

Ratchaburi Electricity Generating Company Limited

Company Rating:	AA
Issue Rating:	
RG106A: Bt3,000 million senior secured debentures due 2010	AA
Rating Outlook:	Stable

Rating History:	Company Rating	Issue Rating	
		Secured	Unsecured
30 Jun 2005	AA/Stable	AA	-
15 Jun 2005	AA/Stable	-	-
12 Jul 2004	AA-/Stable	-	-
26 Jun 2003	AA-	-	-

Rating Rationale

TRIS Rating affirms the company rating of Ratchaburi Electricity Generating Co., Ltd. (RATCHGEN) and the rating of RATCHGEN's senior secured debentures at "AA". The ratings reflect RATCHGEN's stable cash flow from the well-structured and state-of-the-art Ratchaburi power plants, long experience in the power sector, and proven record of managing power plants. New power plants and a decline in electricity demand have lowered RATCHGEN's dispatch level, but this has had a minimal impact on cash flow.

RATCHGEN is a wholly-owned subsidiary of Ratchaburi Electricity Generating Holding PLC (RATCH), which is 45% owned by the Electricity Generating Authority of Thailand (EGAT). RATCHGEN is the largest Independent Power Producer (IPP) in Thailand. Its power plants consist of two thermal units and three combined cycle gas turbine (CCGT) units with total installed capacity of 3,645 megawatts (MW), representing 12.5% of Thailand's total installed capacity as of December 2009. EGAT has 25-year power purchase agreements (PPAs) with RATCHGEN, while PTT PLC has a 25-year gas sale agreement (GSA) with the company.

In 2009, the performance of the CCGT units continued to outperform the target, reaching an average plant availability level of 87.4% and a heat rate of 7,214 BTU/kWh. The thermal units can maintain average availability as high as 87.2% with a heat rate of 10,071 BTU/kWh. However, the net electricity output for all units in 2009 declined by 25% to 12,298 GWh. The drop was due to a weak demand for electricity throughout the country and a decline dispatch order from EGAT resulting from the new power plants coming into the system. However, such drop has not affected its net profit which is derived mainly from the Availability Payment (AP).

Electricity sales in 2009 decreased by 16% to Bt35,313 million. The drop mainly came from a 24% decline in Energy Payment (EP) and 25% drop in electricity output order from EGAT. The AP, however, increased by 2% as the plants was able to maintain their availability better than their targets. RATCHGEN's net profit in 2009 was relatively maintained at Bt5,015 million. The earnings before interest, tax, depreciation and amortization (EBITDA) interest coverage increased from 7.6 times in 2008 to 11.1 times in 2009, partly resulted from its successful interest rate reduction in 2009. The debt service coverage ratio (DSCR), excluding changes in reserve accounts and working capital, was healthy at 2.1 times as of December 2009.

Rating Outlook

The “stable” outlook reflects TRIS Rating’s expectation that RATCHGEN will continue to receive stable cash flows from the Ratchaburi power plant. The power units are expected to maintain availability and operating performance in line with the PPA targets.

Key Rating Considerations

Strengths/Opportunities

- Well-structured project fundamentals
- Stable cash flow from 25-year PPAs with EGAT
- State-of-the-art power plant technology from credible suppliers
- Operation and maintenance agreement with EGAT

Weaknesses/Threats

- Dependent on a single customer
- Availability and consistency of gas supply to RATCHGEN
- Declining electricity consumption might result in low dispatch level

Corporate Overview

RATCHGEN is a wholly-owned subsidiary of RATCH, which is 45% owned by EGAT. RATCH and RATCHGEN were established in 2000 to purchase Ratchaburi power plants from EGAT. RATCHGEN power plants are located in Ratchaburi province, 100 kilometers southwest of Bangkok. It consists of two thermal generation units and three CCGT units with the total installed capacity of 3,645 MW. This was 12.5% of Thailand’s total installed capacity as of December 2009. The plant is operated by EGAT under an operation and maintenance agreement (OMA), while natural gas, the primary fuel, is supplied by PTT under a GSA. EGAT is the sole customer of RATCHGEN under the PPAs. In addition, EGAT has a minimum gas off-take obligation under a master gas sales agreement (MGSA) with PTT.

Recent Developments

▪ **Interest saving of Bt540 million**

On 24 June 2009, RATCHGEN signed a letter of agreement for lowering the interest rate on an existing loan (Tranche A) from its lenders, Krung Thai Bank PLC (KTB), Kasikornbank PLC (KBANK), Bank of Ayudhya PLC (BAY), TMB Bank PLC (TMB), CIMB Thai Bank PLC (CIMBT) and Government Savings Bank (GSB). The agreement was effective on 25 July 2009, when the outstanding balance of the loan was Bt19,798 million. The agreement reduced the interest rate on the remaining life of the loan from MLR minus 1.5% to interest rate ranging from MLR minus 2.0% to MLR minus 2.5%. The reductions in the interest rate will save approximately Bt540 million in interest expenses from July 2009-March 2015, the remaining life of the loan.

