

The Xayaburi Power Purchase Agreement

An independent review

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A Study of the techno-economic aspects of the Power Purchase Agreement for Xayaburi
Hydroelectric Project in Lao PDR

Executive Summary

This report is based on an independent techno-economic analysis of the Power Purchase Agreement (PPA) between Xayaburi Project Company Ltd (the Generator) and Electricity Generating Authority of Thailand (EGAT) for purchase of power from the proposed Xayaburi dam which is presently being constructed on the Lower Mekong River in Laos PDR. The electricity that will be generated from this project will be sold exclusively to EGAT. The purpose of this report is to present an independent review of the PPA in order to contribute to a better understanding of the project and its implications for the governments of Thailand and Laos. The analysis reveals two major observations; one is regarding the substantial level of penalties that will be applicable if the project development milestones are not met and the second is regarding the lopsidedness of the PPA in favor of EGAT's interests.

The PPA becomes effective from the date on which it is signed by both parties. It is understood that the PPA was signed on 29 October 2011. Based on the clauses pertaining to events of default and force majeure, not meeting the milestones for project development and commissioning can constitute as an event of default and/or force majeure and significant penalties become applicable for such delay. These amounts are set out in terms of US Dollars per day depending upon the nature and duration of delay. Therefore, one suspects from the PPA that it will be a costly proposition to delay the actual construction and commissioning. After the project has been commissioned, the PPA requires the Generator to adhere to performance norms which are dependent on water availability. It is not within the scope of this study to comment on the appropriateness, sustainability or feasibility of these norms, and hence the implications of running of the project on the environment and local communities. However, not meeting these norms will attract penalties. This could be a significant issue because based on studies in future if it becomes apparent that any or all of these performance parameters are not achievable or not in the interest on environment or local population, even then not meeting the PPA stipulated levels of performance will impose penalties on the Generator.

The favorable dispensation given to EGAT is obvious from all major clauses such as events of default, force majeure, dispute resolution, etc. For example, in case of Generator event of default, i.e. any failure on the part of the Generator to fulfill any of its PPA agreed responsibilities, EGAT can elect whether it wants to merely take the termination payment or also to acquire the Generation assets. However, in case of EGAT event of default, i.e. failure on part of EGAT to fulfill its PPA stipulated responsibilities, leading to termination, the Generator has no choice but to accept the PPA defined termination payment and also simultaneously handover its Generation assets to EGAT. EGAT can then decide how it wants to operate the plant, if at all. In such scenario, as EGAT is not a company incorporated under the laws of Lao PDR, the Government of Laos's (GOL) right over its resource (i.e. river water) becomes questionable. In this context it becomes crucial to analyze how much liberty has been given to EGAT under the concession agreement in events such as these.

Further, the Thai law is the governing law for the PPA and dispute resolution is also to be held in Bangkok, in Thai language and as per Thai arbitration rules and laws. Under such mechanism and considering the fact that the Generator is also a Thai based company, there is danger that the interests of the people of Laos, where the project is actually located, many not be adequately represented. Such lopsidedness of the dispute resolution process, coupled with confidentiality requirements and lack of transparency, only make the situation worse for the people of Lao PDR.

It transpires from the PPA that the GOL, through its undertaking given to the Generator, bears risk of Generator event of default or termination on part of the Generator which can be attributed to a Lao Political Force Majeure as per the PPA. In such event, in case the Generator fails in meeting its financial obligations, GOL may have to pay for the termination amount or liquidated damages applicable under the given circumstances. Further, a Laos change of law can also constitute as a Lao Political Force Majeure event which prevents the Laos Government from legislating any change in operations of the project that might affect its performance. Thus, though the Generator is a private company (with GOL shareholding), it is the GOL and ultimately the Lao people who may suffer on account of Generator event of default or a Lao Political Force Majeure event.

The concession agreement is a key document that can clarify many such issues regarding the exact quantum of risk taken by GOL as well as consequences of any international agreements or treaties on this PPA. However, in absence of access to the concession agreement, such detail analysis is not possible at this point of time. Thus, in spite of the fact that the project is located in Laos and its natural resource is being used, it is not clear what benefit the country is getting in exchange of the numerous risks it is undertaking in this agreement and the overall arrangement. This can be a significant risk, given the environmental and legal implications of such a project. The financial benefits for Lao PDR are not clear as how much revenue Lao Government will earn from taxes and royalties from the Generator is not known and hence it cannot be ascertained whether such risk that GOL is taking under this PPA and other related agreements and undertaking, is prudent or necessary. More importantly, through such PPAs GOL is giving up its resources and its crucial rights such as level of water it can draw, for a long period of time (29 years in this PPA) and such arrangements can have serious implications for people of Laos, in terms of meeting their own energy and resource requirements.

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About International Rivers

This research was commissioned by International Rivers. International Rivers protects rivers and defends the rights of communities that depend on them. International Rivers works to stop destructive dams and promote water and energy solutions for a just and sustainable world. In Southeast Asia, International Rivers has been actively involved in analyzing and critiquing the impacts of various hydro projects planned on the Mekong River and supporting the quest of people in this region for an informed public debate about these projects and their potential impacts on food security, livelihoods and the environment.

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List of abbreviations

CA	Concession Agreement
COD	Commercial Operation Date
EGAT	Electricity Generating Authority of Thailand
GoL	Government of Laos
GoT	Government of Thailand
GWh	Giga Watt Hours
KW	Kilo Watt which is an ISI unit of electrical power
Lao PDR	Lao People's Democratic Republic
MoU	Memorandum of Understanding
MU	Million Units i.e. Million kWh
MW	Mega Watt
PDA	Project Development Agreement
PPA	Power Purchase Agreement
SPV	Special Purpose Vehicle

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1. Introduction and Overview:

The Xayaburi project is a dam being constructed on the lower Mekong River in Xayaboury Province in Northern Laos¹. The main purpose of this dam is to generate electricity which will be sold to Thailand. The lower Mekong River flows through Laos, Thailand, Cambodia and Vietnam and hence any hydro project of scale such as the proposed project, will have significant impacts to livelihoods, food security and the environment for the entire region. It is because of this special importance and complexity that an inter-governmental agency, the Mekong River Commission (MRC) was set-up to jointly manage the sharing of natural resources and to ensure sustainable development of the Mekong River². Since its inception in 1995, MRC has developed a number of processes and rules to ensure proper implementation of its accord. At an MRC meeting dated April 2011, Vietnam requested a ten year moratorium on decisions over the Xayaburi and other mainstream projects. Cambodia and Thailand requested further study and consultation. It is understood that despite the concerns raised by neighboring countries, Laos held the ground-breaking ceremony for the Xayaburi Dam in November 2012.

The electricity that will be generated from this project will be sold to Thailand. It is understood that a Power Purchase Agreement (PPA) has already been drafted and was signed by the Ministry of Energy and the Xayaburi Power Company on 29 October 2011. The PPA is one of the most important and legally binding contract documents concerning any power project as it defines parameters such as term of the agreement, cost of power generated, rights and duties of buyer and seller, risk sharing mechanism in the form of conditions to be fulfilled before and after signing the PPA, terms for supply and purchase, events of default, dispute resolution mechanism, etc. The PPA is also the most crucial document necessary to ensure funding for the project. Therefore, in order to understand techno-economic implications and the risk sharing mechanism for a power project, it becomes crucial to understand its PPA. Apart from the PPA, Memorandum of Understanding, project development agreement, financing agreement and the concession agreement are the other important contractual documents.

The purpose of this report is to present an independent review of the Xayaburi Dam's Power Purchase Agreement (PPA) in order to contribute to a better understanding of the project and its implications for the governments of Thailand and Laos. The scope of this analysis is restricted to techno-economic aspects and providing an overview of the risk sharing mechanism embedded in the PPA. It covers legal issues only to the extent of contractual obligations and implications, for example; what constitutes as an event of default, what is the implication of any premature termination, which events constitute 'Force Majeure' events, what is the extent of liquidated damages payable in case of default, etc. The analysis does not cover appropriateness of this power purchase from the point of view of Thailand's overall power purchase planning, environmental impacts of this project, legal implications of this PPA in connection with inter-country agreements or laws.

For the purpose of this analysis following documents have been analyzed:

- Power Purchase Agreement between the Electricity Generating Authority of Thailand (EGAT) and Xayaburi Power Company Limited
- Background documentation on the project as provided by International Rivers
- Memorandum of Understanding in relation to Power Purchase Agreement dated 2010
- Media reports

¹ http://en.wikipedia.org/wiki/Xayaburi_Dam

² <http://www.mrcmekong.org/about-the-mrc/>

This report is divided into ten sections. The first one provides a brief introduction and overview of the project and the PPA. The second section deals with the tariff structure, third is about the various conditions that the buyer and seller is obligated to meet before and after the signing of the PPA. The fourth section is concerned with what constitutes as an event of default under the PPA and its implications. The fifth one deals with termination and its implications. The sixth one is about the various events under which buyer or seller is obligated to pay for damages caused by them on account of any non-compliance of PPA terms and conditions. The seventh section is regarding definition and implications of 'Force Majeure' events. The eighth one is about dispute resolution mechanism provided in the PPA and the ninth section deals with legal opinion issues by Lao Law minister and its importance and implication for the PPA. Finally there is a last section that summarizes the risk implications of this analysis for the Laos and Thai Governments.

