

## 1. Risk Factors

Bangkok Expressway Public Company Limited realizes the significance of the management of risks from business operations under the changes of internal and external factors affecting the Company's operational results. The risk management is considered a key instrument in the business administration to ensure efficient achievement to promote its competitiveness, as well as a key factor of the Good Governance, the Company thus arranges for the systematic risk management, monitoring and measures to minimize risks continuously, whereby the Corporate Governance and Risk Management Committee is appointed for policy-level consideration, with the management having duty to supervise the overall risk management process of the organization and responsible for routine work instead of Corporate Governance and Risk Management Committee, in order to perform duties to monitor, evaluate and prepare risk management report at a work unit level to the Board of Directors for information.

In addition, a risk management handbook and a risk management plan have been made as guidelines in the operations, and the monitoring, evaluation and review of risks have been regularly conducted to be in line with the ever changing internal and external circumstances, including the backup plan for every unit to proceed in case of emergency, in order to ensure prompt action in solving problems and coordination with relevant units at all times.

Factors which may give rise to risks towards investment by investors are as follows:

### 1.1 Concession Risk

#### 1.1.1 Risk Relating to Business Operations under Agreements with Government Sector

The Company operates the construction and management of the Si Rat Expressway (Second Stage Expressway) and extensions, including related businesses under the Expressway Agreements executed with the Expressway Authority of Thailand ("EXAT"). Due to the fact that the Company has been doing business with EXAT under the Second Stage Expressway Agreement, different interpretation of the contents and conditions of the Agreement between contractual parties may occur during the business operations. In order to resolve any possible dispute or disagreement, the Agreement provides a dispute settlement procedure. Should the Company and EXAT be unable to settle any dispute, either party may refer such dispute to the Panel for settlement pursuant to the Agreement. If such dispute cannot be settled through the mediation by the Panel, the dispute shall be further referred to arbitration pursuant to the Agreement.

Currently, the Company and the Subsidiary have disputes on different interpretation of several matters with EXAT, such as, adjustment of toll rates and interpretation on determination of the Priority Component Opening Date, which give rise to an impact on the toll revenue sharing.

Other than the disputes on the different interpretation of the Agreement, the Company also has a risk from noncompliance with the Agreement by the contractual party, namely, the Company is obliged to construct the Collection and Distribution Roads (CD Roads), provided that EXAT is obliged to deliver the sites to the Company by 18 October 2000. Given the failure on the part of EXAT to deliver the sites to the Company by the specified time, the Company's obligation in respect of such construction has therefore ceased, but the Company is entitled to claim damages from EXAT due to EXAT's inability to deliver the construction sites to the Company within the specified time, as well as the loss of toll revenue if the construction would have been completed as scheduled.

The cessation of such obligation to construct the Collection and Distribution Roads resulted in failure of the Company's revenue to meet the projected revenue and had an impact on overall traffic system, as such roads might be able to alleviate traffic problems in downtown. Failure in construction of said roads therefore impaired efficiency in provision of overall traffic services. However, as at 31 December 2010, such dispute has not yet been referred to arbitration proceedings.

The details on other disputes are described in Disputes with EXAT on pages 7-1 to 7-7, most of which major claim on high value damages by the Company from EXAT. Therefore, the decision should not materially have any negative risk towards the Company's operational results.

### **1.1.2 Risk from Government and Politics**

The Company's business operation is under the supervision of EXAT, a government agency depending upon the political uncertainty and changes in government administration from the political party in charge, which may result in changes in policies, relevant laws or regulations, thereby rendering EXAT to be unable to perform its obligations under the Agreement or may require the Company to proceed beyond those specified in the Agreement or undertaking. In order to minimize such effect, the Company has established a joint operation system with the government agencies both at the administrative and operation levels, by means of sharing of sufficient information to ensure good understanding towards each other, as well as closely and regularly monitoring the political situations and changes in policies, especially those relating to the Company's business, and reviewing the strategy and operation plan reasonably suitable for the situations and for their mutual interest in the long run.