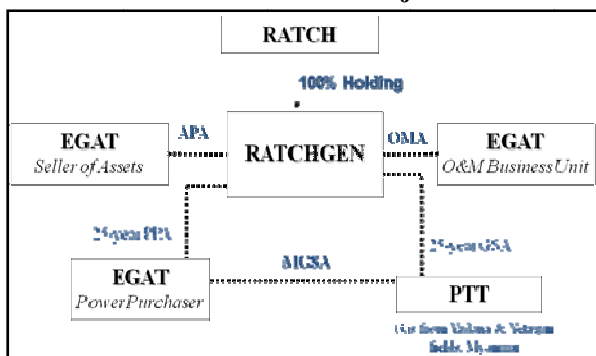
INDUSTRY ANALYSIS

Demand for electricity was affected negatively by the economic slump that started in late 2008 and continued through the first half of 2009. However, the global and Thai economic recovery has led the electricity consumption improved gradually since the third quarter of 2009. Consequently, electricity consumption for the whole year of 2009 turned to be the same level of 2008.

▪ **Demand for electricity dropped in 2009 but is expected to grow in 2010**

Electricity demand generally moves in tandem with the domestic economy. The economic slowdown that began in October 2008 hurt electricity consumption noticeably. According to EGAT, electricity sold in 2008 totaled 134,411 gigawatt hours (GWh), or 1.5% growth, down from an average annual growth rate of 7% between 2000 and 2007 and growth of 4.1% in 2007. The impact was especially visible in December 2008 as sales of electricity declined by 12.19% y-o-y. However, demand for electricity has gradually improved since the third quarter of 2009. Electricity consumption showed a growth of 1.1% y-o-y and 9.5% y-o-y in the third and fourth quarter of 2009, respectively. As a result, total electricity

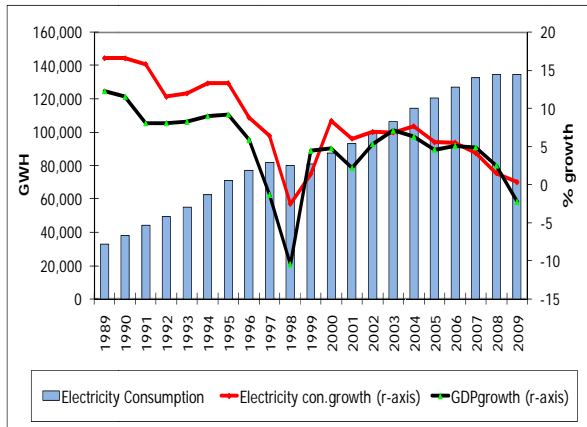
Chart 1: Ratchaburi Power Project Structure



Source: RATCHGEN

consumption in 2009 was relatively flat at 134,793 GWh.

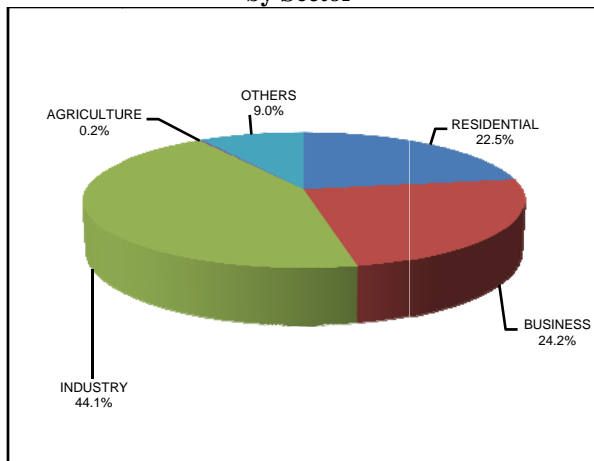
Chart 2: Electricity Consumption, Growth Rate and Real GDP Growth



Sources: National Economic and Social Development Board (NESDB) and Energy Policy and Planning Office (EPPO)

The industrial sector has been the largest electricity consumer, followed by the business sector, residential customers and the agriculture sector. Among all EGAT’s customers, the industrial sector is the most sensitive to the economic environment. In 2009, electricity consumption by the industrial sector, business sector and other uses fell by 1.2%. More than half of the drop (53.0%) was due to a drop in consumption by industrial users while the business sector was responsible for more than one-third of the decline (39.1%). In contrast, electricity demand from households appeared resilient to the slowdown in the Thai economy. During 2009, household users increased consumption by 5.5%. Electricity consumption by the agricultural sector increased by 9.9%.

