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Project Procurement Report - Offshore Wind Farm Project

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Executive Summary

This report is on the contract and procurement management for the Offshore Wind Farm Project. The report will discuss various procurement strategies, contract forms, and dispute resolution mechanisms that could be used in the project, with a focus on the Design-Build (DB) procurement strategies. Also, the report analyzes the supplier selection process and the tendering criteria used in the project. The report also provides an overview of the reimbursement method and the standard form of contract used in the project, highlighting the benefits and limitations of each approach. Additionally, the report explores various contract incentives which can be used to motivate suppliers and enhance project performance and finally, the report discusses dispute resolution mechanisms to be utilized when implementing the project procurement management.

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Introduction

The Offshore Wind Farm Project off the coast of South Wales is a sizable project for the creation of sustainable energy that might contain up to 50 wind turbines and generate up to 150 MW of power (De Vasconcelos et al., 2022). The Welsh government has given this project planning permission. It is urgent because the client wants to open the facility by the end of 2025 because the last coal-powered power plant in Wales will be shut down in 2020 and a few other fossil fuel-generating plants will reach the end of their useful lives by then (O'Hanlon and Cummins, 2020). Although the client, a sizable utility or energy firm, has the cash on hand, it's crucial to establish cost certainty before moving forward with the project (Oyebode, 2022). This report will provide a procurement strategy that includes a packaging strategy, contracting strategy, and dispute resolution methods that are appropriate for the buyer-supplier commercial relationship in this project (Buzzetto, Bauli and Carvalho, 2020). The recommendations in this report are based on evidence from relevant literature and the information provided in this brief.

Main Body of Report

Section (I) The Project's Contract Packaging Strategy

The procurement route or delivery model refers to the method used to deliver a construction project. It involves selecting a contractual arrangement between the client and the contractor, defining the responsibilities and risks of each party, and determining how the project will be executed and managed (Mitchell, 2013). The contract packaging strategy for the offshore wind farm project aims to maximize the efficiency and effectiveness of the procurement process while minimizing risks and uncertainties (De Vasconcelos et al, 2022). The project's complexity,

scope, and time constraints require a packaging strategy that can facilitate the involvement of multiple suppliers and contractors while ensuring that the overall project objectives are met.

There are various contract packaging strategies that could be considered for the offshore wind farm project. These include traditional procurement, design and build (DB), engineering, procurement, and construction (EPC), and design, build, finance and operate (DBFO) (APM, 2017). Traditional procurement involves the client engaging separate contractors for the design and construction phases. Design and build is similar, but the client engages a single contractor for both design and construction (Oyebode, 2022). EPC is a turnkey approach where the client hires a contractor to design, procure materials and construct the facility (Mitchell, 2013). Finally, DBFO involves a private sector consortium responsible for financing, designing, constructing, and operating the facility over an extended period. Each procurement strategy has its advantages and disadvantages (Buzzetto, Bauli and Carvalho, 2020). Traditional procurement allows the client to have more control over the project and enables them to choose the most suitable contractors for the job (APM, 2017). Design and build may offer cost savings and reduced risks for the client as there is only one point of contact. EPC can offer a faster delivery time and guaranteed performance. DBFO can provide long-term savings and reduced financial risks for the client.

The Design-Build (DB) procurement strategy is the suitable approach for the Offshore Wind Farm Project. This approach involves hiring a single contractor who will be responsible for both the design and construction of the wind farm. The client can work closely with the contractor to ensure that the project meets its specifications and requirements. By removing the requirement for the client to hire a separate designer and builder, which can cause conflicts and delays, this strategy can help to shorten the project delivery time (APM, 2017).

