

Analysis of 'All risk' insurance from an offshore wind farm perspective

Lillgrund Pilot Project

February 2009



Type of document REPORT	Document identification 7_1 LG Pilot Report	Rev. No. 1.0	Report date February 26, 2009	Project No. 21858-1
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		Approved by The Reference Group		
Distribution The Swedish Energy Agency			No. of pages 9	No. of appendices 0

PREFACE

Vattenfall's Lillgrund project has been granted financial support from the Swedish Energy Agency and Vattenfall will therefore report and publish experiences and lessons learned from the project. This report is compiled in a series of open reports describing the experiences gained from the different aspects of the Lillgrund Wind Farm project, for example construction, installation, operation as well as environmental, public acceptance and legal issues.

The majority of the report authors have been directly involved in the Lillgrund project implementation. The reports have been reviewed and commented by a reference group consisting of the Vattenfall representatives Sven-Erik Thor (chairman), Ingegerd Bills, Jan Norling, Göran Loman, Jimmy Hansson and Thomas Davy.

The experiences from the Lillgrund project have been presented at two seminars held in Malmö (4th of June 2008 and 3rd of June 2009). In addition to those, Vattenfall has presented various topics from the Lillgrund project at different wind energy conferences in Sweden and throughout Europe.

All reports are available on www.vattenfall.se/lillgrund. In addition to these background reports, a summary book has been published in Swedish in June 2009. An English version of the book is foreseen and is due late 2009. The Lillgrund book can be obtained by contacting Sven-Erik Thor at sven-erik.thor@vattenfall.com.

Although the Lillgrund reports may tend to focus on problems and challenges, one should bear in mind that, as a whole, the planning and execution of the Lillgrund project has been a great success. The project was delivered on time and within budget and has, since December 2007, been providing 60 000 households with their yearly electricity demand.

Sven-Erik Thor,
Project Sponsor, Vattenfall Vindkraft AB
September 2009

DISCLAIMER

Information in this report may be used under the conditions that the following reference is used: "This information was obtained from the Lillgrund Wind Farm, owned and operated by Vattenfall."

The views and judgment expressed in this report are those of the author(s) and do not necessarily reflect those of the Swedish Energy Agency or of Vattenfall.

Analysis of 'All risk' insurance from an offshore wind farm perspective

SAMMANFATTNING

En "All risk"-försäkring är utformad för att skydda byggherrar mot skador och förstörelse i byggprojekt, där värdet av konstruktionen utgör en betydande del av totala projektets värde.

Vattenfall tecknade en "All risk"-försäkring med Codan vid byggnationen av Lillgrund. Försäkringen utformades för att täcka alla entreprenörer och underentreprenörer som var involverade i projektet. Försäkringen täckte allt konstruktionsarbete på Lillgrund, exempelvis total kostnad för vindturbiner, fundament, kablar och transformatorstationer. Däremot var inte temporära konstruktioner och byggnader täckta av försäkringen. Ett exempel på detta är fartyg.

Försäkringsperioden sträckte sig från 23 mars 2006 till 1 mars 2008, dvs. från konstruktionsstart till förväntat slutdatum. Under försäkringsperioden uppstod inget försäkringsärende. Däremot uppstod ett kabelhaveri precis före invigningen av Lillgrund sommaren 2008. Leverantören av kablarna, Siemens, kräver ersättning för reparationerna av denna skada men ärendet är ännu inte uppkärlat.

Det finns i dagsläget inget bra alternativ till att använda sig av en "All risk"-försäkring vid byggnation av en vindpark. Alternativen en byggherre måste överväga är huruvida byggherren skall teckna "All risk"-försäkringen eller om varje underentreprenör skall teckna en egen "All risk"-försäkring.

SUMMARY

An 'All risk' insurance is an insurance policy that has been designed to protect the interest of Principals/Civil Contractors against damage or destruction to projects undertaken by them, where the monetary value of the civil work involved represents a major part of the total project value.

For the construction phase of Lillgrund, Vattenfall signed an 'All risk' insurance with Codan. The insurance policy was designed to cover all contractors and sub-contractors at all levels. The policy covered all construction work at Lillgrund, e.g. total construction costs for wind turbines, including foundations, cables and offshore substations. However, temporary buildings and fabrication were not included, e.g. vessels.

The insurance was valid from March 23, 2006 and March 1, 2008, i.e. from commencement of construction until expected completion date. Throughout the construction process, up until completion of Lillgrund, there have been no insurance claims against the project. However, there is now an outstanding claim by Siemens, who were the supplier of the cables, to receive compensation for a cable failure that occurred just prior to the official opening of Lillgrund in the summer of 2008.

There is currently no reasonable alternative to using an 'All risk' insurance when constructing a wind farm. The management is faced with a decision to use an 'All risk' insurance that is signed by the main contractors, or to let each sub-contractor sign their own 'All risk' insurance.

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1 WHAT IS A CAR/EAR INSURANCE?