Project Overview:

The Laos and Thai Governments have entered into MoU aimed at supporting development of projects in Laos for supply of electricity to Thailand. The Xayaburi Power Company Limited (henceforth referred to as 'the Generator'), is a company incorporated under laws of Lao PDR and owned primarily by Thailand's Ch. Karnchang Public Company Ltd, who will be responsible for generating power for this project. Electricity Generation Authority of Thailand (EGAT) is the sole buyer of this power. EGAT and CH. Karnchang Public Company Ltd have entered into a MoU dated 5th July 2010 which sets forth the principal terms and conditions for the PPA. The Power Purchase Agreement was then officially signed between EGAT and the Xayaburi Power Company Limited on 29 October 2011.

CH. Karnchang Public Company Ltd is a company incorporated under laws of Thailand, and has entered into a Project Development Agreement with Government of Lao (GOL) in November 2008 for the purpose of development, financing, construction and operation of the hydro-power project in Xayaburi Province of Lao PDR. Pursuant to this, a concession agreement has also been signed between the Generator and GoL. The concession agreement enables the generator to set-up, own and operate the project in Laos territory. The PPA is supposed to be executed between EGAT and Xayaburi Power Company Limited (henceforth, referred to as 'the Generator'). The Figure No 1 below shows a schema of various agencies involved and contracts signed between them.

As mentioned before, PPA is the basic contract document that lists out duties and rights of each party. Accordingly, under the PPA the Generator has agreed to develop, own and operate the power generating system and supply energy at the designated Delivery points to EGAT. EGAT has agreed to purchase energy generated and make payments for it in accordance with PPA defined tariff and terms and conditions. The entire generation from the plant will be for exclusive use of EGAT. In case the Generator wants to make any third party sale, it will have to take prior approval from EGAT for this. The PPA is for a total installed capacity of 1225 MW (seven units of vertical axis Kaplan turbine, 175 MW each) and term of 29 years. Total generation of 6929 GWh is expected in a normal year in which all 7 units are operational. The project is considered a run-of-river type as storage is claimed to be very small in comparison with inflow. The power generation has been estimated on the basis on daily river flow through the barrage. As per schedule 11, the average river flow of 3,955m³/s is estimated based on 46 years of daily flows, and after accounting for the presence of two of the upstream projects (Xiaowan and Nuozhadu) in China. The Annexure I provides further details regarding Contracted capacity and generation.

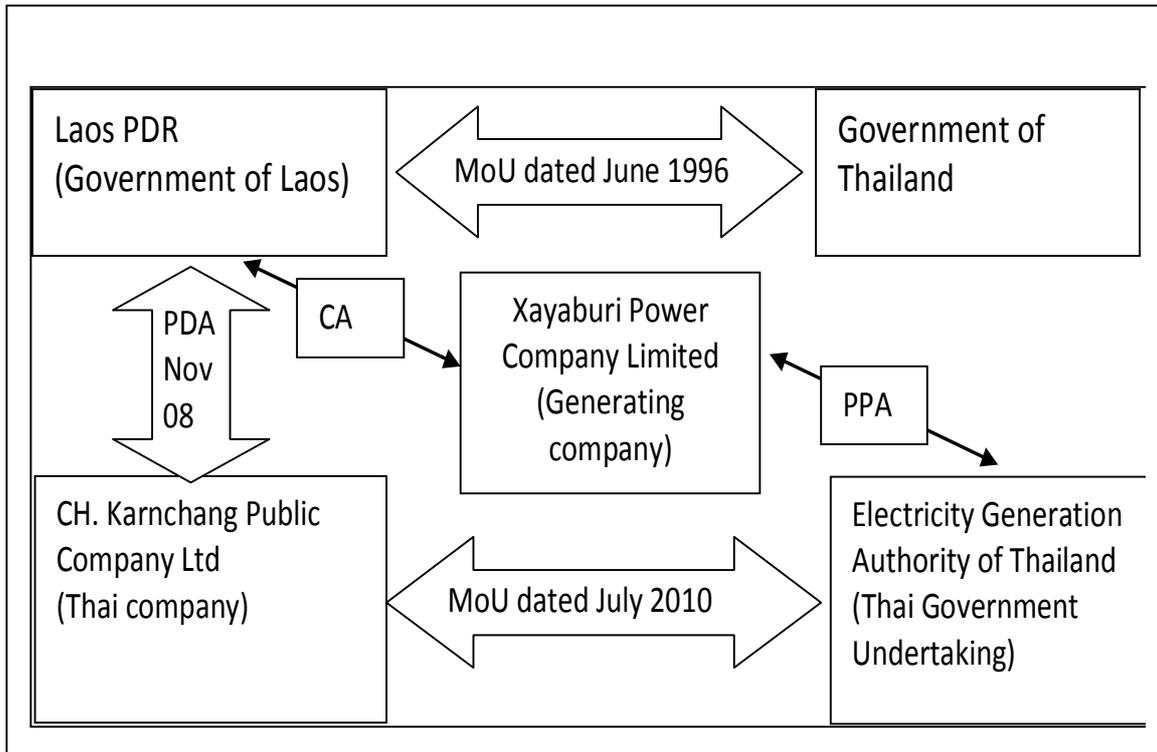


Figure No 1: Schematic of contractual arrangements for the Xayaburi Hydro project

CA – Concession Agreement
 MoU – Memorandum of Understanding
 PDA – Project Development Agreement
 PPA – Power Purchase Agreement

Often in the PPA various events are defined in terms of timeline within which they should happen and implications of not meeting this timeline are also specified. In this context, it will be useful to present here a brief list of specific dates defined in the PPA as they may be referred to in the discussion that follows.

Table no 1: List of important dates and milestones as defined in the clause 8.2 of the PPA

Sr No	Date	Definition	Significance
1	Execution date (ED)	date on which PPA is signed by both Parties (as mentioned before, it is understood that PPA was signed on 29 th October 2011)	This is the date from which PPA becomes effective i.e. all of its terms and conditions become applicable from this date onwards
2	Scheduled Financial closure date	6 full calendar months after Execution Date	By this date the Generator should have secured financing arrangement (debt and equity) for the project
3	Scheduled EGAT interconnection facilities ready date	70 full calendar months after EGAT COCD	Time period in which The Generator and EGAT should finish their work on building

4	Scheduled Generator interconnection facilities ready date		transmission facilities which will be ultimately linked and interconnected to supply power from the project into the EGAT Grid system.
5	EGAT Construction Obligation Commencement date (EGAT COCD)	later of Scheduled financial closure date or actual financial closure date	EGAT side of transmission facility should be ready to be energised by this time
6	Scheduled Energization date	73 full calendar months after EGAT COCD	Actual energisation of the link so that power can flow across to EGAT grid
7	Scheduled First Unit Commissioning Ready date	81 full calendar months after EGAT COCD	The first unit will start generation from this date
8	Scheduled Second Unit Commissioning Ready date	83 full calendar months after EGAT COCD	The second unit will start generation from this date
9	Scheduled Third Unit Commissioning Ready date	84 full calendar months after EGAT COCD	The third unit will start generation from this date
10	Scheduled Fourth Unit Commissioning Ready date	85 full calendar months after EGAT COCD	The fourth unit will start generation from this date
11	Scheduled Fifth Unit Commissioning Ready date	86 full calendar months after EGAT COCD	The fifth unit will start generation from this date
12	Scheduled Sixth Unit Commissioning Ready date	87 full calendar months after EGAT COCD	The sixth unit will start generation from this date
13	Scheduled Seventh Unit Commissioning Ready date	88 full calendar months after EGAT COCD	The seventh unit will start generation from this date
14	Scheduled Commercial Operation date	Later of: 90 full calendar months after EGAT COCD and 1 January 2019	All seven units will start generation from this date and the project will be fully commissioned.

2. Tariff structure:

As per the PPA tariff comprises of energy charge alone, which is further broken down into three components viz. Primary Energy (PE), Secondary Energy (SE) and Excess Energy (EE) as shown below. The Schedule 2 of the PPA defines the year wise tariff for each components of the energy charge and is also annexed here as annexure 2 for ready reference. The primary and secondary energy constitute committed energy i.e. must generate and must buy component which has implications in terms of payment obligations as well as events of default in case a certain threshold is not met. PE and SE generation is also defined on the basis of the time at which this power is generated as the table No 2 below further elaborates. Excess energy, as the name suggests, is any generation beyond the mandatory PE and SE quantum and can be used to make-up any shortfall in PE and SE.

Table No 2: Components of Energy Charge

Component of Energy Charge		
Primary Energy (PE):	Secondary Energy (SE)	Excess Energy (EE):
<ul style="list-style-type: none"> - must buy, must generate - supplied between 6 am to 10 pm on any weekday i.e. Monday to Saturday - expected availability of at least 4299 GWh per year - tariff has both USD and Thai Baht components - Minimum monthly supply guarantee, exempted only in case of a draught year. 	<ul style="list-style-type: none"> - must buy, must generate component - Supplied during midnight to 6 am and from 10 pm to 12 pm on any weekday and the entire 24 hour period on Sunday - expected availability of at least 1410 GWh per year - Tariff paid in Thai Baht alone 	<ul style="list-style-type: none"> - any additional generation apart from PE or SE, is considered EE - Tariff in only Thai Baht - Can be used to make-up PE and SE short fall within a given month or year - Expected availability of 1220 GWh per year - EE account to be reconciled every year to make the balance zero.

The table No 3 below gives a brief overview of tariff structure under PPA, considering all 7 seven units have been commissioned and operational for one whole contract year. Conversion rate of approximately 1 USD = 31 Thai Baht has been used for the purpose of this calculation. As can be seen from the table, in case the generator generates energy as per the Annual supply target, EGAT will have to make payment of around 14481 Thai baht (or ~462 million USD) on annual basis.