## **1.2 Financial Risk**

### **1.2.1 Risk from Insufficient Revenue to Cover Expenditure**

Toll revenue is the Company's core revenue, which may be affected by external factors having material impact on toll rates and traffic volume. Provided that the toll revenue differ from the study or

the projections, it may affect the liquidity management in covering the existing financial obligations, such as interest expense, scheduled repayment of loans, operating expenses under the Expressway Agreement, as well as compensation for site acquisition cost to be paid to EXAT under the Second Stage Expressway Agreement.

The toll rates as specified in the Second Stage Expressway Agreement are to be reviewed every five years in accordance with the increased rate of the Consumer Price Index of Bangkok. As for the past toll revisions on three occasions in 1998, 2003 and 2008, the Company was granted approval to increase toll rates but not at the proposed rates (as per the details in Legal Disputes on pages 7-4 to 7-5), which in the Company's opinion, did not comply with the Agreement, thereby causing the Company's revenue to be lower than that should have been received. In 2003, the Company remedied such effect by entering into negotiation with the group of lending banks for extension of time for repayment of due loans and request for reduction of interest rate. However, the Second Stage Expressway Agreement provides a dispute settlement procedure in case of any dispute, disagreement, or claim from noncompliance with the Agreement, in respect of which the Company has already proceeded with the specified procedures.

In respect of traffic volume, the Company estimated that there would remain a risk from uncertainty of the traffic volume on the Expressways, which directly affects the Company's revenue. The Company has closely monitored the impact and continuously followed up on policies, laws, regulations and traffic management plans by the government. Changes in policies of the government may include the opening of new Expressways for service, as well as the repair and maintenance of flyovers across several intersections in Bangkok and its surrounding areas, the construction of additional roads on the outskirts of Bangkok so as to form a range of networks, some projects will support and facilitate more motorists to use the Expressways or help increase the traffic volume on the Expressway Systems or may give rise to impact in the form of competing roads from motorists' change in their commuting behavior in case where projects are competing roads which would affect the number of motorists on the Expressways as well.

The traffic volume on the Expressways in 2010 slightly increased at the rate of 2.27, despite being affected by unrest caused by political gathering, including the government's announcement of continued special official holidays, that led to the declining number of foreign tourists visiting Thailand. However, the traffic volume is affected by positive factors from the opening of the Extension of the Chalong Rat Expressway, the opening of the Government Complex Commemorating His Majesty the King's 80<sup>th</sup> Birthday Anniversary, as well as the avoidance of the congested traffic on at-grade roads caused by the construction of flyover renovation project and construction of transit system project, thereby resulting in the constant traffic volume on the Expressways.

As for the other public mass transit services, such as, the BTS,

which was opened for public service since December 1999, the Extension of Silom Line, which was opened for service since May 2009, and the metro, which was opened for service since July 2004, the Company has been continuously collecting information and conducting a survey in this regard, which can be concluded that such services have no impact upon the traffic volume of the Company in respect of indirect competition since customers of the BTS and the metro are not the target group of customers and they would mostly use public transportation, let alone the fact that at present, the networks of the BTS and the metro are limited to their respective service areas only. Although the behavior of personal car owners may have some changes to a certain extent, the information obtained from the survey revealed that the Company's revenue is not affected.

The Suvarnabhumi Airport Rail Link, which was opened for service since August 2010, comprising a route running parallel to Sector D of the Si Rat Expressway (Second Stage Expressway), may slightly affect the traffic volume approximately 1,500 – 1,700 trips per day during the initial opening. After the baggage check-in and air check-in services have been launched since January 2011, there was minimal impact to the said expressway route. However, the Company keeps monitoring the impact on the expressway traffic and believes that when passengers get off at Makkasan Terminal Station or City Airport Terminal (CAT) near the on-ramps of Sector A of the Si Rat Expressway (Second Stage Expressway) around Asoke 2 Toll Plaza, such Toll Plaza would serve to accommodate the traffic volume from CAT for more convenient commute.