Chart 3: Consumption of Electricity by Sector



Source: EPPO

The Thai economy has shown sign of recovery since the last quarter of 2009; consumer confidence has returned. The Bank of Thailand (BOT) projects that gross domestic product (GDP) will rise in real terms by 3.3% to 5.3% in 2010. The major factor behind this optimistic forecast is the belief that the world economy will recover strongly in 2010, restoring domestic confidence and exports. BOT projects that private consumption will grow by 3.5%-5.5% and private investment will increase by 9.5%-11.5%. With this more favorable environment, electricity consumption is expected to increase in 2010.

▪ **Economic crisis affects energy policy**

Energy policy is supervised by the National Energy Policy Council (NEPC), which has the responsibility to submit the national energy policy as well as the national energy management and development plan to the Council of Ministers. According to the National Energy Policy Council Act, the Prime Minister or the Deputy Prime Minister designated by the Prime Minister, will be the chairman of the Council. This reflects the influence of the ruling political party in shaping national energy policy.

Under the new government headed by Prime Minister Abhisit Vejjajiva, energy policies continued to focus on energy diversification and conservation. The government is encouraging the production and use of alternative sources of energy, particularly renewable energy. Very Small Power Producers (VSPP) which generate electricity using renewable energy can sell electricity directly to the Metropolitan Electricity Authority (MEA) or the Provincial Electricity Authority (PEA). An extra tariff rate (or an adder) will be added to the ordinary tariff rates paid to the VSPPs by these two electricity distributors.

Amid the current economic difficulties, the government announced several stimulus packages. One such plan covers payment of certain level of household electricity bills. This plan is cited as the major explanation for the increase in household electricity consumption in 2009.

▪ **PDP 2007 was revised to reflect lower demand**

On 24 March 2009, the Cabinet endorsed the second revision of the Power Development Plan (PDP) 2007 (Revision 2), covering power plans for 2008 to 2021. According to the PDP 2007 (Revision 2), the targeted amount of new

power generating capacity to be installed between 2009 and 2015 was reduced to 12,605 MW. New capacity from EGAT was also reduced from 4,615 MW to 3,769 MW while Small Power Producer (SPP) capacity increased from 1,193 MW to 1,985 MW. During this period, some existing power plants will be retired. Future sources of energy are planned to be a more balanced mix between natural gas, coal, ethanol, nuclear and other renewable fuels. In 2009, 71.4% of energy used nationwide to generate electricity was from natural gas, 20.1% from coal, 4.7% from hydropower, 0.3% from fuel oil and 3.5% from imports and others.

The Cabinet also agreed that the new capacity to be installed between 2016-2021 will be reviewed in the next PDP to be consistent with new projections for national economic growth as forecasted by the NESDB.

▪ **Progression of IPP**

In December 2007, Gheco-One Co., Ltd., Siam Energy Co., Ltd., Power Generation Supply Co., Ltd., and National Power Supply Co., Ltd. were announced as winners of the new IPP bidding. According to the submission plans of the four winners, new power plants will be built with combined installed capacity of 4,400 MW, 1,200 MW more than the plan of the Ministry of Energy. Out of the 4,400 MW of new capacity, 3,200 MW will be gas-fueled plants, while the balance will be coal-fired plants. Gheco-One received environmental impact approval and started construction in late 2008. Other operators postponed their plans for at least another year owing to the drop in demand for electricity and lengthy EIA process.

Table 1: Winners of 2007 IPP Bidding

	Name	Fuel Type	Capacity (MW)	Scheduled COD*
1	Gheco-One Co., Ltd.	Coal	660	2011
2	Siam Energy Co., Ltd.	Natural gas	1,600	2013
3	National Power Supply Co., Ltd.	Coal	540	2013
4	Power Generation Supply Co., Ltd.	Natural gas	1,600	2014
	Total	-	4,400	

* Commercial operation date

Source: EPPO

▪ **Key legislation to standardize energy policies**

The Energy Industry Act B.E. 2550 (2007) was enacted on 11 December 2007. Under the Act, the supervision of both the natural gas and electricity supply industries were brought

into a single regulatory body. Established by the Act, members of the Energy Regulatory Commission (ERC) were selected on 22 January 2008. The ERC oversees the energy industry including operating regulations, awarding operating licenses, making recommendation for the PDP, announcing customer service standards, and other tasks.

▪ **Private producers are encouraged to participate**

The government started the privatization plan for the electricity generating sector in 1992 by encouraging private companies to produce and sell electricity to EGAT. The SPP scheme was introduced in 1992, followed by the IPP scheme in 1994. Both IPPs and SPPs have 20- to 25-year PPAs with EGAT. The PPAs are designed to mitigate the market risk of the operators, leaving mainly operating risk to be managed. Private producers under the IPP scheme are obligated to sell all their electricity output to EGAT, while private power producers under the SPP scheme can sell electricity to EGAT and/or to industrial users.

