to resort to coal power plants to feed rapidly rising electricity demand. The release of the study comes as Rangoon was identified this week as one of several emerging Southeast Asian business cities facing "severe risk" of flooding and other calamities due to climate change. Coal burning is one of the worst causes of greenhouse gas emissions blamed for triggering global warming and climate change. Dapice's proposal suggests that Burma's development in the southern half of the country be fueled with natural gas and in the northern half by hydroelectric systems on rivers, notably in Kachin State. Dapice suggests that Burma's government renegotiates hydropower deals between the former military regime and Chinese state businesses to better benefit Burmese. "The Myitsone and six other dams in Kachin State would have provided more than 10,000 MW of capacity. However, 90 percent of the power [under old contracts] would have gone to China. "If China wishes to salvage its past investment in dams and develop a mature and less extractive relationship with Myanmar, it will have to renegotiate the past contracts which were one-sided. The Kachin will have to be involved or else they will create instability." The report says hydroelectric dams should form a pillar of Burma's new energy plan but that it would be folly to rely primarily on them because of loss of generation in the dry season. It recommends building power plants fueled by natural gas, which is reliable, domestically accessible and much cleaner than coal.

"Burma needs to build up its electricity-generating capacity fourfold as a minimum for a developing economy over the next decade," regional energy industries analyst Jeff Mead in Hong Kong told The Irrawaddy. "That would mean at least 12,000 MW [megawatts] compared with what is probably today about 3,000-MW existing capacity. "It's going to mean 15 power stations of 600-MW capacities, for example, like the one being built now in Yangon. Bangladesh has twice as much electricity capacity as Burma right now but still faces severe blackouts daily which are seriously damaging the country's textile industry. "In the short term coal could be the quickest solution to supply problems in Burma, as the Bangladeshis seem to have decided." But the polluting consequences of burning coal lie at the heart of climate-changing global warming, and in a new report by risk assessors Maplecroft of the UK, Rangoon is named among seven cities where "multinational companies operating in the Asian growth economies will be exposed to spiraling environmental risks." "As global corporations expand into the emerging growth markets, their operations and supply chains will become exposed to a complex set of climate risks that have the potential to disrupt business continuity," said Maplecroft's Helen Hodge. "It is essential for companies to identify where suppliers, assets and personnel are most at risk and plan for the long term." The seven Asian cities it says are at "severe risk" from flooding and other disruptive weather patterns are Rangoon, Dhaka, Bangkok, Manila, Jakarta, Ho Chi Minh City and Kolkata. The seven are ranked as most vulnerable out of a Climate Change Vulnerability Index of 50 worldwide chosen for their "current and future importance to global business." Rangoon is ranked fourth most at risk.

In Myanmar, Marubeni Uncovers Decades of Neglect

Yoree Koh, Wall Street Journal, 20/11/12. Edited and abridged.

<http://online.wsj.com/article/SB10001424127887323622904578128931195161550.html>

After Myanmar ushered in democratic reforms last year, Marubeni Corp managers visited four electric power plants in Yangon that the company helped to build in the nineties to determine what it would take to restore the plants. More than a decade of trade restrictions against the former military dictatorship had limited access to spare parts and new gear. In the Tharkayta plant workers had been forced to scrub clogged air vents instead of replacing them. Some of the parts needed have been out of production for 10 years. Marubeni's experience at this gas-and-steam turbine facility illustrates both the heady promise and the bruising reality for companies hoping to tap one of the world's most tantalizing emerging markets. Marubeni's survey of the four gas-fired facilities indicated that restoration could cost as much as \$125 million. The company hopes to get its foot in the door for multibillion-dollar projects down the line. Marubeni is part of a consortium studying the possibility of creating an industrial hub in the rural Thilawa district. The company is also considering how to modernize a 385-mile, 19th-century rail line from the northern economic hub of Mandalay to the financial capital of Yangon in the south. Marubeni also is looking to