Table no 3: Break-up of the tariff effective from Commercial Operation Date

Energy component	Annual supply target post COD in GWh	Tariff as per PPA		Obligation		Annual Energy payment in Million Baht
		USD cents/unit	Baht/unit	EGAT	Generator	
Primary energy	4299	3.738	1.271	Must pay	Must generate	10,446
Secondary energy	1410	Not Applicable	1.652	Must pay	Must generate	2,329
Excess energy	1220	Not Applicable	1.398	Optional	Optional	1,706
Total	6929					14,481

The above tariff is applicable after the whole project (i.e. all seven units included) has declared commercial operation. Tariff for electricity generated during commissioning and testing is a flat rate of 0.570 Baht per kWh. However, as soon as any one unit declares commercial operation, the Generator is required to schedule its power in terms of primary, secondary and excess energy components tariff for which is specified as per table no 4 below.

Table no 4: Tariff during unit operation period

Energy component	Tariff as per PPA	
	USD cents/unit	Baht/unit
Primary energy	2.804	0.953
Secondary energy	Not Applicable	1.239
Excess energy	Not Applicable	1.049

3. Conditions precedent and subsequent

As per the PPA both the Generator as well as EGAT have to fulfill certain specific conditions within a set time period, which are called conditions precedent and subsequent. These are defined in the article 1.5 of the PPA. Delay or non-fulfillment of one of more of these conditions can become an event of default pursuant to which either liquidated damages may be applicable or the PPA may stand terminated. The table no 5 below lists out the specific conditions that need to be completed under this clause along with the timeframe in which it needs to be completed.

In case, any or all of the below mentioned conditions are not satisfied as per the specified timelines or if the Generator fails to confirm to EGAT within 120 days after execution date that each of the conditions present in the Concession Agreement as provided therein has either been duly satisfied or waived, then this PPA will automatically lapse and terminate. If such termination is on account of failure of the Generator to meet any of its obligations under the clauses mentioned below, regardless of reasons or cause of such failure, EGAT shall draw down the full amount of Development Security One (19 Million USD) and shall be entitled to retain the entire amount. However, in case the termination is on account of EGAT's failure to meet its obligations, the Generator has no recourse and the contract shall stand terminated without any continuing rights or claims by either Party.

As can be seen from these tables below, all major risks such as securing the necessary guarantees, clearances, approvals, such as the Environment Impact Assessment and Social Impact assessment rest with the Generator. Non-performance of these obligations can constitute a Generator Event of default thereby having substantial financial implications for the Generator and hence the Government of Laos. As the project faces opposition from the people of countries signing the PPA as well as other neighboring countries, this risk is significant as such obligations can easily be affected by any legal or political developments in this context.

Table No 5: Conditions precedent as per clause 1.5 of the PPA

PPA Clause	Party Responsible	Condition to be met	Timeline for completion	
1.5 (a)	Generator	Submit to EGAT copy of concession agreement executed between Generator and GOL such that it sets forth legal valid and binding rights and obligations on part of Generator and GOL that are enforceable	Not later than 60 days after Execution date i.e. 29 th October 2011	
1.5 (b)		Copies of all consents or approvals for Generator to lawfully execute and deliver its obligations under this agreement	Not later than 60 days after 29 th October 2011	
1.5 (d)		Undertaking issued to EGAT by GOL with authorization of National Assembly of Lao PDR	Not later than 30 days after 29 th October 2011	
1.5 (f)		Legal opinion issued by Minister of Justice of Lao PDR confirming: i) Concession Agreement and GOL undertaking have been duly executed and are legal, valid, binding and enforceable in accordance with terms and conditions set forth therein ii) Concession Agreement and PPA have each been duly executed and that respective obligations of the Generator set forth are legal, valid, binding and enforceable in accordance with terms and conditions set forth therein. iii) Additional Security, Insurance Assignment and the Subordination Agreement have each been properly executed by Generator and are enforceable and have each been registered with State Assets Management Department of the Ministry of Finance of Lao PDR	Not later than 90 days after 29 th October 2011	
1.5 (g)		Evidence of Registration of this PPA with State Assets Management Department of the Ministry of Finance of Lao PDR	Not later than 60 days after 29 th October 2011	
1.5 (h)		Copies of certificate of incorporation, registration, Memorandum of Association and the Article of Association, certified by authorized officers of Generator	Not later than 15 days after 29 th October 2011	
1.5 (c)		EGAT	Copies of all consents or approvals of EGAT's board of Director required for EGAT to lawfully execute and deliver its obligations under this agreement	Not later than 60 days after 29 th October 2011
1.5 (e)			Execution and delivery by EGAT to the Generator of a copy of EGAT's acceptance of GOL undertaking	Not later than 30 days receipt by EGAT of the executed version of GOL Undertaking

Conditions Subsequent:

Like the conditions precedent mentioned above, which are supposed to be met in the period immediately following execution date, there are also several conditions subsequent, as mentioned in table no 6 below, which are required to be fulfilled post the execution date.

Table No.6: Conditions subsequent

PPA Clause	Party Responsible	Obligation	Timeline
2.2.1	Generator	Acquire and maintain following documents which are or may be necessary to enter lawfully into this agreement and to perform its obligations under the same: i) All corporate consents and approvals, ii) All Governmental Approvals required of Thai and Lao Governmental Authorities iii) All other permits, licenses, consents and approvals required under law of both Thailand and Lao PDR	at all times until the term of the PPA
2.3.1 (a)		Generator shall deliver to EGAT: i) Environment Impact Assessment Study ii) Environment Management Plan iii) Social Impact Assessment iv) Health Impact Assessment v) Resettlement Action Plan vi) Social Development Plan	with 180 days after 29 th October 2011
2.3.1 (b)		Copies of Final Concept design	No later than 30 days after 29 th October 2011
2.3.1 (c)		Copy of executed and fully effective Lease Agreement	No later than Financial close date
2.3.1 (d)		Copies of EPC contracts and O&M contract (excluding commercial information)	After the execution thereof
2.3.1 (e)		Certified copies of Financing Documents	Within 60 days after Financial close date
2.3.1 (f)		Quarterly and Monthly project Development reports as per the format set out in schedule 19	during period between 29 th October 2011 and Commercial Operation Date (COD)

2.3.1 (h)		Copies of all insurance policies and certificates	promptly upon receipt by the generator
2.3.1 (j)		Report on the amount of Debt that is outstanding at that point of time.	On or before 15th day after COD and after the end of every 6 month period commencing from COD until the date on which debt is fully repaid
2.2.2	EGAT	<p>Acquire and maintain following documents which are or may be necessary to enter lawfully into this agreement and to perform its obligations under the same:</p> <ul style="list-style-type: none"> i) All corporate consents and approvals, ii) All Governmental Approvals required of Thai Governmental Authorities iii) All other permits, licenses, consents and approvals required under law of Thailand 	at all times until the term of the PPA

4. Events of default, termination and liquidated damages

All PPAs usually have an article that defines certain conditions termed as “events of default” which is basically a list of events or occurrences which signify failure on part of the defaulting party to meet its contractual obligations. The PPA specifies various responsibilities that are to be fulfilled by each party and the consequences of non-fulfillment of the same. Accordingly, non-fulfillment of any of the identified conditions and/or other obligations may result in an event of default which has implications in the form of either liquidated damages that need to be paid by the defaulting party or depending upon the severity of the default may lead to even termination of the PPA. In this PPA, the article 10 deals with events of default and termination. The section 10.1 list out events which can be termed as EGAT event of default and Generator can initiate termination in such cases. Below is the list of such events and also a summary of implications of the same.

4.1 EGAT event of default:

The Section 10.1 of the PPA defines what will constitute an event of default attributable to EGAT. The event of default can be attributed to EGAT only if it is not on account of any deliberate act of omission on part of the Generator or resulting from a Force Majeure event affecting EGAT. Barring these two exceptions, following events or conditions can constitute as EGAT event of default.

- a. EGAT fails to make payment of any undisputed amount due and payable by it to the Generator and such failure continues un-remedied after expiration of 30 days following the date on which Generator has issued notice demanding such payment.
- b. EGAT dissolves or liquidates (other than voluntary dissolution or liquidation or liquidation under reorganization, privatization or reincorporation)
- c. If EGAT is reorganized, restructured, corporatized, privatized, abolished by law or by any such action of Thai Governmental Authority and following such change, the succeeding entity which becomes Party to this PPA does not satisfy one or more of the conditions specified in clause 10.1.1(c). This clause is very ambiguously worded and one of the conditions to be satisfied states that such change in the ownership rights of EGAT should not constitute as event of default if the succeeding entity ‘is reasonably acceptable to Generator’. This is particularly strange because of the subjective nature of its wording, without defining any criteria for reasonableness or satisfaction.
- d. If EGAT makes a general assignment of interest in the Generator System or any part thereof, even when the Generator has not erred on fulfilling any of its responsibilities and obligations.
- e. EGAT enters into voluntary insolvency or is adjudicated as bankrupt.
- f. EGAT fails to achieve acceptance dates and such failure or delay is either not on account of any force majeure event, or even in case of force majeure being a reason for such delay, the aggregate duration of all such claimed Force Majeure events exceed 365 days within a 540 days period after Scheduled Energization date (which is 71 full calendar months from the execution date).
- g. EGAT fails to perform or comply with any other obligations under the agreement which in turn adversely affects the Generator's ability to exercise its rights or to perform its obligations.