As of December 2009, Thailand had combined installed electricity generating capacity of 29,212 MW. EGAT accounted for 49% of the total, followed by IPPs (42%), SPPs (7%), and power imported from Laos and Malaysia (2%). EGAT's share of power generating capacity decreased from 100% before 1995 to 92% in 1999 and to 49% at the end of December 2009. EGAT has been relieved of its burden to develop and operate power plants, but remains the nation's sole electricity provider.

BUSINESS ANALYSIS

RATCHGEN's business profile is well above average. The power plant project is well-structured to mitigate commercial risks and fuel risks through the long-term PPAs and GSA with creditworthy counterparties. Operating risk is partially mitigated by the OMA with EGAT and the CSA with General Electric International Operation Co., Inc. and GE Energy Parts, Inc.

Table 2: Ratchaburi Power Plant

Type	No. of Unit	Unit Capacity (MW)	Total (MW)
Thermal unit	2	735	1,470
CCGT unit	3	725	2,175
Total	5	-	3,645

Source: RATCHGEN

▪ ***State-of-the-art power plant technology***

RATCHGEN owns two 735 MW thermal units and three 725 MW CCGT generating units. Thermal units 1 and 2 commenced commercial operations on 31 October 2000. The thermal units were designed and constructed by Mitsubishi Corporation (Mitsubishi), with the majority of the equipment supplied by Mitsubishi Heavy Industries Ltd. (MHI). The steam generators manufactured by MHI are supercritical, single reheat, forced circulation and balanced draft boilers. Although this type of boiler is the first in EGAT's system, it has been used in the United States for more than 30 years and in China for more than 10 years.

The CCGT unit 1 and 2 started commercial operations on 18 April 2002, and unit 3 started up on 1 November 2002. Each unit combines two gas turbines and one steam turbine. The 9FA gas turbine is one of the Frame 9 series of heavy gas turbines for power generation. Given the higher technology class, the gas turbines and supercritical boilers require higher levels of maintenance than the existing boilers in the EGAT system.

▪ ***25-year PPAs with EGAT protect against market risk***

RATCHGEN has 25-year PPAs with EGAT. Like other IPPs, the PPAs protect the company from fluctuations in power demand and supply. The basic structure of RATCHGEN's PPAs is the same as all IPPs, including EGCO's power plants. The payments consist of two parts: the availability payment (AP) and the energy payment (EP). The pay-if-available basis provides RATCHGEN with stable cash flow as long as the company maintains its power plants in accordance with the PPAs and keeps the plants ready for EGAT's dispatch instructions. The AP is designed to recover all fixed costs associated with project financing and operations, including debt service and fixed operating and maintenance costs, as well as returns to holders equity. The full AP is subject to deductions for reduced availability (DRA), short notice (DSN) and dispatch failure (DDF). The maximum deduction percentage is identical to that of the Khanom power plant in southern Thailand and is more favorable than other IPPs.

The EP is designed to cover the incremental costs for actually producing electricity. This includes fuel costs and variable operating and maintenance (VOM) costs. Plant operators

are exposed to operating risks only if they cannot prepare a plant to be ready for power production or if a plant's characteristics are lower than the agreed targets. Compared with other IPPs, RATCHGEN's conditions for plant availability are more favorable. While other IPPs are required to agree to contracted performance levels prior to the commencement of construction, the performance capability level for RATCHGEN's PPAs were determined after performance tests, subsequent to the completion of construction.

▪ ***Fuel risk is partially mitigated by GSA and MGSA***

RATCHGEN's fuel risk is partly mitigated by the GSA between RATCHGEN and PTT, and the MGSA between EGAT and PTT. These agreements are similar to the ones held by other IPPs, whereby EGAT has an obligation to take a minimum level of gas under the take-or-pay GSA. The price for natural gas is a full pass-through, while the quantity of natural gas consumption is also a pass-through if the RATCHGEN plant heat rate meets its agreed target. RATCHGEN has the option of rejecting substandard gas while still receiving the AP for a period of one year.

The primary fuel for the RATCHGEN power plant is natural gas from the Yadana and Yetagun gas fields located in the Andaman sea, the offshore of Myanmar. Over 25 years, RATCHGEN will require approximately 7.7 trillion cubic feet (tcf) of natural gas. Given that Tri Energy Co., Ltd. (TECO) will require 0.6 tcf of natural gas from the same source to cover its 20-year PPAs, and 2.7 tcf of natural gas will be required by Ratchaburi Power Co., Ltd. (RPCL) to cover the 25-year PPAs, the long-term availability of gas from these two gas fields may be a concern. However, RATCHGEN still receives the AP regardless of fuel availability.