rehabilitate a 52-year-old hydroelectric plant [at Lawpita in Karenni state] and is in discussions with the government over constructing a Yangon transportation line, building a 500-megawatt power plant, upgrading cement and garment factories and launching a small, earth-observation satellite. Meanwhile, the Tharkayta project is dragging on. Marubeni wants to replace turbines and other key equipment, while the Myanmar government is advocating less-expensive repairs and parts replacement. Marubeni hopes to fund the renovation with Japanese aid rather than with payments from the unpredictable Myanmar government. The government wants to fix its power grid as soon as possible, hoping to forestall an electricity shortage next summer. But even for a simple repair like swapping out a gas turbine, it takes at least 10 months to manufacture and ship the item, says Japan's Hitachi Ltd. which made some of the original equipment for the Tharkayta plant. And after a repair, rickety equipment and theft mean about 40% of generated power doesn't reach its ultimate destination, experts estimate. Another difficulty is navigating Myanmar's bureaucracy. Marubeni says a feasibility study for the Thilawa industrial hub has been delayed for around three months because the dozens of licenses and permits required are fielded by different agencies. And companies generally are awaiting clarity on tax breaks and ownership limits for foreign investors. Myanmar officials and Japanese executives also differ on the pace of the project in Thilawa, which is now an expanse of rice paddies, interrupted by a few roads lined by electric poles waiting to be strung. Naypyitaw initially wanted all 5,900 acres—seven times the size of New York's Central Park—developed by the next general election, in 2015. Executives persuaded the government to lower that to less than 1,000 acres, and are skeptical even that is possible. The differing expectations is causing short tempers. Myanmar officials have described Japanese companies as "NATO," for "no action, talk only." But Mr. Asada, the Marubeni CEO, says moving too fast is dangerous. "Rather than make hasty moves that lead to big mistakes later, it's better to gather information and use Japan's know-how and technological advantages wisely," he says. Myanmar officials and Japanese executives are just starting to re-engage, so tension is natural, he says. "We need to work on our communication."

Myanmar to receive \$615 million loan from Japan

Ida Torres, Japan Daily Press, 19/11/12. Edited and abridged.

<http://japandailypress.com/myanmar-to-receive-615-million-loan-from-japan-1918625>

Almost a year after it ended half a century of military rule, Myanmar is slowly taking its place back in the world. Japan is to extend a lending hand to Myanmar by providing its first low-interest, long-term government loans to the country in over three decades. The announcement of the \$ 615 million loan will be made by Japanese Prime Minister Yoshihiko Noda when he meets with Myanmar's President Thein Sein at the ASEAN Summit in Cambodia. The money will be used for three projects which includes infrastructure for a special economic zone outside former capital Yangon, which will be led by a consortium of Japanese companies including Mitsubishi Corp., Sumitomo Corp. and Marubeni Corp. Repair work on a thermal power plant near Yangon and infrastructure development in 14 other provinces are the two other projects to be covered by the loan. These projects paves the way for Japanese companies to move into the country, even as China is trying to exert influence and other projects with Myanmar. Japan is especially interested in the Mekong region, reportedly a resource-rich region, which is perfect for its export-reliant economy. Earlier this year, Japan waived 300 billion yen of the 500 billion yen Myanmar debt.

Dawei SEZ project discussions at ASEAN summit

Kyaw Hsu Mon, Myanmar Times, 20/11/12. Edited and condensed.

<http://www.mmmtimes.com/index.php/national-news/3213-sez-development-project-links-myanmar-thailand-at-asean-summit.html>

Thai Prime Minister Yingluck Shinawatra will visit the Dawei Special Economic Zone in Myanmar's southern Taninthayi region following Myanmar and Thailand's invitation for international investors to engage in the project, according to a Thai senior official at the 21st ASEAN summit this week. President U Thein Sein and Ms Yingluck met at Phnom Penh's Peace Palace to witness the signing of a joint declaration that established a joint committee for the development of the Dawei SEZ, said Sihasak Phuangketkeow, Thailand's Permanent Secretary for the Ministry of Foreign Affairs. Ms Yingluck said she will visit the Dawei SEZ in mid-December, but the exact date has not yet been set. According to the joint declaration, Thailand will fund and implement the development of roads, a deep sea port, a power plant, water supply, communication and a high speed train within the Dawei SEZ, said Mr Sihasak. The prioritised development projects for the Dawei SEZ are expected to be complete in 2015, Mr Sihasak said. The projects will be implemented phase-by-phase, according to an MoU signed in Thailand earlier in November. During the meeting at the Peace Palace, Ms Yingluck told President U Thein Sein that she planned to send a delegation of major business representatives to Myanmar, Mr Sihasak said. "[Ms Yingluck] wants Thai

businesspeople to inspect and assess the Dawei SEZ," he said. "A future discussion following the delegation can be electricity-generating gas turbines for Myanmar," he added.