### **1.2.2 Risk from Interest Rate Fluctuation**

The Company had a large amount of debts in the form of long-term loans for investment in construction of the Si Rat Expressway and the extensions under the Second Stage Expressway Agreement. Thus, interest expenses are considered the significant expenditures for the Company. The increased interest rate on loan may affect the Company's operational results due to the fact that the interest cost in respect of the certain credit facility was at MLR – 2% per annum, thereby exposing the Company to a risk from interest rate fluctuation or increase in the money market.

However, the Company is aware of such risk, and as such, in March 2010, the Company issued and offered additional debentures with maturity of 3 years 2 months and 3 years 3 months in the total amount of Baht 2,000 Million, at the floating interest rate of average interest rate of six-month fixed deposit plus 1.33 percent, and debentures with maturity of 7 years in the amount of Baht 1,500 Million, at the floating interest rate of average interest rate of six-month fixed deposit plus 1.65 percent, as well as a decrease of financial costs of long-term loan amount with banks in August 2010 from the floating interest rate of MLR – 2% to the fixed interest rate of 3.75 percent per annum from September 2010 to June 2012, and the fixed interest rate of 4 percent will be applied from July 2012 onwards,

in order to minimize the financial costs and prevent risk from interest rate fluctuations in money market, as well as minimizing risk from depending on the only source of fund in the type of long-term loans from banks.

As at 31 December 2010, the Company had long-term liabilities of Baht 20,126 Million comprising long-term loans and debt instruments at the floating interest rate, in the amount of Baht 5,500 Million or representing 27.33 percent and debt from debt instruments at the fixed interest rate, in the amount of Baht 14,626 Million or representing 72.67 percent. Change in interest rate by 1 percent per annum would affect the interest expenses by Baht 55 Million per year.

### **1.3 Investment Risk**

#### **1.3.1 Risk from Investment in Northern Bangkok Expressway Company Limited (“Subsidiary”)**

The Subsidiary which invested, constructed and operated the Udon Rattaya Expressway (Bang Pa-in - Pak Kret) continuously sustained the operating loss due to an impact from the government policy on the construction of the competing road, namely, the Don Muang Tollway (National Memorial - Rangsit Section), resulted in the substantially lower volume of vehicles using the Udon Rattaya Expressway than projected. The Subsidiary’s operational results are below projections and remained at a loss. As at 31 December 2010, the Subsidiary had accumulated loss amounting to Baht 5,107 Million and the outstanding liabilities and loans amounting to Baht 9,605 Million, affecting the quality of the Company’s investment funds and assets.

In order to minimize the risk from investment in the Subsidiary, the Company reduced the portion of investment by selling a certain portion of shares held in the Subsidiary to other legal entity, namely Cargo Village Co., Ltd., at the book value as at the selling date, in accordance with the resolution of the 2003 Annual Ordinary General Meeting of Shareholders assigning the Company’s Board of Directors to consider and proceed with such matter. As a result, the Company’s shareholding percentage in the Subsidiary then decreased to 53.33 percent of the registered capital.

On 1 November 2003 and 1 November 2008, the Ministry of Transport issued its Notifications on toll revision for the Udon Rattaya Expressway, but such toll revision did not increase at the rate proposed by the Subsidiary, which in the Subsidiary’s opinion, did not comply with the Agreement, thereby causing the Subsidiary’s revenue to be lower than that should have been received. The aforesaid competing road also caused the actual traffic volume to be materially lower than the traffic volume study for making the decision to invest, and the Subsidiary thus continued to face operating losses. Based on such effect, the Subsidiary needs to give discount on tolls for this Expressway to attract more motorists.

### 1.3.2 Risk from Investment in Various Companies

Due to the fact that the Company has invested in the construction and management of the Second Stage Expressway System which the contract period nearly ends, in order to establish long-term return and increase business value to its shareholders so as to enable the Company to continue as a going concern despite the expiration of the Project Agreement, the Company therefore considered investing in the public utility infrastructure business or in supporting business.