▪ ***Operating risk is further mitigated by an OMA with EGAT***

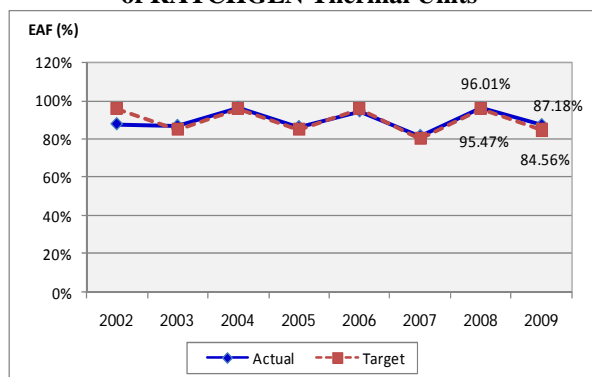
Under the existing PPA structure, the company's performance is dependent on the power plant availability, as it gets paid according to the AP, regardless of the dispatch factor. RATCHGEN's operating risk is further mitigated by the OMA with EGAT. Under the agreement, EGAT operates and maintains the entire plant on a daily basis. The OMA covers minor and major main-

tenance for all units over the 25-year PPA period. Although RATCHGEN's OMA is less favorable than other private operators, EGAT's excellent track record in operating power plants should significantly mitigate RATCHGEN's operating risk.

▪ **Operating performance in line with targets**

In 2008, the Equivalent Availability Factor (EAF) of the thermal units was 96.01%, better than PPA target of 95.47% with an acceptable unplanned outage level of 77 hours. The plant heat rate of the thermal units was 10,115 BTU/kWh (51.6% of dispatch factor). This was slightly below the PPA target of 10,113 BTU/kWh (60.0% of dispatch factor). For the CCGT units, the average EAF of 86.95% was better than the target of 84.90%, with the total outage lower than target. The plant heat rate of 7,203 BTU/KWh (75.0% of dispatch factor) underperformed the target of 7,113 BTU/KWh (75.0% of dispatch factor).

Chart 4: Equivalent Availability Factor (EAF) of RATCHGEN Thermal Units

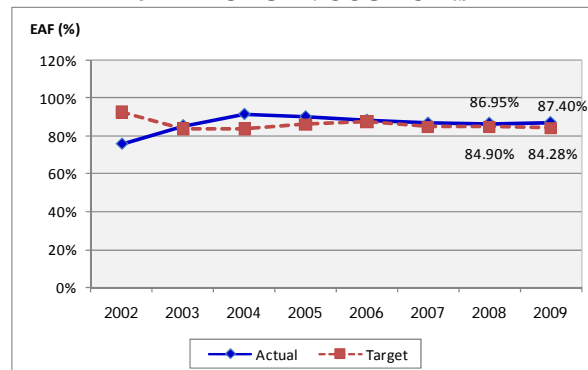


Source: RATCHGEN

In 2009, the operating performance of the power plants remained satisfactory. For the thermal units, there was 322 hours of unplanned outage lower than the target of 707 hours, while the planned outage (a scheduled minor inspection) for both units scheduling in the fourth quarter of 2009 was in line with the targets. As a result, the average EAF of the thermal units of 87.2% outperformed the PPA target of 84.6%. The

plant heat rate for the thermal units of 10,071 BTU/kWh was also better than the PPA target of 10,106 BTU/kWh.

Chart 5: Equivalent Availability Factor (EAF) of RATCHGEN CCGT Units



Source: RATCHGEN

For 2009, the operating performance of the CCGT units outperformed the PPA target. The average EAF was 87.4%, better than the PPA target of 84.3%. The planned outage for all CCGT units of 2,262 hours was lower than the target of 2,563 hours. Even though, the major overhaul of a CCGT -- block 3 in steam turbine took 38 days longer than expected due to a shaft eccentricity in the steam turbine after maintenance. CCGT block 2 was shut down for maintenance in the fourth quarter instead of the third quarter of 2009 as originally planned. For fuel efficiency, the average plant heat rate of 7,214 BTU/kWh during 2009 was better than the PPA target of 7,239 BTU/kWh.

▪ **New power plants and economic slowdown lower power production**

The Ratchaburi thermal power plants have lost their competitive edge due to higher fuel cost to generate electricity comparing with a coal-fired power plant and the newer CCGT power plant. EGAT is likely to dispatch electricity from the plant which offers the lowest cost of generation. Therefore, thermal unit 2 was given a reserve shutdown in July 2008 after RPCL commenced operation.