Siam Cement Group planning hydropower dam and cement plant in Tanintharyi Region

Nyein Ei Ei Htwe, Myanmar Times, 19/11/12, Edited and abridged.

<http://mmtimes.com/index.php/business/3153-scg-plans-myanmar-cement-plant.html>

Siam Cement Group has announced its intention to build a cement factory in Tanintharyi Region but is waiting for approval for the project from President U Thein Sein and the Myanmar Investment Commission, a company official said recently. Charoenchai Chaliewkriengkai, a senior engineer at SCG's plant in Thailand's Lampang province, said the company planned to build a hydropower dam to support its Tanintharyi Region cement factory. "We are planning to build a dam in Myanmar next year as well as a cement factory. We are always looking for the latest and quickest ways to repair the environment that we work in," he said. "We have worked with many NGOs to explain the benefits of dam-building and we have already started work on this issue in Myanmar too." However, he said the company had not yet chosen the site to build its dam in Tanintharyi Region.

MoA signed for 120-MW gas-fired and waste-heat power station in Ahlon

Myanmar News Agency, 17/11/12. Condensed. (from p.16 of the print edition of NLM on 18/11/12)

<http://www.burmalibrary.org/docs14/NLM2012-11-18.pdf>

The Electric Power Department of the Ministry of Electric Power and the Toyo-Thai Corps of Thailand and Singapore signed an MoA on the construction of a 120-MW gas-fired and wasteheat power station in Ahlon on 17/11/12. Union Electric Power Minister Khin Maung Soe said the project is to be implemented as quickly as possible as the main purpose of the project is to supply power in the coming summer. Power supply is to follow the non-environmental degradation policies. The president of Toyo- Thai Corp of Thailand, Hironobu Iriya, spoke words of thanks.

Coal-fueled generation on agenda for power investment conference

William Boot, The Irrawaddy, 17/11/12. Edited.

<http://www.irrawaddy.org/archives/19085>

Burma's government appears to be gearing up to permit coal-fueled power stations to try to overcome Burma's continuing electricity shortages. An industry conference planned for January in Rangoon aimed at attracting investors will discuss issues such as importing coal for new station development, said the organizers. The conference on Jan. 28-31, to be attended by Power Minister Khin Maung Soe, will put forward investment offers to a range of business executives expected to attend. "With growing nationwide demand for electricity and utilities, and a new era of [Burma] where the government aims to accelerate growth by encouraging foreign direct investment, there is no better time to address this pertinent infrastructural issue than at the Myanmar Power Summit," says the Center for Management Technology of Singapore.

Union Industry Minister asks for additional funds for two steel production projects

Myanmar News Agency, 16/11/12. Edited and abridged. (p.16 of the print edition of NLM on 17/11/12)

<http://www.burmalibrary.org/docs14/NLM2012-11-17.pdf>

Debate at the Pyidaungsu Hluttaw session on 16/11/12 mainly focused on additional budget allocation of the Union government in FY 2012-2013 for No.1 Steel Industry (Myingyan) and No. 2 Steel Industry (Pimpet). Union Industry Minister Aye Myint said the projects are designed to produce 400,000 tons of steel and steel works and have sufficient raw materials. It is planned to meet the projected capacity given that the two industries have full access to electricity and natural gas. The ministry has thoroughly examined the quality of iron ore from Pimpet deposit to determine whether it is required to import iron ores as the local iron ores are of inferior quality. And the results showed that it does not require the importing of iron ores from abroad as local raw materials can be used for over ten [decades???]. The minister showed his strong confidence in the project as he said his ministry would somehow best utilize the local raw materials despite their low quality. Professors from Moscow Institute have promised to offer technical help for the project. The Union minister assured that his ministry would be able to repay the loans it has taken from CDB Bank for the project within the set period. He said the project would be developed so as to fulfill domestic demand rather than exportation, adding that only surplus would be exported. In conclusion he warned against the undesired consequences of failure to continue with the project as it is a business deal signed with international contractors. Union Minister for Electric Power Khin Maung Soe discussed the availability of electricity for the projects; Union Energy Minister Than Htay, the availability of natural gas and Union Rail Minister Zeyar Aung, the transportation of raw materials to the sites.