#### 1. Bangkok Metro Public Company Limited (“BMCL”)

In 2001, the Company invested in Bangkok Metro Public Company Limited (BMCL), a company awarded concession from the Mass Rapid Transit Authority of Thailand (MRTA), in respect of investment in the M&E Equipment, together with provision of train operation service and maintenance of the MRTA Initial System for a period of 25 years. As at 31 December 2010, the Company holds shares in BMCL representing 11.68 percent.

BMCL was listed on the Stock Exchange of Thailand on 21 September 2006, rendering its financial costs to decrease, whereby BMCL utilized some portions of funds from the public offering to partially repay the loan and accommodate its liquidity. The delay of the plan for extension projects did affect its operational results. Therefore, in 2008, BMCL has undergone debt restructuring by extending the grace period for repayment of the principal and reduction of interest rates to a fixed interest rate of 3.75 percent per annum until the end of 2012, as well as changing the conditions in the loan agreements in line with cash flow while awaiting the growth of revenue from the extensions. In 2010, BMCL suffered a net operating loss of Baht 1,113 Million. However, the government also established the policy to encourage people to increasingly use the public transport whereby bidding for extension projects would be held so as to expand the metro network, which would increase the volume of passengers in the future for BMCL.

#### 2. SouthEast Asia Energy Limited (“SEAN”)

In 2005, the Company invested in SouthEast Asia Energy Limited (SEAN), a company investing in a concession business awarded by the government of the Lao People’s Democratic Republic to carry out design, construction and operation of the Nam Ngum 2 Hydroelectric Power Project for a period of 25 years, with a shareholding proportion as at 31 December 2010 of 16.67 percent

SouthEast Asia Energy Limited (“SEAN”) invests in Nam Ngum 2 Power Company Limited which is a contractual party to the Nam Ngum 2 Hydroelectric Power Project Concession Agreement with the government of the Lao People’s Democratic Republic, on a BOOT (Build-Own-Operate and Transfer) basis, that is, for design, development, construction and operation of the

Nam Ngum 2 Hydroelectric Power Project for a period of 25 years from the commercial operation date; and is a contractual party to the Power Purchase Agreement with the Electricity Generating Authority of Thailand (“EGAT”) for sale of all electricity derived from the Nam Ngum 2 Hydroelectric Power Project to EGAT throughout the concession period of 25 years, whereby the sale price has been agreed upon in advance in order to minimize marketing risks. However, it would be uncertain that the power production may be lower than the required volume, which would be subject to penalty due to its inability to produce electricity for sale to EGAT as agreed under the Agreement, and which may affect its revenue accordingly. The electricity production in the Nam Ngum 2 Project would mainly rely on hydroelectric power and in case of less quantity of inflowing water into the system, it may affect the production process. Nevertheless, according to a study of data on the quantity of water in such area during the years 1949-2003, the quantity of water should be sufficient to accommodate the requirement. Currently, SEAN is constructing the Nam Ngum 2 Project and its progress, as at 31 December 2010, equaled 99.7 percent which is in accordance with the construction plan. It is expected that the construction would be completed for production and distribution of electricity in the beginning of 2011 which is earlier than planned, therefore, there would have no risk from a delayed operation commencement. In 2010, SEAN suffered a net operating loss of Baht 88 Million since it is in the process of the project construction and operation commencement, the income is thus insufficient to cover pre-operating expenses.

### 3. Thai Tap Water Supply Public Company Limited (“TTW”)

In 2005, the Company invested in Thai Tap Water Supply Public Company Limited (TTW) which operates the business of tap water production and distribution to the Provincial Waterworks Authority for a period of 30 years, with a shareholding proportion as at 31 December 2010 of 9.24 percent.