1.1 'All risk' insurances

An 'All risk' insurance is an insurance policy that has been designed to protect the interest of Principals/Civil Contractors against damage or destruction to projects undertaken by them, where the monetary value of the civil work involved represents a major part of the total project value. The key characteristics are that it covers against physical loss or damage to identified property from all causes except those identified. Unlike other types of insurance, the 'All risk' insurance clause is not limited by reference to specified perils, i.e. everything is covered unless it is excluded (expressly or by implication).

There exists various types of 'All risk' insurances that possess very similar features, Contractors' All Risk insurance (CAR), Construction All Risk insurance (CAR) and Erection All Risk insurance (EAR). These are practically the same with only minor differences. In this paper these insurances will be used synonymously as CAR since the purpose is to illustrate the overall insurance policy rather than a detailed analysis of exact wording in clauses.

1.2 What is covered by a CAR insurance?

The CAR insurance offers comprehensive coverage for all types of civil construction risks. It covers physical loss and damage to property. More specifically the coverage for physical loss or damage to property is on an "All risks" basis, i.e. the policy insures against damage to property in the course of construction by all sudden, accidental and unforeseen causes other than specifically excluded risks and forms of damage. This coverage includes works brought on to the site for the purposes of the contract as well as temporary works erected or constructed on-site.

CAR insurances usually are combined with (but must be distinguished from) third party liability policies. Third party liability policies insure against accidental bodily injury or illness to third parties as well as accidental loss of, or damage to property belonging to third parties, caused by an accident at the construction site.

1.3 How long is the insurance period?

The insurance period of the CAR policy starts when construction work on the project commences. Sometimes, the proposal for a CAR is agreed after the work on the project has commenced. In such a situation, the cover starts from the time the proposal has been accepted. However the premium is calculated from the day the work first commences.

The insurance period ceases on the expiration date mentioned in the policy, based on expected completion of construction. If the project is completed prior to expiry date, and is put into operation by the principal, the policy shall cease from that date. Similarly, if a part of the project has been completed and put in operation, the cover under CAR shall cease with respect to that part.

In Sweden the insurance period for offshore wind projects generally also includes coverage for hidden defects during the warranty period (normally 24 months post completion). If a defect is noticed during this period, the underwriter should compensate the supplier if it can prove that the defect occurred during the construction period.

Internationally an extension of the insurance period post completion of construction can generally be negotiated. The magnitude of this extension and coverage can include faults in design, or purely extension of insurance period. Standardised extensions have been developed by the London Engineering Group.

Delays of construction projects can prove very costly in case the completion date exceeds the expiration date of the insurance policy coverage. It is common to have an extension clause in the policy that allows the insured to extend the expiration date of the insurances against a premium. Also, in conjunction with a CAR insurance it is possible to sign an Advanced Loss of Profit insurance (i.e. delay of start up) that compensates the policy holder for profit losses due to completion delays. This additional coverage is most useful when a wind farm is project financed and the lender is expecting interest payments to be paid after an agreed upon date.

1.4 Who is covered by the CAR insurance?

Issues regarding who is included in the insurance coverage can occur, it is therefore important to clearly state in the policy and in sub-contractor agreements who is and who is not covered by the CAR insurance. In practical terms, this issue generally arises when the sub-contractor has been negligent in some way and is attempting to establish its status as an insured under the policy.

The principal party insured is defined as the main contractor and any joint ventures or parents/subsidiaries/affiliated/associated companies of the head contractor. The other insured parties are limited to any other companies or entities with whom an insured named in the policy has entered a written contract in connection with the project. It appears, therefore, that a sub-contractor not named in the policy, can still be insured as long as it has entered into a written contract with a party named in the policy. However, if that sub-contractor were to enter into a further contract with a sub sub-contractor, then the latter may not be covered under the policy. An obvious way around this will be for the sub sub-contractor to enter into a direct contract with a party named in the policy.

1.5 What is the underwriter requiring?

Underwriters are concerned by claims caused by errors that would not have occurred if all the contractors and sub-contractors involved adopted proper quality control systems. It is a condition precedent for any sub-contractor to benefit under the policy that it has performed its operations according to a quality control system that complies with the standard passed on by the head contractor.

In order to prevent these claims underwriters also require extensive information regarding the project status. They also demand various control conditions, e.g. a marine warranty surveyor.

1.6 Premiums, sums insured and deductibles

All factors mentioned in the previous sections play a role in determining a premium for the insurance policy holder. CAR insurances are considered standard products, however each policy will be tailor-made to fit the policy holder's needs, e.g. inclusion of third party liability coverage. What ultimately decides the premium is the value of the project that will be insured, the estimated maximum loss for the underwriter and deductibles. The estimated maximum loss is extremely difficult to determine, especially for a project in a relatively new business sector, such as offshore wind farms. There is limited experience from previous construction projects why premiums might differ and change over time.

2 LILLGRUND

2.1 Background

Lillgrund is an offshore wind farm located in Öresund off the coast in Malmö that began operating in the beginning of 2008. It consists of 48 Siemens 2.3 MW wind turbines with a total capacity of 110.4 MW. The construction of Lillgrund took about 2 years and there is a warranty period for the turbines of 5 years.