Electric Power Minister in Tokyo for discussions on Japanese assistance and loans

Myanmar News Agency, 13/11/12. Edited. (from p.20 of the print edition of NLM)

<http://www.burmalibrary.org/docs14/NLM2012-11-14.pdf>

During a visit to Japan at the end of October, Union Minister for Electric Power Khin Maung Soe met with Japanese Minister of Economic, Commercial and Industry Yukio Edano. The two ministers discussed Japanese assistance for projects involving major repairs of the Biluchaung-1 and Hsedawgyi hydropower stations and the Thakayta and Ywama gas turbines. They also talked about the availability of soft-interest loans for the construction of a 50-mile-long 500-KV transmission line connecting Kamanat and Myaungdaga and a 500-KV line connecting the Thabyewa, Toungoo and Kamanat power stations, the upgrading of five 230-KV main power stations and rural electricity supply tasks. Khin Maung Soe also met with Vice-President Arakawa Hiroto of the Japan International Co-operation Agency (JICA), for talks related to the all-round development of the electric power sector in Myanmar. During his visit the Union Minister visited 1200-MW Isogo power plant in Yokohama that is using clean-coal technology, as well as the 500-KV Shin-Toyosu underground power station that supplies electricity to Tokyo and the Tokyo power control station.

Norway to underwrite updating of Myanmar electricity law

Bangkok Post, 12/11/2012. Edited.

<http://www.bangkokpost.com/business/economics/320812/norway-helps-myanmar-reform-electricity-law>

Norway has pledged \$850,000 to help Myanmar update its 1984 Electricity Law to meet current international standards, according to the Asian Development (ADB). The reforms are intended to create the right conditions to support a move toward more market-oriented practices electricity service expansion takes place. "Energy access for all is a priority for Norway. Without access to modern energy, there can be no development," said Espen Barth Eide, Norway's minister of foreign affairs during a visit to Myanmar on Nov 5. "Having an updated Electricity Law, putting the proposed law into use, and conducting initial capacity building on principles of electricity regulation are essential for the development of Myanmar's power sector." The ADB said the grant would support the review of current energy laws and drafting of new energy legislation best suited to the country's needs. The changes aim to promote private-sector participation in power generation by establishing rules that will allow small independent power producers to promote off-grid electrification as well as rural electrification programmes. According to the ADB, the legislation is expected to take 18 months to draft and implement, with completion targeted for June 2014. In order to support the development and expansion of infrastructure, the country needs to amend the electricity law to reflect realistic conditions in line with national economic growth as well as international law in the region. Only about a quarter of Myanmar's 60 million people have access to electricity supply, and the country needs to undertake many hugely ambitious projects. Improvement in electricity generation is also seen as a great contribution to poverty reduction.

Dissatisfaction over J/V B.O.T. system for power projects voiced in Pyithu Hluttaw

New Light of Myanmar, 08/11/12. Excerpt. Edited. (from p.12 of the print edition of NLM)

<http://www.burmalibrary.org/docs14/NLM2012-11-08.pdf>

At the session of the Pyithu Hluttaw on 07/11/12, U Kyi Tha of Gwa Constituency submitted a proposal urging the Union Government not to hand over current and future hydro power projects currently being implemented with investment by the State to bids for development under the JV/BOT and BOT system. Union Minister for Electric Power Khin Maung Soe and Deputy Minister for National Planning and Economic Development Dr Daw Khin San Yi replied that they preferred not to comment on the proposal in its present state. The Hluttaw agreed to put the proposal on record.

Myanmar Lighting Company to generate and distribute electricity in Mawlamyine

Kyemon, 07/11/12. Edited. (as published on p.11 of NLM on 08/11/12)

With the aim of ensuring 24-hour electricity in Mawlamyine of Mon State, Myanmar Lighting Co., Ltd is conducting a field survey to be able to engage in generating and distributing electricity in Mon State, after applying a licence for distribution of electricity to the officials concerned. The work is set to start in December. Although the government allows private entrepreneurs to deal with electricity distribution, there will be no changes in electricity charges. Household use of electricity will be charged at 35 kyats per unit and commercial use at 75 kyats per unit. It is learnt that electricity will be generated by two natural gas-fired 50 KVA generators.