Implications of EGAT event of default:

1. In case of EGAT event of default under any of the above mentioned conditions, section 10.1.2 spells out the recourse available to the Generator, including entitlement to terminate the PPA by issuing notice. This clause (10.1.2) however also says that in case of such event of default “...the Generator may (but shall not be required to) in its sole discretion terminate this Agreement in accordance with the following condition:” Such discretion can be a concern for Laos, as the Generator and EGAT are both Thai companies and hence can be influenced by interests of Thai Government. As such there is a possibility that concerns specific to the interest of people of Laos, (who will be ultimately impacted) may not be adequately represented.
2. Further, even if the Generator claims the occurrence of any EGAT event of default, such claim can be disputed by EGAT. If EGAT disputes the Generator’s claim then the matter will go under dispute resolution process specified in the PPA. As highlighted later, this process is very Thai-centric and arbitration, if any, will be conducted as per Thai laws, in Thailand and in Thai language. This again highlights concerns regarding ability of the Generator and EGAT to truly act as independent buyer and seller, and inadequate representation of interests of Lao people.
3. If the event of default is on account of EGAT’s failure to pay Force Majeure Offset Amounts, then so long as the financing documents are in effect, the Generator is not allowed to:
 - a. exercise any right to terminate the PPA,
 - b. suspend its performance obligations,
 - c. take insolvency action or
 - d. enforce any other such remedies provided in PPA until expiry of 180 days from such event of default

This provision gives lot more flexibility to EGAT to either remedy its error or take appropriate corrective actions and in a way secures investor’s interests by preventing termination of the PPA till financing agreements are in force. The intention of the clause is more to safeguard lenders interests, over and above Generator’s interest.

4. In case the Generator decides to terminate the agreement on account of EGAT event of default, then EGAT is required to pay termination amount in accordance with schedule 9 of the PPA and also simultaneously acquire ownership of the Generator assets through an EGAT designated nominee. The reason for this could be that the entire project is for the sole purpose of supplying electricity to Thailand. Since EGAT is a government owned company, if it makes any default which leads to termination of the PPA, the Government does not want to lose control of the resource i.e. the dam and generator’s assets. Therefore, the termination clauses are such that whether it is default on part of the Generator or EGAT its EGAT or Government appointed nominee who decides about the fate of the project after such termination. Thus, even when termination is on account of EGAT event of default, ownership of generation assets will be with EGAT.

4.2 Generator Event of default (section 10.2):

Other than to the extent caused by an act of omission on part of EGAT or resulting from Force Majeure affecting the Generator, following events or conditions will constitute as Generator event of default as per section 10.1 of the PPA, wherein the Generator:

- a) Fails to make payment to EGAT of any undisputed amount that is due and payable by it to EGAT or the Generator fails to replenish the Performance Security in accordance with the PPA after EGAT draws down such security and such failure continues un-remedied after expiration of 30 days following the date on which EGAT would have given such notice.
- b) Dissolves or liquidates (other than voluntary dissolution or liquidation) or makes general assignment of its interest in generator system or any part thereof or of this PPA or any of its rights under this PPA.
- c) Enters into voluntary insolvency or is adjudicated bankrupt or is insolvent by law as debtor.
- d) Fails to achieve financial closure within 180 days after Scheduled or extended Financial Close Date, which is 6 full calendar months after Execution Date or 1st July 2011, whichever is later.
- e) Abandons engineering design, construction, operation and/or maintenance of system for 45 consecutive days or longer and **fails to:**
 - i. Indicate within 10 days after receipt of notice in this regard from EGAT, its intent to resume activities within a period agreeable to EGAT and
 - ii. Resume such activities within agreed period of time.

This clause implies that engineering design and construction cannot be abandoned by the Generator once the PPA has been signed and becomes effective, because that will constitute a Generator event of default and invite termination payments.
- f) Fails to achieve or it is demonstrated that even with best efforts the Generator will fail to achieve the Scheduled Commercial Operation Date within 540 days of the Scheduled Commercial Operation Date. This clause again means that it will be imperative for the Generator to make progress on project development activities and achieve commercial operation within the specified time limit.
- g) Causes destruction and damage to the system other than that caused by a Force Majeure event, which reduces generating capacity of the Generator System at the Delivery Point below the Capacity Default Threshold (defined as capacity that is equal to 75% of the Contracted Capacity at corresponding operating water head) and is unlikely to be restored within a period of equal to or less than 30 full calendar months after the date on which such restoration commences. Provided that after such restoration the Generator would have regained capacity at least equal to Capacity Default Threshold and is capable of achieving Machine Availability of no less than 6400 GWh.
- h) Fails to restore damage caused by Force majeure
- i) At any time after the Commercial Operation Date, the Generator reduces water supply or potential thereof by
 1. Installing additional generating units that use water supply which could have been used for generation without obtaining EGAT's prior agreement, or
 2. Releasing or spilling water from the Pondage for purposes other than those defined in clause 10.2(k)

This clause can put limitations on Laos Government's rights to draw water from the Pondage and may have implications for local population dependent on this resource.
- j) In any two consecutive contract years, the machine availability is less than 6400 GWh, excluding any period where such reduction is due to any damage or destruction of the Generator System which was or is being restored period. This clause assumes certain level of generation to be mandatorily available throughout the year and every year. This can have

implications for the hydrology of the project as well as local community's access to such resources.

- k) The Generator transfers equity interest not in compliance with section 17.11 of the PPA.
- l) The Generator de-rates the facility which is not due to any damage or destruction or not in accordance with PPA terms.
- m) The Generator sells energy produced to any third Party without approval of EGAT for such sale.
- n) The Generator is in breach of contract under Concession Agreement or Lease Agreement and such breach is not cured within the time period as applicable under these agreements and because of which GOL is entitled to issue a notice of intention to terminate the Concession Agreement or Lease Agreement, as may be applicable (regardless of whether or not such notice of termination has actually been issued).
- o) The Generator fails to comply with any other obligations under the contract including breach in representations and warranties that the Generator has provided and such failure has a Material Adverse Effect on EGAT. When such breach results in a degree of effect on EGAT's ability to exercise its rights or to perform its obligations or deprivation of EGAT's benefits under the PPA, it would be sufficient to constitute a Material Adverse Effect.

Implications of Generator event of default:

- 1) Upon occurrence of Generator event of default, EGAT is entitled to terminate the PPA (but shall not be required to do so) in its sole discretion in accordance with following conditions:
 - a. So long as financing documents are in effect, with respect to Generator event of default arising on account of failure of the Generator to pay Force Majeure Offset Amounts, EGAT shall not:
 - i. exercise any right to terminate,
 - ii. suspend its performance obligations,
 - iii. take insolvency action or
 - iv. enforce any other such remedies provided in PPA until expiry of 180 days from such event of default
 - b. For so long as Financing Documents are in effect, regardless of whether such Generator event of Default, EGAT shall not exercise its step-in rights under the section 10.3 without first obtaining consent of the Lenders.
- 2) EGAT shall issue notice describing event details and the Generator shall be given 60 days to remedy the situation and this period can be extended to 120 days or even further, by EGAT based on its sole discretion. But if in spite of best efforts the Generator fails to resolve the issue, then EGAT may terminate this PPA (but is not required to do so) if it deems fit, by issuing a written notice to such effect.
- 3) Upon termination of the PPA on account of any Generator event of default (i.e. as per section 10.2.2) EGAT shall notify the Generator in writing within 90 days after the Term Termination date EGAT's election to either:
 - a. Require the Generator to make Termination payment due to EGAT without EGAT acquiring ownership of the Generator Assets or
 - b. Acquire the ownership of the Generator Assets from the Generator through the EGAT designated Assignee simultaneously upon payment by EGAT to the Generator of the Termination Payment.
- 4) Before exercising its step-in rights EGAT should consult the Lenders and give the Generator prior written notice not less than 3 business days before its intention to do so and should specify the particular event of default and portion of the Generator system in respect of which it wants to exercise such step-in rights.

From the above points it becomes clear that EGAT has the step-in rights and also discretion of choosing to acquire assets or demand termination notice in case of Generator Event of default. However, in case of termination pursuant to EGAT event of default, the Generator does not have even discretion of considering sale to third Party. This structure of termination can have serious implications for Lao PDR as having given Government undertaking, it has to bear the risk of paying the termination amount in case of Generator event of default. But in case of EGAT event of default, it has no control regarding the future of the project. Further, as EGAT has been totally exempted from any tax payments to Lao PDR, if EGAT exercises its step-in rights, Lao PDR's revenue from the project may reduce but its natural resources will be used nevertheless.

4.3 Termination and Securities

The article 10 of the PPA deals with Default and Termination. Non-performance under conditions precedent, EGAT or Generator event of Default and any Force Majeure are the only circumstances in which either Party may unilaterally terminate the contract. In case there is a dispute regarding existence or continuation of an EGAT or Generator event of default, section 10.6 allows for termination subject to dispute resolution. The dispute resolution mechanism is defined in the Article 13 of the PPA and is discussed in further details under the section 7 of this report.

4.3.1 Termination Payment calculation:

The schedule 9 of the PPA lays out methodology for termination payment calculation. Part I of this schedule defines the terms that are used in this calculation, such as contracted capacity is defined as 1220 MW, consultant fees are USD 500, discount rate is defined as 10% and formulae for estimating other critical parameters such as residual value, equity contributions, interest on paid equity, capacity value, etc. are also defined. Many of these components have escalation factors, so depending on what point of time during the term of the PPA this payment has to be made will have an impact on the payment. Further, many of the components are specified in terms of USD. Part II of the schedule 9 lists out various scenarios depending upon event of default or reason for termination, how the termination amount will be calculated for EGAT or for the Generator.

4.3.2 Securities to be provided by Generator to EGAT:

The PPA states that EGAT has entered into this agreement based on Generator's undertaking to ensure timely commissioning and operation of its units and hence must have adequate assurances (in the form of performance securities or bank guarantees) to justify dedicating financial resources to construct EGAT transmission facility. As per the Article 9 of the PPA, the Generator is required to provide such security to EGAT for ensuring development and later on performance as per the contract. For this reason, several types of securities listed below are defined in the PPA and which the Generator is required to furnish and maintain at various points of time.