Table 1 below outlines the advantages and disadvantages of the DB procurement strategy for the Offshore Wind Farm Project.

| Advantages | Disadvantages |
|--|--|
| Single point of responsibility for design and construction | Limited control over design process |
| Efficient project delivery time | Higher upfront costs |
| High level of collaboration between client and contractor | Potential for disputes between client and contractor |
| Reduced risk of project delay | Contractor may prioritize cost over quality |

The DB strategy gives the client a lot of control and participation throughout the process. The client and the contractor can then collaborate to make sure the design complies with the client's requirements and specifications, and the contractor can offer advice on constructability, cost, and schedule. This method may reduce the likelihood of design blunders and omissions and promote a more effective and efficient design process (Buzzetto, Bauli, and Carvalho, 2020). The potential for disagreements between the client and contractor is a drawback of the DB strategy. Cost and quality issues could arise because the contractor is in charge of both design and construction. Furthermore, the client could not have much influence over the design process, which could lead to a design that doesn't entirely satisfy their objectives.

Table 2 below outlines the key considerations for selecting a contractor using the DB approach for the Offshore Wind Farm Project.

| Consideration | Description |
|---------------|-------------|
|---------------|-------------|

| | |
|-------------------------------|--|
| Experience and qualifications | Contractor should have experience and qualifications in designing and constructing offshore wind farms |
| Technical expertise | Contractor should have technical expertise in all aspects of the wind farm design and construction |
| Cost and schedule | Contractor should provide a competitive cost and schedule for the project |
| Risk management | Contractor should have a proven track record of managing risk on similar projects |
| Performance guarantees | Contractor should provide performance guarantees for the wind farm |

The contractor selection process involves a thorough evaluation of potential contractors based on their experience, qualifications, technical expertise, cost, and schedule. The client also ensures that the contractor has a proven track record of managing risk on similar projects and should require performance guarantees for the wind farm (APM, 2017).

The DB procurement strategy offers the client a single point of accountability for design and construction, expedient project delivery, and a high level of client and contractor involvement, making it the best strategy for the Offshore Wind Farm Project. The customer should carefully weigh the drawbacks of this strategy, such as the client's limited ability to influence the design process and the potential for disagreements with the contractor (APM, 2017). Due to these factors, efficient project management bases the contractor selection process on a careful assessment of each candidate's experience, credentials, technical proficiency, cost, and schedule, as well as their capacity to manage risk and offer performance guarantees.

Section (II) The contracting strategy

The contracting strategy for the implementation of the Offshore Wind Farm Project should be carefully planned and executed to ensure the project's success. This strategy should consider various aspects, such as buyer-supplier commercial relationship, supplier selection/tendering method and criteria, reimbursement method, standard form of contract, and contract incentives (APM, 2017).

Buyer-Supplier Commercial Relationship

Any project procurement plan must consider the buyer-supplier commercial relationship as a key component. During the course of a project's execution, it alludes to the communications and business dealings that take place between a customer and their suppliers. The nature of this interaction can significantly affect the project's success or failure (Mitchell, 2013). Trust, openness, and a shared dedication to the project's success define a successful business relationship. Contrarily, disagreements, delays, and cost overruns frequently characterize a bad commercial relationship.

To ensure that the Offshore Wind Farm Project is produced on time, within budget, and in accordance with the requisite performance criteria, the buyer-supplier business relationship must be carefully handled. With an emphasis on long-term success and mutual benefit, the client will want to forge a collaborative relationship with their suppliers (Mitchell, 2013). Open dialogue, regular meetings, and the setting of specific goals and expectations all help to achieve this. The client will also make sure that their suppliers are handled fairly and ethically in order to maintain a successful business relationship (APM, 2017). This entails making certain that the selection of the supplier is fair and open, that the conditions of the contract are reasonable and balanced, and that payments are made on schedule. In order to identify and reduce any risks that could have an impact on the project's success, the customer will also work closely with their suppliers (Mitchell, 2013). Last but not least, the client will be ready to put time and money into establishing and sustaining a successful business relationship with their suppliers. This might entail offering instruction and assistance, exchanging knowledge and skills, and working together to develop novel processes.

Supplier Selection/Tendering Method And Criteria

The procurement process' crucial elements of supplier selection and the tendering technique are those that determine which suppliers or contractors will be hired to carry out the project. The choice of the best suppliers or contractors who can complete the project on schedule, within budget, and to the appropriate quality standards is crucial to the project's success (Mitchell, 2013). Choosing the appropriate suppliers or contractors that have the knowledge, experience, and capability to complete the project within the allotted timeline is crucial in the case of the offshore wind farm project (APM, 2017).