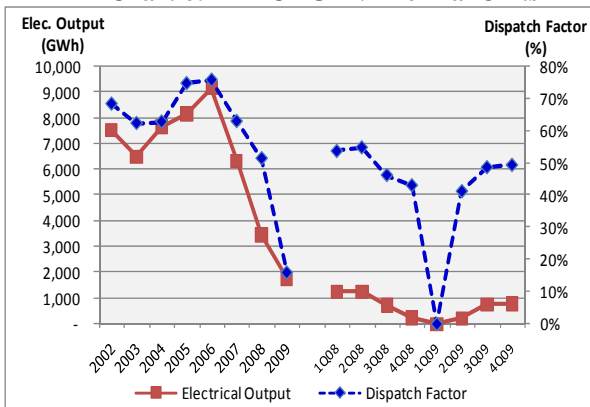
Table 3: Thailand Electricity Consumption & RATCHGEN Generation

Electricity	Unit	1Q08	2Q08	3Q08	4Q08	1Q09	2Q09	3Q09	4Q09
Thailand consumption	GWh	33,194	34,897	34,996	31,325	30,879	34,227	35,395	34,292
Growth (y-o-y)	%	5.98	2.55	2.35	(4.93)	(6.97)	(1.92)	1.14	9.47
RATCHGEN generation	GWh	4,725	4,060	4,372	3,319	2,050	2,936	3,916	3,396
Growth (y-o-y)	%	(3.37)	(20.77)	(8.35)	(34.74)	(56.61)	(27.68)	(10.43)	2.32

Sources: EPPO and RATCHGEN

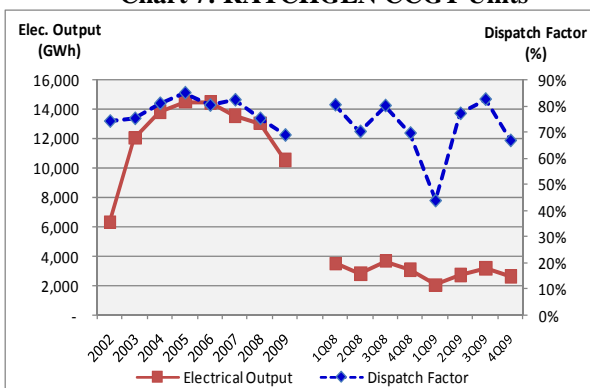
In addition, Ratchaburi thermal power plant unit 1 was also called for a reserve shutdown in November 2008, after electricity demand contracted due to the economic slow-down, starting in October 2008. The electricity demand has begun to recover since February 2009. Therefore, the thermal unit 1 was instructed to dispatch at a low load level in June 2009, while the thermal unit 2 was still on reserve shutdown. Looking forward, both units of the thermal plant are expected to dispatch at low levels until 2014. However, the lower dispatch levels has not affected company's net profit, which is derived mainly from AP. In 2015, outstanding loans for the thermal units will be fully repaid and the overall tariff from thermal units will be more competitive.

Chart 6: RATCHGEN Thermal Units



Source: RATCHGEN

Chart 7: RATCHGEN CCGT Units



Source: RATCHGEN

The lengthy shutdown of the Ratchaburi thermal plants is a cause for concern in terms of their readiness. Normally during a reserve shutdown, all major parts and equipment are removed for preservation as required by a standard practice. Therefore, the plant may take longer time to restart and need more fuel to heat up the plant. As a result, AP may

be reduced by a penalty on dispatch failure (DDF). However, the maximum of DRA, DSN and DDF is set at 2% of the expected annual AP. RATCHGEN conducts a monitoring program for the readiness to dispatch from both units. The thermal units also had a minor inspection as planned, in the fourth quarter 2009, to ensure the readiness of the plants.

FINANCIAL ANALYSIS

RATCHGEN's financial profile is strong. Operating cash flow has been highly predictable due to the tariff structure under the existing PPAs. The company's capital structure, with a 50%-55% debt to capitalization ratio, is better than other power projects in Thailand, which have an average of 70% to 75% debt financing.

▪ **Solid financial structure lowers financial risk**

RATCHGEN's project loans are 100% in baht-denominated. Therefore, there is no foreign exchange risk in the debt service charge. Although all of RATCHGEN's debts carry a floating rate (base on MLR, the minimum lending rate), there is no interest rate risk because the interest expense properly matches the MLR charges in the debt service component of the AP. In addition, the AP and EP components will be adjusted annually to reflect changes in the exchange rate and the Consumer Price Index (CPI). This mechanism helps mitigate foreign exchange and inflation risks.