1. Development Security One (USD 19 Million) which is to be provided on Execution Date
2. Development Security Two (USD 49 Million) to be provided no later than Financial Close date.
3. On or before the Commercial Operation Date, to secure in part or whole, the Generator's payment of: i) liquidated damages, ii) Force Majeure Offset Amounts and iii) all other compensation otherwise owed by Generator to EGAT, Generator must furnish to EGAT what is termed as Performance Security One (USD 43 Million) and Performance Security Two (USD 15 Million) respectively.
4. If the agreement is terminated on or after the 15th anniversary of the Commercial Operation date, and Generator has satisfied all its obligations to pay any compensation to EGAT, then EGAT shall return remaining portion of Performance security in 180 days following such termination.

5. **Additional Security:** The Generator should also execute first ranking mortgage in favor of the Lenders and submit the same to EGAT no later than 15 days prior to execution of the second ranking mortgage. As soon as the Financial close date has been achieved, the Generator is required to execute second ranking mortgage in favor of EGAT, in accordance with laws of Lao PDR and secure the Generator's performance of its obligations up to an amount of 14,500 Million Thai Baht. The additional security will be subordinated to debt at all times.

The Generator has the option to maintain the securities in either cash or irrevocable bank guarantee in the name of EGAT issued by one or more Thai Banks, credit rating of which is not worse than two grades below sovereign credit rating for foreign currency debt obligations of Thailand. But these requirements are somewhat flexible as there is also an option of using Commercial Securities Facility agent. In case the Generator incurs liability for Force Majeure Offset Amounts, or fails to make payment of undisputed amount, EGAT can draw against the development securities. In the event that EGAT requires the Generator to make direct payments regarding any written claims for liquidated damages of Force Majeure Offset Amounts and the Generator fails to pay or dispute such amounts in the stipulated timeframe, then EGAT can draw down such amounts from the Payment Securities. Failure of the Generator to replenish the Performance Securities within respective timeframe specified under section 9 would constitute a Generator event of default. Curiously, though the Generator is making a far higher investment than EGAT and 95% of the generation is going to be exclusively for EGAT. However there is no payment security for the Generator.

4.4 Liquidated damages:

Liquidated damages are the payments to be made (in cash) by any Party when it fails to perform as per its contractual obligations. The Article 9 of the PPA deals with liquidated damages. The PPA identifies various force majeure and other events following the occurrence of which payment of liquidated damages is to be made by the defaulting Party to the other and then specifies the method for its calculation as well. Issue of payment of liquidated damages arises in following circumstances

- a) Delay on part of the Generator in the development and construction of the project resulting in failure to achieve milestone dates for commissioning of the project. For example, if the Generator fails to achieve Financial Close date as per the defined milestone, then he has to pay liquidated damages of USD 4,000 per day for each day of such delay up to the actual Financial Close date or termination of the agreement, whichever is earlier. Such payment is to be made on monthly basis and in USD.
- b) In case the Generator is able to commission the units but EGAT is not able to complete its responsibility which hampers commissioning of the project, then EGAT is liable to pay Delay Amounts on a monthly basis as per section 9.5.4. Similar as per the same section, if the Generator is not able to ensure timely completion of commissioning and post-energization, Generator is liable to pay Delay Amounts on monthly basis.
- c) The delay amounts payable by EGAT or Generator in each month in respect of any Generating unit are termed as Force Majeure Offset Amounts (FMOA). In case of EGAT or Generator Force Majeure or Thai or Laos Political Force Majeure, the applicable milestone date will be extended on a day for day basis. In absence of any force majeure event, each party will be responsible for paying Force Majeure Offset Amounts. These amounts are set out in US Dollars for a given period of delay and are defined as follows:

Table No 7: Delay rates for Force Majeure Offset Amounts and liquidated damages

Period of Delay for any unit for calculating Force Majeure Offset Amounts and/or liquidated damages	Generator Delay Rate in USD per day	EGAT Delay Rate in USD per day
From 1st day to 60th day	30,000	30,000
From 61st day to 120th day	35,000	35,000
From 121st day to 180th day	40,000	40,000
Beyond 180th day	45,000	45,000

These amounts can be substantially high if the period of delay is more. This might partly explain the urgency that is shown in constructing the plant, because once the agreement is signed, that date will become the effective date and all further milestones are based on effective date. Unless a Force Majeure event is declared, delay in commissioning of the project will attract serious penalties as shown above.

- d) Apart from delay in commissioning of the project, liquidated damages are also to be paid in case any of the specified performance norms, with respect of generation and availability are not met post commissioning of the project. The Article 9 of the PPA specifies various performance related deficiencies and if the Generator is not able to ensure operational performance as specified in these clauses, liquidated damages will be payable. The table no. 8 below lists such events which will attract payment of liquidated damages.

Table No 8: Performance deficiency related liquidated damages payable by Generator

Event	Benchmark value	Liquidated damage Calculation	Frequency and Currency of Payment
Generation from operating water head is not equivalent to 95% of contracted capacity specified for that head ³	95% of contracted capacity specified for that head	USD 160/kW multiplied by shortfall in kW	One single instalment and in USD
Failure to achieve Contracted XYB Unit Minimum Capacity	Specified as table 1.2.3 of Part III of schedule 1	Daily damage payment as per 9.5.8(a)	Monthly in Thai Baht
Failure to achieve Contracted Unit Reactive Power	As specified in table 1.5 of Schedule 1	USD 15/kVAR ⁴ for each lagging kVAR and USD 10/kVAR for each leading kVAR	One single instalment and in USD
Failure to achieve 90% of Contracted Unit Loading Rate	As specified in Paragraph 1(a) of Schedule 10	As per section 9.5.8	Monthly payment in USD or Thai Baht

³ Annexure provides table of various operating water heads and contracted capacity corresponding to it.

⁴ KVAR is a unit to measure reactive component of the electricity generated

Failure to achieve 90% of Contracted Unit Deloading Rate	As specified in Paragraph 1(a) of Schedule 10	As per section 9.5.8	Monthly payment in USD or Thai Baht
Failure to achieve the Contracted Unit Primary Response	As specified in Schedule 1	As per section 9.5.8	4 equal instalments in USD
Deficiencies of Registered Capacity from Threshold Registered Capacity	As per section 2.11 and Schedule 17	As per section 9.6.1	USD
Generator Forced Outage (for both PE and SE unavailability)	Declared PE or SE availability for that period	As per section 9.6.2	USD or Thai Baht for respective components on monthly basis
Generator Short notice Outage	As per section 9.6.3	As per section 9.6.3	Monthly in Thai Baht
Generator maintenance Outage	As per section 9.6.4	As per section 9.6.4	Monthly in Thai Baht
Failure to maintain the Annual Primary Energy Guarantee	As per paragraph 5.1.1(ii) of schedule 1 and section 9.6.5	As per section 9.6.5	USD or Thai Baht for respective components on monthly basis
Failure to maintain the Monthly Primary Energy Guarantee	As per paragraph 5.1.1(i) of schedule 1 and section 9.6.6	As per section 9.6.6	USD or Thai Baht for respective components on monthly basis
Failure to maintain Threshold Operating Characteristics	As per section 9.6.7	As per section 9.6.7	4 equal instalments in USD
Exceptional Outages	Para 2 of Part I of Schedule 20 and Para 1.7 of Part I of Schedule 3	As per section 9.6.9	USD or Thai Baht for respective components

The table above lists out details of performance norms that the Generator must maintain in order to avoid paying Force Majeure Offset amounts. However, it is not clear how realistic are these performance targets and how much effect seasonality, change of water flows, etc. will have on these parameters and also what will be the implication of maintaining such performance for local communities as ensuring a certain level of generation (hence water head) has implications for overall water level that is to be maintained. Further, if such events of deviation from benchmark performance occur frequently, it can substantially lower the tariff burden for EGAT as these amounts will be adjusted against payments to be made, but it can adversely affect the Generator finances. The details regarding termination payments to be made by either party (depending on who has defaulted) are given in Annexure II of this report. It needs to be noted that the annexure only specifies the manner in which liquidated damages will be calculated under difference scenarios but does not quantify these amounts.

5. Force Majeure

The PPA defines Force Majeure as any event, condition or circumstance or combinations of these, which adversely affects a Party's ability to perform its obligations under this agreement, but are beyond the reasonable control of the affected Party and are arising without the fault or negligence of such Party, which despite its best efforts is not able to prevent or mitigate such effects. Under this PPA Force Majeure event is said to include events such as; wars, invasion, armed conflict, revolution, revolt, riot, mutiny, insurrection, military or usurped power, state of siege, civil commotion or declaration and maintenance of martial law, acts of terrorism or sabotage, strikes, lock outs of other labor disturbances or industrial action which are widespread or nationwide, nuclear or radioactive explosion or contamination, natural phenomena such as earthquake, landslide, storms, epidemic or plague, blockade, embargo, closing of borders, roads, rails, airports and other transport infrastructure. Apart from such laundry list of natural and other forms of catastrophes stated above, the PPA also defines Lao and Thai Political Force Majeure events which have special significance. As stated before, a force majeure event can lead to termination of the PPA. The discussion further defines what constitutes a Lao or Thai Political Force Majeure event and what its implications are.