The Lillgrund construction project comprised two main supplier contracts, with Siemens Wind A/S and with a consortium of Pihl A/S and Hochtief AG. Siemens Wind A/S was the supplier of wind turbines and electrical systems while Pihl/Hochtief delivered the concrete gravity foundations. Several other sub-contractors participated in the construction process. For managing the construction risk, Vattenfall purchased an owner-controlled 'All risk' insurance policy from Codan that covered both of the two main suppliers as well as all minor sub-contractors. All sub-contractors were asked to take this insurance into account when designing their proposals, i.e. lowering their prices by their perceived utility of the insurance policy.

2.2 Coverage of the Lillgrund insurance policy

For the construction phase of Lillgrund, Vattenfall signed an EAR insurance with additional third party liability insurance and marine insurance.

The EAR insurance policy was designed to cover all contractors and sub-contractors at all levels as well as all professional consultants employed by Vattenfall in connection with the project. This was explicitly stated in the written contract. The policy covered all construction work at Lillgrund, e.g. total construction costs for wind turbines, including foundations, cables and offshore substations. However, temporary buildings and off-site construction areas were not included, e.g. vessels. It was therefore important for Vattenfall to demand that sub-contractors insure their own property in order to limit delays and additional costs due to bankruptcy of sub-contractors.

Sub-contractors were covered when fabricated parts were handed off for transportation from permanent or temporary place of production i.e. faults of design were not covered. At the time the insurance policy came into effect the estimated cost for all construction work amounted to 1 800 MSEK.

The insurance coverage was in effect and valid between March 23, 2006 and March 1, 2008, i.e. from commencement of construction until expected completion date. In the case of construction delay, it was possible to extend the period of insurance for an extra premium. Also, included in the policy was a defects liability period.

2.3 Lillgrund experience

In the Lillgrund project, Codan required that an independent inspector with offshore construction experience was assigned to supervise the project. This marine warranty surveyor receives salary from Vattenfall but represents the interest of the underwriter. The surveyor should be involved from the early stages of the project; review and approve plans and specification, as well as their execution and issue certificates on the project; review and assess the suitability of vessels and tools engaged for the project; attend and verify critical parts of the project; specify recommendations to be met in order to comply with the terms of the warranty; issue a report which documents the work, findings and recommendations throughout the project.

Throughout the construction process until completion of Lillgrund there were no insurance claims against the project. However, there is now an outstanding claim by Siemens, to receive compensation for a cable failure that occurred just prior to the official opening of Lillgrund in the summer of 2008. Siemens claims that this failure can be counted as part of the construction period, and therefore grants them the right to claim compensation from Codan for repairs and replacement in the range of 2-3 MDKK. At present, Codan has not responded to Siemens regarding this and the claim is not yet resolved.

In Lillgrund's insurance policy, there is a profit sharing clause. Since there only has been a minor insurance claim (see above) Vattenfall is expecting to receive part of the premium as a refund from Codan.

3 TRENDS FOR CAR INSURANCES IN THE OFFSHORE WIND MARKET

There are no obvious trends in CAR insurances in the offshore wind market. VAB has perceived that CAR insurances for wind power construction are currently being used more frequently than before. Regarding premiums Vattenfall's feeling is that they have decreased rather than increased. Furthermore the underwriters are keeping themselves more updated on the project status, requiring more details on progress, risks etc. which could be a rationale for the decreased premiums.

It has also been noticed that deductibles for offshore cables have increased. There is a high risk of cable damages during the construction phase and they are also very expensive to repair/replace. An increased deductible both limits the cost for the underwriter and provides the constructor with additional motivation for caution.

4 ALTERNATIVES TO CAR INSURANCE

There are currently no reasonable alternatives to using a CAR insurance when constructing an offshore wind farm. The management is faced with a decision to use a CAR insurance that is signed by the main contractors, or to let each sub-contractor sign their own CAR insurance.

There are a number of commercial advantages by using an owner-controlled CAR insurance when constructing an offshore wind farm. Perhaps the most obvious one is that it avoids the requirement for each individual sub-contractor to take out insurance covering its own specific part of the works. An owner controlled CAR insurance avoids liability gaps between individual sub-contractor insurances and thereby mitigates the legally complicated responsibility issue. An owner controlled CAR insurance also avoids double insurance i.e. avoid individual sub-contractors to insure against the same risk.

By pooling all sub-contractor insurances into an owner controlled CAR insurance it should enhance the negotiation power and could thereby reduce total insurance cost. On the other hand some sub-contractors could already have their own insurance and having an owner-controlled CAR insurance would not necessarily reduce their proposed prices. It is, therefore, difficult to draw an exact conclusion regarding the cost of an owner controlled CAR insurance when compared to individual sub-contractors holding their own CAR insurances.

Considering all, an owner-controlled CAR insurance is the most effective way to insure against all construction risks. In the future, Vattenfall's insurance strategy could be to purchase a 'portfolio CAR insurance' that covers 'All risks' in any and all individual offshore construction work conducted by Vattenfall.

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