To select the right suppliers or contractors, a tendering process is adopted. A tendering process involves inviting potential suppliers or contractors to submit a proposal that outlines how they will execute the project. The proposals are then evaluated based on specific criteria to determine the best supplier or contractor for the project (Oyebode, 2022). The criteria for selecting a supplier or contractor may include experience, expertise, technical capability, financial stability, and past performance.

The following table presents an overview of the supplier selection and tendering method for the offshore wind farm project:

| |
|--|
| Supplier Selection and Tendering Method |
| Method: Open tendering |
| Process: Potential suppliers/contractors are invited to submit a proposal that outlines how they will execute the project. The proposals are evaluated based on specific criteria to determine the best supplier or contractor for the project. |
| Criteria for Supplier/Contractor Selection: |
| Technical capability and experience in executing offshore wind farm projects |
| Financial stability |
| Past performance |
| Compliance with health and safety regulations |
| Environmental management capability |
| Compliance with local content requirements |

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|--------------------------------------|
| |
| Proposed project schedule |
| Proposed project cost |
| Proposed project management approach |

The offshore wind farm project was chosen to use the open bidding process because it enables a sizable pool of possible suppliers or contractors to submit bids, increasing competition and guaranteeing that the client receives the most value for their money. The selection criteria for a supplier or contractor were carefully chosen to guarantee that the chosen supplier or contractor have the technical expertise, experience, financial stability, and adherence to pertinent rules to deliver the project successfully (Oyebode, 2022). In addition to the above criteria was ensured that the selected supplier or contractor had a good reputation in the industry and adhered to ethical business practices. The tender documents thus specified the expected ethical standards that the supplier or contractor had to adhere to, and any non-compliance would lead to disqualification from the tender process.

Reimbursement Method

Reimbursement technique describes how the client compensates the contractor for their contribution to the project. Construction projects may use a variety of reimbursement techniques, including cost reimbursement, fixed price agreements, and target cost contracts (APM, 2017). The type of contract and the particular needs of the project will determine the reimbursement method to be used. For the Offshore Wind Farm Project, the most appropriate reimbursement method is the target cost contract. This is because the client wants to achieve cost certainty before committing to the project. A target cost contract is a type of contract where the contractor

is reimbursed for their costs up to a pre-agreed target cost, plus an agreed fee (Mitchell, 2013). This reimbursement method encourages the contractor to work efficiently and control costs to maximize their fee while ensuring that the client has cost certainty.

Prior to the project's launch, the target cost will be decided upon depending on the project's specific design and scope. The client and the contractor will split any cost savings made by the contractor. The client and the contractor will split any excess costs in accordance with an agreed-upon ratio if the contractor incurs expenditures that are greater than the target cost (APM, 2017). The client will need to establish cost control procedures and set clear cost targets in order to implement the target cost contract and ensure that the contractor's expenses are properly tracked and managed (Mitchell, 2013). The contractor will also need to provide regular updates on their costs and cost-saving initiatives to ensure transparency and accountability.

The table below provides an overview of the target cost contract reimbursement method for the Offshore Wind Farm Project.

| Reimbursement Method | Target Cost Contract |
|-----------------------------|--|
| Description | Contractor reimbursed for their costs up to a pre-agreed target cost, plus an agreed fee |
| Advantages | Encourages contractor to work efficiently and control costs to maximize their fee while ensuring client cost certainty |
| Disadvantages | Contractor may be incentivized to cut corners to maximize their fee |
| Application | Appropriate for projects where cost certainty is important and where the contractor has control over costs |
| Example | Contractor's costs up to \$100 million plus an agreed-upon fee of 10% of the |

| | |
|--|-------------|
| | target cost |
|--|-------------|

In essence, the target cost contract reimbursement method is the most appropriate for the Offshore Wind Farm Project, as it provides the client with cost certainty while incentivizing the contractor to work efficiently and control costs (Kadefors et al, 2021). The client will need to establish clear cost targets and cost control procedures to ensure that the contractor's costs are accurately monitored and controlled.