Thai Political Force Majeure: As per section, 11.1(c) Thai Political Force Majeure event will be said to have occurred if the Thai Government initiates acts of war, invasion or armed conflict against Lao PDR or any such act of the Thai Government which directly affects activities within Lao PDR. Any act or omission of any Thai Governmental Authority which is directly applicable to either or both Parties and which materially and adversely affects their performance under this agreement or failure by either Party to obtain or renew any required Thai Governmental Approval relating to its performance under this agreement but is not on account of the concerned Party's acts or omissions also constitute as Thai Political Force Majeure. A 'Thai change of Law' also constitutes Thai Political Force Majeure and is defined based on occurrence of any of the following events after the execution date and provided that such event affects any party:

- Enactment of any new Law of Thailand
- Modification or repeal of any Law of Thailand
- Application to either Party or their facilities of any law of Thailand which has been enacted but that had not become effective prior to execution of this PPA
- Change in interpretation or application of Law of Thailand by a Thai Governmental Authority. The Thai Governmental Authority is in turn defined as any governmental department, ministry, commission, board, bureau, agency, regulatory authority, and instrumentality, judicial, legislative or administrative body of any of the foregoing but excluding EGAT.

Lao Political Force Majeure Event:

A Lao Political Force Majeure event will be said to have occurred if Lao Government initiates acts of war, invasion or armed conflict against Thailand or any such act of the Lao Government which directly affects activities within Thailand or Lao PDR. Any act or omission of any Lao Governmental Authority which is directly applicable to either or both Parties and which materially and adversely affects their performance under this agreement. Failure by either Party to obtain or renew any required Lao Governmental Approval relating to its performance under this agreement but is not on account of the concerned Party's acts or omissions also constitutes as Lao Political Force Majeure provided the following conditions are met:

- Action or omission on part of Lao Governmental Authorities is controlling or contributing force for such event.
- No claims in respect of any third Party's failure to fulfill its obligation can be made under this clause

- Generator is solely responsible for maintaining consistency between terms and conditions of the PPA and concession agreement. In case there is any event or failure or consequence on account of such inconsistency between the two agreements, Generator will not be entitled to claim either Lao Political Force majeure or any Force majeure under this PPA.
- Any misinterpretation by Lao Government in GOL Undertaking and all other legal instruments related to it shall constitute a Lao Political Force Majeure.

Apart from the above conditions, Lao change of law also constitutes a Lao Political force Majeure and is defined based on occurrence of the following after the execution date:

- Enactment of any new Law of Lao PDR
- Modification or repeal of any Law of Lao PDR
- Application to either Party or their facilities of any Law of Lao PDR which has been enacted but that had not become effective prior to execution of this PPA
- Change in interpretation or application of Law of Lao PDR by a Lao Governmental Authority. The Lao Governmental Authority is in turn defined as any governmental department, ministry, commission, board, bureau, agency, regulatory authority, and instrumentality, judicial, legislative or administrative body of any of the foregoing but excluding EGAT.

The above discussion defines force majeure and its various types as defined under this PPA, Now let us look at the effect and implications of occurrence of a force majeure event for EGAT and the Generator and how it affects their obligations.

Implications for EGAT:

When EGAT is affected by a Force Majeure event, other than Thai Political Force Majeure, EGAT is required to pay to Generator monthly Force Majeure Offset Amounts. If EGAT force majeure occurs during a period commencing from date of commercial operation to fifth contract year, an amount equal to committed energy charge component comprised in such monthly force majeure dispatch shortfall energy time 70% of the tariff applicable for such committed energy charge. In case EGAT force majeure occurs after fifth contract year, an amount equal to committed energy charge component comprised in such monthly force majeure dispatch shortfall energy time 70% of the tariff applicable for such committed energy charge, but EGAT will not be required to pay Force Majeure Offset Amounts in respect of such dispatch shortfall, unless such period exceeds 90 days. In case of non-political Force Majeure affecting both Parties after commercial operation date, EGAT will be liable to pay to Generator Force Majeure Offset Amounts to the extent that the period for which EGAT is affected extends the period for which the Generator is affected. All amounts paid by EGAT to the Generator under Force Majeure Offset Amounts will be recorded and kept under a separate account. No interest can be accrued on any of these amounts and these accounts will not be adjusted or escalated by the effect of inflation. In case EGAT is affected by Thai Political Force Majeure, EGAT is required to pay to the Generator Force Majeure Offset Amounts, on a monthly basis, and such payment shall comprise of Committed Energy Component Payment (includes Primary and Secondary Energy charges) or Monthly Force Majeure Unavailability times 70% of tariff applicable to such committed energy component.

Generator Force Majeure:

When Generator is affected by Force Majeure event, other than Lao Political Force Majeure, Generator is required to pay to EGAT monthly Force Majeure Offset Amounts based on following conditions:

- a) If Generator force majeure occurs during relevant period 1, an amount equal to committed energy charge component comprised in such Monthly Force Majeure Dispatch Unavailability times sum of:
 - o 23.7% of tariff applicable for such committed energy component and
 - o 70% of 0.94 US Cent/kWh
- b) In case Generator force majeure occurs after relevant period 1 or post 29 year FM period, as applicable, an amount equal to an amount equal to committed energy charge component comprised in such Monthly Force Majeure Dispatch Unavailability times sum of:
 - o 23.7% of tariff applicable for such committed energy component and
 - o 70% of 0.94 US Cent/kWhBut the Generator will not be required to pay Force Majeure Offset Amounts in respect of such dispatch shortfall, unless such period exceeds 90 days.
- c) In case of non-political Force Majeure affecting both Parties after commercial operation date, Generator will be liable to pay to EGAT Force Majeure Offset Amounts to the extent that the period for which Generator is affected extends the period for which the EGAT is affected.
- d) All amounts paid by Generator to EGAT under Force Majeure Offset Amounts will be recorded in the Generator FMOA account. No interest will be accrued on any of these amounts and these accounts will not be adjusted or escalated by the effect of inflation.

Effect of Lao Political Force majeure: In case Generator is affected by Lao Political Force Majeure, Generator shall pay to EGAT Force Majeure Offset Amounts, on a monthly basis, and such payment shall comprise of Committed Energy Component Payment (includes Primary and Secondary Energy charges) or Monthly Force Majeure dispatch shortfall energy times the sum of:

- a) 23.7% of tariff applicable for such committed energy component and
- b) 70% of 0.94 US Cent/kWh

Termination in respect of Force Majeure (Section 11.11)

Either Party can terminate this agreement under because of a Force Majeure by issuing 30 days prior written notice to the other Party if any Force Majeure event has taken place and:

- In case of Generator Force Majeure or Lao Political Force Majeure delays financial close date and continues for period equal to or more than 365 days.
- In case of EGAT Force Majeure continues unresolved for a period equal to or more than 730 days. EGAT shall have right to terminate this agreement any time after commencement of such EGAT Force Majeure.
- In case if Thai Political Force Majeure or Lao Political Force Majeure continues unresolved for more than 15 full calendar months then the Party responsible for making payments regarding such event, will have right to terminate this PPA after commencement of such event provided:
 - o In case of Thai Political Force Majeure, EGAT agrees to pay Termination Payment to Generator as per section 11.7.5 (and schedule 9); or
 - o In case of Lao Political Force Majeure, Generator agrees that EGAT has right to either: a) require the Generator to pay the Termination Payment, or b) acquire ownership of the Generator Assets upon payment by EGAT towards the same in accordance with section 11.8.5 (and schedule 9)

6. Dispute resolution

Whenever there is any dispute between the two parties, the PPA provides for dispute resolution mechanism to handle such issues. Under the PPA two approaches for settlement of dispute are provided which are discussed below:-

- 1) **Good Faith Discussions (section 13.1):** In this process Parties agree to seek all disputes in good faith. In respect of any concerns regarding billing and payment, such dispute is to be referred for mediation to a Standing committee. This committee will be established by the Parties and will comprise of at least two representatives of each Party and number of representatives of each side should be same. If either of Parties fails to appoint representative when a dispute arises or the mediation fails to resolve the dispute after 5th day of its commencement, then Parties should refer the dispute for arbitration under section 13.2 of the PPA.
- 2) **Arbitration (section 13.2):** Parties can refer dispute for arbitration under this clause. All arbitration will be conducted in accordance with arbitration rules issued by Arbitration Institute, Office of the Judiciary of Thailand, as in force at the time of dispute. The arbitral tribunal will consist of 3 arbitrators. Each Party shall appoint one arbitrator with suitable knowledge and skills. The two arbitrators will appoint third arbitrator who shall serve as Chairman of the Tribunal. If a Party fails to appoint its arbitrator in 10 business days after date on which dispute has been referred for arbitration or if the two arbitrators appointed by each Party fail to agree upon the third arbitrator, then arbitration will proceed according to Arbitration Rules or otherwise agreed in writing by the Parties. The arbitration will be conducted in Bangkok, Thailand using Thai language. The arbitrators will decide upon the dispute by majority and shall state in writing the reasons for its decision. Other than as permitted by Section 16 (which deals with Confidentiality) neither Party may publicize or otherwise disclose to others the contents of any arbitration award. All provisions relating to arbitration in the agreement will be subject to the Thai Arbitration Act in force.

Prima-facie the dispute resolution process seems biased in favor of Thailand. This is a serious concern as both Generator and EGAT are Thai companies, which can create governance challenges in effectiveness of such arbitration process. Further, in case of any dispute involving Lao Government undertakings or which has any adverse effect for Lao people or environment, possibility of representing Lao interests in spite of the project being based in Laos is substantially reduced or weakened.