▪ **Relatively stable operating income and net profit**

In 2008, RATCHGEN sold 16,475 GWh of electricity, a 17.1% decrease from 2007. Sales dropped because RPCL started up in the second half of 2008 and because demand for electricity has contracted since the third quarter of 2008. However, net profits increased by 9.9% to Bt5,489 million, as it mostly derived from AP.

For 2009, electricity sale dropped by 25.4% to 12,298 GWh as a result of a contraction in electricity demand. RATCHGEN's revenue for 2009 decreased by 16.3% to Bt35,313 million, mainly from dropping in EP. However, RATCHGEN was able to maintain the availability of its power plants higher than target, therefore revenue from AP slightly

increased by 1.8% to Bt12,265 million during 2009. As company's profit mainly derived from AP, RATCHGEN's operating profit for 2009 dropped only 3.8% to Bt6,511 million. Due to the expiration of the Board of Investment's promotional privileges for tax exemption in October 2008 that covered Ratchaburi thermal power plant units 1 and 2, the company's net profits dropped by 8.6% to Bt5,015 million.

▪ **Improved financial profile**

Total debt continuously fell from Bt22,831 million at the end of 2008 to Bt19,640 million at the end of 2009, in accordance with

the principal repayment schedule. The debt to capitalization ratio improved from 51.6% at the end of 2008 to 48.7% at the end of 2009. The EBITDA interest coverage ratio was 11.1 times during 2009, up from 7.6 times in 2008. The improvement of EBITDA interest coverage partly resulted from the successful negotiation with the existing lenders to reduce the interest rate over the remaining time of the loan. The debt service coverage ratio (DSCR), without changes in reserve accounts and changes in working capital was 2.1 times as of December 2009.

Table 4: RATCHGEN's Revenue

	Unit	2006	2007	2008	2009	Growth (%)
Electricity Output	GWh.	23,601	19,870	16,475	12,298	(25.35)
AP	Bt million	12,222	11,359	12,044	12,265	1.83
EP (Fuel)	Bt million	37,904	32,291	30,012	22,940	(23.56)
EP (VOM)	Bt million	247	158	127	108	(14.96)
Revenue	Bt million	50,373	43,808	42,183	35,313	(16.29)
Net profit	Bt million	5,161	4,995	5,489	5,015	(8.64)

Source: RATCHGEN

Performance Statistics of Ratchaburi Power Plant

	Unit	2009 (Target)	2009 (Actual)	2008	2007	2006
Thermal Units						
Net electrical output	GWh	1,628	1,762	3,468	6,350	9,168
Dispatch factor	%	15.0	16.0	51.6	63.1	76.0
EAF* avg. 12 months	%	84.6	87.2	96.0	81.4	94.4
Plant heat rate	BTU/kWh	10,106	10,071	10,115	9,792	9,596
Dependable capacity	MW	1,440	1,440	1,440	1,440	1,440
Planned outage	Hours	960	960	-	2,736	-
Forced outage	Hours	707	322	77	-	14
Maintenance outage	Hours			-	411	776
CCGT Units						
Net electrical output	GWh	11,221	10,536	13,007	13,521	14,432
Dispatch factor	%	75.0	68.7	75.0	82.1	80.1
EAF avg. 12 months	%	84.3	87.4	86.9	87.0	88.6
Plant heat rate	BTU/kWh	7,239	7,214	7,203	7,156	7,108
Dependable capacity	MW	2,011	2,011	2,011	2,011	2,011
Planned outage	Hours	2,563	2,262	1,077	2,379	1,772
Forced outage	Hours	1,391	951	138	377	526
Maintenance outage	Hours			257	531	1,162

* Equivalent Availability Factor (EAF)

Financial Statistics and Key Financial Ratios
Unit: Bt million

	----- Year Ended 31 December -----					
	2009	2008	2007	2006	2005	2004
Electricity sales	35,313	42,183	43,808	50,373	44,035	39,714
Total operating costs	28,802	35,412	38,388	43,196	37,225	32,423
Operating profit	6,511	6,771	5,420	7,177	6,810	7,291
Gross interest expense	861	1,295	1,365	1,445	1,209	1,225
Net profit	5,015	5,489	4,995	5,161	5,791	6,260
Total debt	19,640	22,831	26,400	29,508	32,586	35,765
Funds from operations (FFO)	7,834	8,265	7,648	8,686	8,741	8,905
Operating income before depreciation and amortization as % of sales	26.5	22.8	18.9	19.8	22.2	25.1
Total debt/capitalization (%)	48.7	51.6	55.8	56.7	59.2	61.6
FFO/total debt (%)	39.9	36.2	29.0	29.4	26.8	24.9
Earnings before interest, tax, depreciation and amortization (EBITDA) interest coverage (times)	11.1	7.6	6.8	6.6	8.3	8.3
Cash available for debt service	9,483	8,610	8,708	8,562	9,875	7,137
Total debt service	4,094	4,910	4,503	4,287	4,408	4,112
Total debt service coverage ratio (DSCR) (times)	2.3	1.8	2.0	2.0	2.2	1.7
DSCR, excluding change in working capital (times)	2.1	2.0	2.0	2.2	2.1	2.4