Thai Tap Water Supply Public Company Limited (“TTW”) is a contractual party to the Water Purchase and Sale Agreement with the Provincial Waterworks Authority (“PWA”), on a BOO (Build-Own-Operate) basis, for a period of 30 years, in other words, investing in construction of tap water production system and distribution system for consumers without transfer of ownership in the tap water production system and distribution system to the PWA at the end of the Concession Contract. The risk from investment in TTW may arise from a termination of the Water Purchase and Sale Agreement by the PWA which is TTW’s sole customer, which may have an impact on TTW’s business operation, financial position and revenue in the future. TTW commenced the tap water production and distribution since 2004, and its current production capacity for tap water and the water standard complied with the specified plan. It is deemed that TTW is the largest privately owned tap water producer in Thailand and

Southeast Asia. Furthermore, TTW also registered its conversion into a public limited company and was listed on the Stock Exchange of Thailand on 22 May 2008. TTW has been deriving profit from the operation since the commencement of business operation. In 2010, TTW has a net profit in the total amount of Baht 2,074 Million and has made dividend payment to shareholders, whereby the Company received dividend from TTW for the operational results of the second half of 2009 at the rate of Baht 0.17 per share and for the operational results of the first half of 2010 at the rate of Baht 0.15 per share, bringing the total dividend for 2010 to Baht 118 Million.

## **1.4 Operational Risk**

### **1.4.1 Risk from Work Operations**

The Company takes into account the risk from operations which may be resulted from primary factors, i.e., personnel, work system, operation system and external factors, which cause error or insufficiency of work procedures, employees, work system or information technology system, including employees' fraud and events or external factors, which may give rise to monetary and non-monetary damage, namely, damage to reputation or security of the Company. Therefore, it is greatly necessary to have a thorough supervision system with due care. The Company has then arranged for a specific unit having duties to monitor and maintain the routes and toll collection system in accordance with the operation standards, which can be assured by the experience and expertise of staff in charge from all divisions, thereby leading to the quality and availability of efficient, complete and continued service.

In addition, the Company also established the preventive measure for the significant structures of the Expressway Systems so as to be used at all times by way of drawing up a plan for inspection of the structures of both the Si Rat Expressway and the Udon Rattaya Expressway to be in line with the inspection by JMI Pacific Co., Ltd., a designing company with expertise in structural inspection. The monitoring, surveillance and maintenance were conducted to ensure that there would be no impact on the use of the Expressways. With respect to the toll collection system, and the communication and traffic control systems which are important to the Company's operations, the Company has provided the preventive maintenance as well as the data backup system, the standby power system and the management of purchase of spare materials. Regarding the toll collection equipment, which has a risk in obsolete technology, making it difficult to procure spare equipment, the Company has thus conducted a study on information and planned to install the replacement equipment and installed the new technology of Electronic Toll Collection system, which is available from several manufacturers. Furthermore, the Company also employed specialists to give advice on technology to ensure modern and quality equipment and system, which would build up all relevant parties' confidence, and cooperated with EXAT on the

Electronic Toll Collection system to facilitate the Chalerm Mahanakorn Expressway, the Si Rat Expressway, the Chalong Rat Expressway and the Bang Pli - Suksawad Expressway, for the convenience of the services, which would alleviate traffic congestion at the front of the toll plazas, and encourage more motorists to use the Expressways.

In 2010, the Company has launched the Electronic Toll Collection system or Easy Pass system for service, which is an innovation for solving traffic congestion problem at the front of the toll plazas due to the fact that each plaza which has been physically expanded to its full extent. The Easy Pass system can accommodate the maximum traffic volume of 1,200 vehicles per hour, which is faster than the toll collection by manual operation which accommodates only 450 vehicles per hour, it is therefore considered an enhancement of efficiency in provision of Expressway service to motorists for more convenience and rapidity.

#### **1.4.2 Risk from Non-Functional Toll Collection System Equipment**

In 2010, the Company has launched the Electronic Toll Collection system or Easy Pass system for service, which is a new method of toll payment to solve traffic congestion problem at the front of the toll plazas, together with the toll collection system by cash. The risk from non-functional toll collection system equipment may arise by various causes, such as, non-functional electrical system due to power outage from the Metropolitan Electricity Authority, error processing by the operating system or computer virus infection in the system which destroys data in the operating system, including hacking to destroy data and information, thereby causing damage to the system, etc. In this regard, the Company gives high priority to such risk management by arranging for power backup system, security system for access to significant systems by third parties through username and password, and determination of authorization levels of access to information and equipment only for the authorized persons, as well as log file for inspection of information access and installation of programs for virus scan and data backup system in the operating system which is able to operate promptly.