7. Governing laws and Legal opinion from Minister of Justice Lao PDR

As per PPA conditions precedent to be met, it is required to get the Legal opinion from Minister of Justice of the Lao PDR and the same is annexed as schedule 23 of the PPA. The opinion is addressed to the Generator and its shareholders, EGAT and the lenders. The opinion is regarding the concession agreement, PPA, GOL Undertaking, Mortgage contract, Insurance Assignment and Subordination Agreement and other legal approvals or consents and the legal validity and consistency of these documents as per Lao PDR laws. The opinion asserts that obligations assumed by Generator under the Concession Agreement, PPA and other documents

The paragraph 7 (e)(ii) of the opinion states that: *“The execution, delivery and performance by the GOL of the Condition Precedent GOL Documents do not and will not violate or contravene any existing treaty, agreement or other instrument to which GOL is a Party or which is binding on the GOL including but not limited to, the Agreement between the Kingdom of Thailand and Government of Lao PDR for the promotion and protection of investments;”* The validity of this particular assertion needs to be verified in the context of agreements amongst the four regional governments of Thailand, Laos, Cambodia and Vietnam.

The opinion in paragraph 8 also states that: *“Generator being a company under the Lao PDR laws, such establishment of the Generator having been duly approved by GOL and all Inconsistent Lao PDR Laws in relations thereto having been duly exempted by the National Assembly, pursuant to which the Generation shall be legally entitled to carry out all business in Lao PDR, including without limitation to: i) be a Party to the concession agreement; ii) receive relevant concession from the GOL and iii) acquire and own assets in the Lao PDR in accordance with the Generator’s objectives without any restrictions;”* The term ‘inconsistent Lao PDR laws’ is particularly curious and it is important to find out exactly from which laws The Generator has been exempted and for what objective and whether or not it has any adverse implications for Lao or Thai public interest.

As far as Concession Agreement and the Mortgage contract are concerned, the governing law will be that of Lao PDR. However, in case of the PPA, Insurance Assignment, Subordination Agreement and GOL undertaking, laws of Thailand will be the governing law even for Lao PDR courts. This will effectively mean that Lao Courts will not be able to interpret the PPA and any litigations concerning PPA will have to be dealt in accordance with dispute resolution mechanism which is as per Thai arbitration process. This is again a serious concern as project is located in Lao and PPA deals with issues such as force majeure, termination, liquidated damages which will have financial implications for the Generator and on account of the GOL undertaking, may be even for Government of Lao PDR but the governing law may not have due consideration for interests of Lao public. The paragraph 9 (c)(ii) also mentions that as per clause 18.1 of the concession agreement there is possibility of applying Singapore law to settle any issue of law which is not definitely settled by laws of Lao PDR.

Applying different governing laws for PPA and Concession agreement can lead to unnecessary confusion and complexity leading to further disputes and thereby increasing financial risks for Lao PDR without giving it adequate legal safeguards. One more serious governance concern is regarding paragraph 9(f) which states that under the exemption granted by National Assembly, no Lao translation in respect of any condition precedent documents or the PPA is required with respect to its registration, certification and for its admissibility as evidence in the courts. The opinion also makes it clear that EGAT will be fully exempted from paying any and all of taxes such as Turnover tax, Value-added Tax, etc. throughout the term of the PPA.

8. Implications:

Prima-facie analysis of the PPA, as highlighted through various sections above, shows that the contract is designed in favor of the power procurer which is EGAT. Both EGAT as well as Generator are Thai companies, one of which is a Thai Government undertaking (EGAT) and hence it is questionable whether they will assert their rights as independent buyer and seller in a commercial contract like this, especially when it comes to issues such as delays, defaults, etc. which have financial implications for the Generator and hence in turn for Lao PDR on account of the terms of the concession agreement. Many of the performance parameters are based on certain assumptions of hydrology and it is not clear whether the expected performance is feasible and/or sustainable over the life of the agreement. Failure to meet such norms will result in substantial amounts to be paid as liquidated damages by the Generator to EGAT.

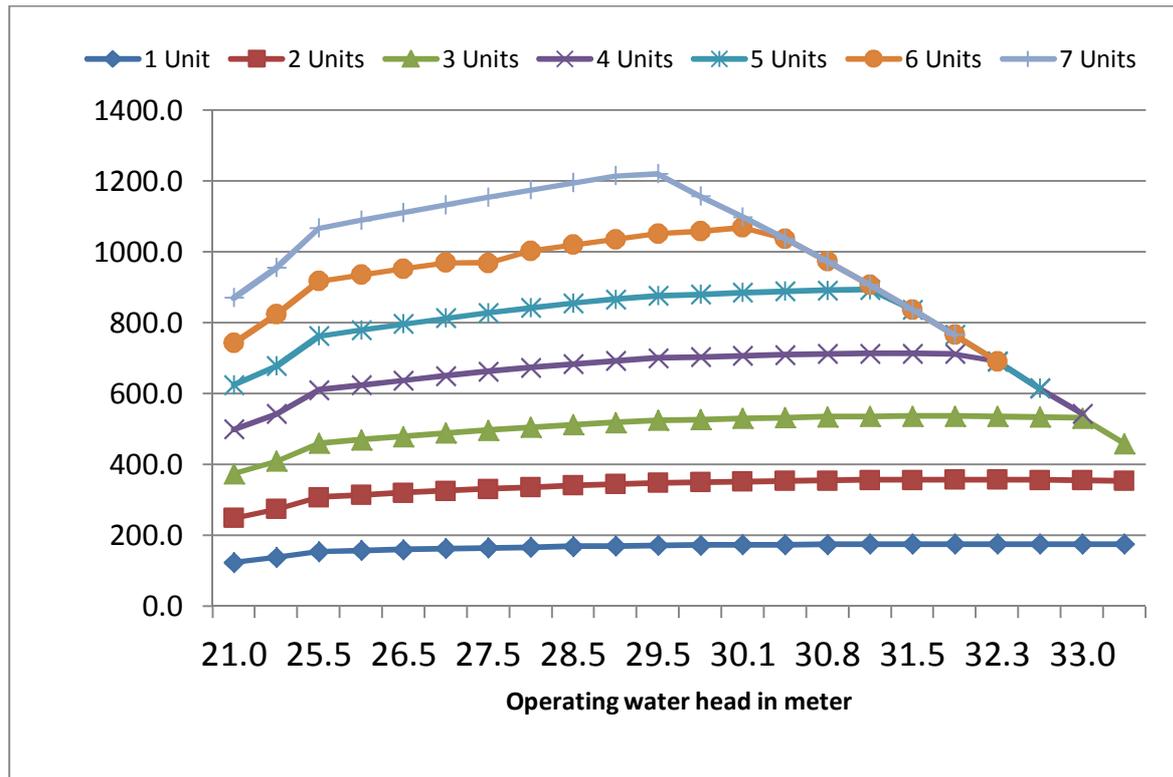
The favorable dispensation given to Thailand is obvious from all major clauses. For example, in the event of Generator event of default, EGAT can elect whether it wants to merely take the termination payment or also to acquire the assets. However, in case of EGAT event of default, Generator has no choice but to accept the defined termination payment and simultaneously handover assets. In such case, as EGAT is not a company incorporated under laws of Lao PDR, GOL's right over its resource (i.e. river water) becomes questionable. In this context it becomes crucial to analyze how much liberty has been given to EGAT under the concession agreement in events such as these. Further, the Thai law is the governing law for the PPA and dispute resolution is also to be held in Bangkok, in Thai language and as per Thai arbitration rules and laws. The lopsidedness of the dispute resolution clause coupled with confidentiality requirements and lack of transparency only make the situation worse for people of Lao PDR.

Based on the GOL Undertaking, GOL will have to bear risk of Generator event of default as well as any Lao Political Force Majeure event and will have to make Termination or FMOA Payments liable under such circumstances, if the Generator defaults or in case of termination on account of Lao Political Force Majeure event. It needs to be evaluated based on termination at various points during the PPA term, how significant will be the quantum of such payment and whether or not it can seriously jeopardize Lao Government's overall financial position. The financial benefits for Lao PDR are not clear as how much revenue Lao Government will earn from taxes and royalties, if any, from the Generator is not known and hence it cannot be ascertained whether such risk that is it taking under this PPA and other related agreements and undertaking, is prudent or necessary.

The concession agreement is a key document that can clarify many such issues regarding the exact quantum of risk taken by GOL as well as consequences of any international agreements or treaties on this PPA. However, in absence of access to the concession agreement, such detail analysis is not possible at this point of time. Thus, in spite of the fact that the project is located in Laos and its natural resource is being used, it is not clear what benefit the country is getting in exchange of the numerous risks it is undertaking in this agreement and the overall arrangement.

Annexure I: Contracted Capacity and generation

The Schedule I of the PPA lists out various operational parameters including contracted capacity, generation, reactive and active power components, unit loading and deloading rates, etc. The chart below gives contracted capacity that should be available for a given operating water head. As can be seen maximum of 1220 MW capacity can be achieved at an operating head of 29.5 meter when all seven units have been commissioned. What is curious about this table 1.1.1 of schedule 1 is that after a certain point, even though the operating water head increases (beyond 29.5 meter), the corresponding contracted capacity at that head starts reducing, as can be seen from the graph below for which no obvious reason could be found.