Rating Symbols and Definitions

TRIS Rating uses eight letter rating symbols for announcing medium- and long-term credit ratings. The ratings range from AAA, the highest rating, to D, the lowest rating. The medium- and long-term debt instrument covers the period of time from one year up. The definitions are:

- AAA** The highest rating, indicating a company or a debt instrument with smallest degree of credit risk. The company has extremely strong capacity to pay interest and repay principal on time, and is unlikely to be affected by adverse changes in business, economic or other external conditions.
- AA** The rating indicates a company or a debt instrument with a very low degree of credit risk. The company has very strong capacity to pay interest and repay principal on time, but is somewhat more susceptible to the adverse changes in business, economic, or other external conditions than AAA rating.
- A** The rating indicates a company or a debt instrument with a low credit risk. The company has strong capacity to pay interest and repay principal on time, but is more susceptible to adverse changes in business, economic or other external conditions than debt in higher-rated categories.
- BBB** The rating indicates a company or a debt instrument with moderate credit risk. The company has adequate capacity to pay interest and repay principal on time, but is more vulnerable to adverse changes in business, economic or other external conditions and is more likely to have a weakened capacity to pay interest and repay principal than debt in higher-rated categories.
- BB** The rating indicates a company or a debt instrument with a high credit risk. The company has less than moderate capacity to pay interest and repay principal on time, and can be significantly affected by adverse changes in business, economic or other external conditions, leading to inadequate capacity to pay interest and repay principal.
- B** The rating indicates a company or a debt instrument with a very high credit risk. The company has low capacity to pay interest and repay principal on time. Adverse changes in business, economic or other external conditions could lead to inability or unwillingness to pay interest and repay principal.
- C** The rating indicates a company or a debt instrument with the highest risk of default. The company has a significant inability to pay interest and repay principal on time, and is dependent upon favourable business, economic or other external conditions to meet its obligations.
- D** The rating for a company or a debt instrument for which payment is in default.

The ratings from AA to C may be modified by the addition of a plus (+) or minus (-) sign to show relative standing within a rating category.

TRIS Rating's short-term ratings focus entirely on the likelihood of default and do not focus on recovery in the event of default. Each of TRIS Rating's short-term debt instrument covers the period of not more than one year. The symbols and definitions for short-term ratings are as follows:

- T1** Issuer has strong market position, wide margin of financial protection, appropriate liquidity and other measures of superior investor protection. Issuer designated with a "+" has a higher degree of these protections.
- T2** Issuer has secure market position, sound financial fundamentals and satisfactory ability to repay short-term obligations.
- T3** Issuer has acceptable capacity for meeting its short-term obligations.
- T4** Issuer has weak capacity for meeting its short-term obligations.
- D** The rating for an issuer for which payment is in default.

All ratings assigned by TRIS Rating are local currency ratings; they reflect the Thai issuers' ability to service their debt obligations, excluding the risk of convertibility of the Thai baht payments into foreign currencies.

TRIS Rating also assigns a "**Rating Outlook**" that reflects the potential direction of a credit rating over the medium to long term. In formulating the outlook, TRIS Rating will consider the prospects for the rated company's industry, as well as business conditions that might have an impact on the fundamental creditworthiness of the company. The rating outlook will be announced in conjunction with the credit rating. In most cases, the outlook of each debt obligation is equal to the outlook assigned to the issuer or the obligor. The categories for "**Rating Outlook**" are as follows:

- Positive** The rating may be raised.
- Stable** The rating is not likely to change.
- Negative** The rating may be lowered.
- Developing** The rating may be raised, lowered or remain unchanged.

TRIS Rating may announce a "**CreditAlert**" as a part of its monitoring process of a publicly announced credit rating when there is a significant event that TRIS Rating considers to potentially exerting a substantial impact on business or financial profiles of the rated entity. Due to an insufficient data or incomplete developments of the event, such as merger, new investment, capital restructuring, and etc., current credit rating remains unchanged. The announcement aims to forewarn investors to take a more cautious stance in investment decision against debt instruments of the rated entity. CreditAlert report consists of a "Rational" indicating warning reasons, a "CreditAlert Designation", and a current credit rating. Rating Outlook is withheld in the announcement.

CreditAlert Designation illustrates a short-term rating outlook indicative of the characteristics of impacts on the credit rating in one of the three directions (1) *Positive* (2) *Negative* and (3) *Developing*.

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