#### **1.4.3 Risk from Serious Accidents and Natural Perils**

In case there is an event or external factor which results in an emergency, namely, peril, serious accident, earthquake and such events which may be caused by terrorism or sabotage as bombing and riot, including gathering of activities for inciting public unrest, the Company requires all units to have emergency plans in response to any events which may suddenly occur and arrange for staff training to ensure that the staff in charge would be able to immediately take actions to resolve such emergency, as well as establishing a unit for monitoring, warning and coordinating with relevant agencies to prevent the occurrence of any serious accident. The Company has controlled and monitored for strict compliance with the relevant laws;

for example, transportation of chemical substances and passenger trucks without roof are prohibited from accessing the Expressways, and transport trucks need to have complete truck coverings. Moreover, the Company further established the measure for inspection of the routes and their surrounding areas, including cooperation with police officers responsible for the areas around the routes. The Company also adjusted positions and added equipment and tools installed on the Expressways to enhance the capacity of control and surveillance, such as, CCTV cameras, lighting, traffic signboards and information signboards.

However, in order to prevent the impact from possible damage, the Company and the Subsidiary took out insurance against the Property Damage of the Si Rat Expressway and the Udon Rattaya Expressway, and Business Interruption, including the Public Liability, on a yearly basis.

#### **1.4.4 Risk from Political Unrest**

The political rallies during 2010 gave rise to political unrest throughout Bangkok and boundaries, resulting in traffic congestion on various at-grade roads. Motorists thus tried to avoid the routes passed by the rallies or refrain from leaving their residence during the period of such unrest. Therefore, in order to minimize such impact, the Company arranges for an emergency backup plan in response to any events which may occur and arranges for staff rehearsals for all relevant units to resolve problems, as well as establishing a unit to follow up alerts and coordinate with relevant public agencies to monitor and immediately take actions to resolve such event.

#### **1.4.5 Risk in Respect of Personnel**

The Company has realized the significance and value of personnel towards the Company, as they are key factor to drive our organization to success. The Company gives priority to the personnel risk management, starting from the nomination and selection of good and qualified personnel suitable for the Company. The Company has continuously held staff training courses to provide and improve knowledge, skills and abilities in various fields necessary for performance of work based on each staff's position and designated duties, in order to enhance the potential and opportunity, and to encourage the staff. The consideration of remuneration payment and welfare is appropriate and fair. The operation process and work system are reviewed and revised to ensure preparedness at all times, as well as arranging for a succession plan and established a working group comprising high-level executives to set up guidelines in the selection to ensure the availability of personnel, both in the executive and supervisor levels, in order to prevent the risk from shortage of personnel having knowledge, expertise and technical skills for specific work. The Company has arranged for collection of the body of knowledge for specific work and extended the results to the knowledge management program. In order to prevent error from work process,

the Company has adopted several quality event systems in its work operations, namely, 5S Activity, QCC Activity, Suggestion Event, including ISO 9001:2000 Quality Management System, in respect of which the Company has been passing the quality surveillance since 2000, and in 2010, the Company has passed the quality surveillance under ISO 9001:2008 Quality Management System, so as to ensure that the Company's work operation system meets the standards, and all events which are significant to the provision of service to Expressway users are controlled by using the Key Performance Indicators (KPI) in monitoring and evaluation, and ISO 14001 Environmental Management System, which the Company has been receiving the certification since 2008, in order to ensure our corporate social and environmental responsibility by minimizing and limiting pollutions caused by the operations.

In addition, in 2010, the Company has initiated the organization development project by strategic performance management, together with the Consulting Center of the National Institute of Development Administration (NIDA), to study the results on organization evaluation under the Strategic Performance Management System (SPMS) and to study the personnel loyalty towards the organization in accordance with the total quality assurance (TQA) guideline, which would allow the Company to link the performance of all personnel in the organization with the organization's performance strategy and to appropriately manage and administer personnel, thereby giving rise to commitment and dedication in personnel's performance, and resulting in success in the performance results at the personal level, unit level and organization level in the same direction.