Expected Monthly energy in GWh (Source: Table 11.1 from Schedule 11)

Month	Normal year				Wet year				Dry year			
	PE	SE	EE	Total	PE	SE	EE	Total	PE	SE	EE	Total
January	310	92	78	480	328	112	86	526	293	95	73	461
February	253	72	61	386	261	84	65	410	235	70	54	359
March	263	72	61	396	268	84	64	416	255	75	59	389
April	252	69	58	379	253	77	59	389	244	71	56	371
May	266	73	62	401	280	90	69	439	244	70	55	369
June	337	103	88	528	383	136	106	625	278	87	70	435
July	490	183	159	832	456	190	151	797	396	139	111	646
August	441	164	144	749	416	173	136	725	477	197	159	833
September	429	159	140	728	404	168	133	705	456	188	152	796
October	483	180	158	821	465	194	154	813	483	177	142	802
November	421	135	118	674	468	174	136	778	372	128	103	603
December	354	108	95	557	378	133	103	614	335	102	91	528
Total	4299	1410	1222	6931	4360	1615	1262	7237	4068	1399	1125	6592

Annexure II: Termination payment details as per Schedule 9 of the PPA

The termination payment that either EGAT has to make or Generator has to make to the other party upon termination of the PPA will be calculated as per the Schedule 9 of the PPA. The table 2 below lists out how the said termination amount will be calculated. It is not possible to actually quantify these payment amounts on account of two main reasons, difficulty in estimating costs in future and secondly some amounts are to be calculated based on terms defined in concession agreement and hence not know. The table No 1 gives meaning of the various symbols used in Table 2 and as defined in Schedule 9 of the PPA. For more details, please refer to the schedule 9 of the PPA.

Table no 1: List of symbols used in Table no 2 below:

Term used	Abbreviation	Definition or meaning
Administration costs	AC	2% of EGAT transmission Facilities cost
Counterparty Outstanding Payments	COP	
Contracted Capacity	CC	1220000 kW
Consultant's fees	CF	500,000 USD
Capacity Value	CV	Aggregate of USD 89 per kW and THB 3,382 per kW as escalated from 1 January 2002 by 1.38% per year, multiplied by Term End Factor as defined in schedule 9
Debt	D	
Discount rate	DR	ten percent (10%)
Paid equity contribution	E	aggregate investment of all actual equity contributions including shareholder loans to Generator in USD
Generator Outstanding Payments	GOP	
Interest on Paid Equity Contribution	IE	The sum of: 1) 60% of Paid equity contribution multiplied by a factor equal to LIBOR plus 2% of, and 2) 40% of paid equity contribution multiplied by i) factor equal to minimum overdraft rate plus 2% and (ii) a fraction of Reference Exchange rate (1 USD = 34 Thai baht) divided by prevailing exchange rate
Liquidated assets	LA	Sum of: (60% of Paid equity contribution)* (LIBOR*2%) + (40% of paid equity contribution *(Min overdraft rate + 2%)*(Ref exchange rate/prevailing exchange rate)) to be paid in USD

Lost Capacity Payment	LC	Calculated as follows: 1) in case of termination before Commercial Operation date, the Contracted capacity multiplied by corresponding capacity Value 2) in case of termination after Commercial Operation date, Registered Capacity multiplied by the corresponding Capacity Value.
Lost equity return	LER	
	M	In respect of termination before commercial operation Date: 1) For termination before scheduled commercial operation period, M = no of full calendar months between Term termination date and scheduled commercial operation 2) For termination on or after scheduled commercial operation, M=0
Registered capacity	RC	
Residual value of EGAT's transmission Facilities	RV	To be decided by a valuer on the basis of 'Open Market Value' as defined in schedule 9
Term end factor	TEF	1) TEF = 1 if termination date and Scheduled termination date is equal to or greater than 60 months 2) Otherwise, TEF = Term end duration /1826
EGAT transmission Facilities cost	TLC	To be specified by EGAT
Term Termination Date	TTD	date on which agreement is terminated
	Y	1) After Commercial operation date, Y= No of years between Commercial operation date and termination date or 2) Y = 0 if termination is prior to Commercial operation date
Government Termination Event		as defined in clause 11.5 of the concession agreement
Valuer		Independent firm that is member of Royal Institute of Chartered Surveyors to be appointed to certify Residual Value

Table 2: Determination of termination payment:

Termination event details	Termination Payment to be made by EGAT	Termination Payment to be made by Generator
A. Termination due to Events of Default		
A.1 Termination Prior to Financial Close Date due to Generator Event of Default	None	EGAT retains full amount of the Development Security. No additional Compensation.

A.2 Termination Prior to Financial Close date due to EGAT Event of Default	None and EGAT returns the full amount of the development Security then in effect to Generator.	None.
A.3 Termination after financial Close date but before the Commercial Operation date due to Generator Event of Default	None When EGAT does not elect to acquire the Generator Assets.	If EGAT elects not to acquire the Generator Assets, then Generator is obliged to pay $TLC+AC+CF+[CC*CV*(90-M)/90]-RV$.
	If EGAT elects to acquire the Generator Assets, then EGAT is obliged to pay D upon its acquisition of the Generator Assets.	If EGAT elects to acquire the Generator Assets, then Generator Shall not make Termination Payment.
A.4 Termination after Financial Close date but before the commercial Operation date due to EGAT Event of Default.	EGAT is obliged to acquire the Generator Assets and to pay $D+E+IE+COP-GOP-LA$ therefor.	None.
A.5 Termination after the Commercial Operation date due to Generator Event of Default.	None When EGAT does not elect to acquire the Generator Assets.	If EGAT elects not to acquire the Generator Assets, then Generator is obliged to pay $TLC*(1-Y/29)+AC+CF+(CV*RC)-RV$.
	If EGAT elects to acquire the Generator Assets, then EGAT is obliged to pay D upon its acquisition of the Generator Assets.	If EGAT elects to acquire the Generator Assets, then Generator Shall not make a Termination Payment.
A.6 Termination after the Commercial Operation date due to EGAT Event of Default.	EGAT is obliged to acquire the Generator Assets and to pay $D+E*(1-Y/29)+LER+COP-GOP-LA$ therefor.	None.
B. Force Majeure Termination before Financial Close Date		
B.1 All Force Majeure termination other than due to Lao Political Force Majeure-either EGAT or Generator terminates.	None and EGAT returns the full amount of the Development Security then in effect to Generator.	None
B.2 Lao Political Force Majeure-either EGAT or Generator terminates.	None.	EGAT retains full amount of the Development Security. No additional Compensation.
C. Force Majeure Termination after Financial Close Date but Prior to the Commercial Operation Date		
C.1 Generator Force Majeure Generator terminates	None	None
C.2 Generator Force Majeure EGAT terminates	None	None

C.3 EGAT Force Majeure-EGAT terminates	None	None
C.4 EGAT Force Majeure-Generator terminates	None	None
C.5 EGAT Force Majeure affecting Acquisition of Access Rights-Generator terminates	EGAT is obliged to acquire the Generator Assets and to Pay D+E+IE+COP-GOP-LA therefor	None
C.6 EGAT Force Majeure affecting Acquisition of Access Rights-EGAT terminates	EGAT is obliged to acquire the Generator Assets and to Pay D+E+IE+COP-GOP-LA therefor	None
C.7 Lao Political Force Majeure-Generator terminates	None when EGAT does not elect to acquire the Generator Assets.	If EGAT elects not to acquire the Generator Assets, then Generator is obliged to pay $TLC+AC+CF+[CC*CV*(90-M)/90]-RV$.
	If EGAT elects to acquire the Generator Assets, then EGAT pays D upon its acquisition of the Generator Assets.	If EGAT elects to acquire the Generator Assets, then Generator shall not make a Termination Payment.
C.8 Lao Political Force Majeure - EGAT terminates	None when EGAT does not elect to acquire the Generator Assets.	If EGAT elects not to acquire the Generator Assets, then Generator is obliged to pay $TLC+AC+CF+[CC*CV*(90-M)/90]-RV$.
	If EGAT elects to acquire the Generator Assets, then EGAT pays D upon its acquisition of the Generator Assets.	If EGAT elects to acquire the Generator Assets, then Generator shall not make Termination Payment.
C.9 Thai Political Force Majeure-Generator terminates	EGAT is obliged to acquire the Generator Assets and to Pay D+E+IE+COP-GOP-LA therefor	None
C.10 Thai Political Force Majeure-EGAT terminates	EGAT is obliged to acquire the Generator Assets and to Pay D+E+IE+COP-GOP-LA therefor	None
D. Force Majeure Termination after the Commercial Operation Date		
D.1 Generator Force Majeure- Generator terminates.	None.	None.
D.2 Generator Force Majeure- EGAT terminates.	None.	None.
D.3 EGAT Force Majeure-EGAT terminates.	None.	None.
D.4 EGAT Force Majeure-Generator terminates.	None.	None.

D.5 Lao Political Force Majeure-Generator terminates.	None when EGAT does not elect to acquire the Generator Assets	If EGAT elects not to acquire the Generator Assets then Generator is obliged to pay $TLC*(1-Y/29) + AC + CF + (CV*RC) - RV$.
	If EGAT elects to acquire the Generator Assets, then EGAT Pays D upon its acquisition of the Generator Assets.	If EGAT elects to acquire the Generator Assets, then Generator shall not make a Termination Payment.
D.6 Lao Political Force Majeure-EGAT terminates.	None when EGAT does not elect to acquire the Generator Assets	If EGAT elects not to acquire the Generator Assets then Generator is obliged to pay $TLC*(1-Y/29) + AC + CF + (CV*RC) - RV$.
	If EGAT elects to acquire the Generator Assets, then EGAT Pays D upon its acquisition of the Generator Assets.	If EGAT elects to acquire the Generator Assets, then Generator shall not make a Termination Payment.
D.7 Thai Political Force Majeure - Generator terminates	EGAT is obliged to acquire the Generator Assets and to Pay $D + E*(1-Y/29) + LER + COP - GOP - LA$ therefor.	None.
D.8 Thai Political Force Majeure - EGAT terminates	EGAT is obliged to acquire the Generator Assets and to Pay $D + E*(1-Y/29) + LER + COP - GOP - LA$ therefor.	None.