Fourteen hydropower plants to be built with foreign loans

Eleven Media Group, 07/11/12. Edited.

<http://elevenmyanmar.com/national/1222-14-hydropower-plants-to-be-built-with-foreign-loans>

Myanmar will implement 14 hydropower projects involving more than US\$1.7 billion loan from China, according to sources in the Ministry of Electric Power. They said the country has already received over \$509 million in loans for seven of the projects. These include: Beluchaung-3, Upper Yeywa, Upper Sedawgyi, Thahtay, Upper Kyeintaung, Thaukyayket-2, and Upper Beluchaung. The seven plants will generate more than 700 megawatts of electricity, according to the ministry. The loans are being taken mainly from Exim Bank and China Development Bank of the PRC. The ministry will implement three of the projects: Thaukyayket-2, Beluchaung-3 and Upper Beluchaung. These three, expected to be completed by FY 2015-2016 will generate 120MW of electricity, officials said. The ministry and private companies will implement the other projects jointly under build-operate-transfer (BOT) system. Myanmar plans to build 75 power plants in future. Sixty-seven of them will be hydropower projects and the rest coal-based, according to officials.

Lakapon village gets electricity supply

Kyemon, 07/11/12. Edited and abridged. (from p.6 of the print edition of NLM, 08/11/12).

<http://www.burmalibrary.org/docs14/NLM2012-11-08.pdf>

A ceremony to mark the connection of Lakapon in Twantay township in Yangon Region to the electricity grid was held in the village on 04/11/12. Dr Khin Shwe, one of the principal sponsors of the project, handed over the necessary documents to responsible persons.

Parliamentarians tour hydropower plant and projects

Myanmar News Agency, 05/11/12. Edited. (on p.9 of the print edition of NLM, 06/11/12)

<http://www.burmalibrary.org/docs14/NLM2012-11-06.pdf>

On 3 November, Pyithu Hluttaw and Amyotha Hluttaw representatives observed Paunglaung underground hydro-power plant, one of the renewable energy facilities operated by the Ministry of Electric Power. The plant is located about 11 miles east of Pyinmana. Officials showed them a scale model of the power plant, the switching yard and the main dam. At the briefing hall of the plant, Managing Director Khin Maung Win explained the production of power at the plant, the supply of power to the national grid and water storage in the main dam. Hluttaw representatives viewed the controls in the machine room of the power plant, the generation of power and the operation of the power plant. They then viewed construction site for Nancho hydropower and Upper Paunglaung hydropower projects being carried out by No 1 Hydropower Implementation Department. The Upper Paunglaung hydropower dam is of roller compacted concrete (RCC) and two 70-MW generators are being installed there. It will be able to generate 454 million KWH per year.

Myanmar loses interest in power export to Bangladesh

Financial Express (Bangladesh), 01/11/12. Edited and abridged.

<http://www.thefinancialexpress-bd.com/index.php?ref=MjBfMTFfMTDFfMTJfMV8yXzE0ODU0MQ==>

Bangladesh's bid to import electricity from Myanmar has stalled, as the two neighbours are not talking on the issue for the last one and half years, reports the UNB [United News of Bangladesh]. According to Power Ministry officials during the last contact in early 2011 Bangladesh offered to send a delegation to Myanmar to discuss a possible deal to import electricity. "But we received no formal response from Myanmar to our offer," a top Power Ministry official told UNB on condition of anonymity. Myanmar informed Dhaka informally later that they are unlikely to export electricity to Bangladesh, he added. Myanmar had initially expressed interest in exporting electricity from two planned hydropower plants with a total capacity of 575 megawatts in Rakhaine state, which is very close to Bangladesh border. At that time, a high-level delegation was supposed to come to Bangladesh from Myanmar to discuss the issue and sign a memorandum of understanding (MoU). But without showing any reason, Myanmar suspended the tour. Analysts said the withdrawal of US and European economic embargo opened opportunities for foreign investment in Myanmar. In that case Myanmar will need a huge amount of electricity to run its industries.