Standard Form Of Contract

To ensure the Offshore Wind Farm Project's success, choosing the right standard form of contract is crucial (Zkan, Azizi, and Haass, 2021). A pre-written agreement outlining the terms and conditions that regulate the relationship between the client and the provider is referred to as a standard form of contract (APM, 2017). It is utilized to save the time and materials required to construct a fresh contract from scratch for every project. There are different standard forms of contracts that can be used for construction projects, and the most appropriate one for the Offshore Wind Farm Project will depend on the specific needs of the project. The most common forms of contracts include the Joint Contracts Tribunal (JCT), New Engineering Contract (NEC), and Institution of Civil Engineers (ICE) forms of contract (Mitchell, 2013). The table below provides a summary of the characteristics of each of these standard forms of contracts.

| Standard form of contract | Characteristics |
|---------------------------|--|
| Joint Contracts Tribunal | <ul style="list-style-type: none"> ▪ Commonly used in the construction industry for traditional procurement |

| | |
|----------------------------------|--|
| | <p>methods.</p> <ul style="list-style-type: none"> ▪ Suitable for simple, straightforward projects. ▪ Not as flexible as other forms of contract. |
| New Engineering Contract | <ul style="list-style-type: none"> ▪ Provides a flexible framework that can be adapted to different procurement methods. ▪ Emphasizes collaboration between the client, contractor, and other stakeholders. ▪ Includes a project manager who oversees the project and ensures compliance with the contract. ▪ Includes provisions for compensation events that may affect the project's cost and timeline. ▪ Suitable for complex, high-value projects. |
| Institution of Civil Engineering | <ul style="list-style-type: none"> ▪ Used for civil engineering projects. ▪ Includes provisions for unforeseen events that may affect the project's cost and timeline. ▪ Requires the contractor to meet specific performance requirements. ▪ Allows for variations in the work to be agreed upon by both parties. ▪ Suitable for complex, high-value civil engineering projects. ▪ Provides a collaborative approach that promotes teamwork between the client, contractor, and other stakeholders. |

In the Offshore Wind Farm Project, the most appropriate standard form of contract is the NEC form of contract. This form of contract provides a flexible framework that can be adapted to different procurement methods, making it suitable for the project's needs (Baily et al, 2015).

The project is complex and high-value, and the NEC form of contract includes provisions for compensation events that may affect the project's cost and timeline, which is crucial for managing the project's risks (APM, 2017). Additionally, the NEC form of contract emphasizes collaboration between the client, contractor, and other stakeholders, which is critical for the success of the Offshore Wind Farm Project (Mitchell, 2013). The project requires close collaboration between the client and the supplier to ensure that the performance specifications are met in time (Kadefors et al, 2021). The NEC form of contract also includes a project manager who oversees the project and ensures compliance.

Contract Incentives

The contract incentives for the Offshore Wind Farm Project are designed to ensure that the project is delivered on time, within budget, and to the required quality standards. The incentives are based on a combination of financial rewards and penalties, with the aim of motivating the contractor to achieve the project objectives (APM, 2017). The key contract incentives for the Offshore Wind Farm Project are outlined below:

- **Early completion incentive:** This incentive provides a financial reward to the contractor if they complete the project ahead of schedule. The reward is calculated based on the number of days the project is completed early and is designed to encourage the contractor to work efficiently and to complete the project as quickly as possible (Özkan, Azizi and Haass, 2021).
- **Performance incentive:** This incentive provides a financial reward to the contractor if they meet or exceed certain performance targets. The targets are based on a number of factors, including safety, quality, and productivity. The incentive is designed to

encourage the contractor to focus on delivering high-quality work and to meet the project objectives.

- **Penalty for late completion:** This penalty is applied if the project is completed after the agreed deadline (Oyebode, 2022). The penalty is calculated based on the number of days the project is delayed and is designed to encourage the contractor to work efficiently and to complete the project on time (Özkan, Azizi and Haass, 2021).
- **Quality incentive:** This incentive provides a financial reward to the contractor if they meet or exceed certain quality standards. The quality standards are based on a number of factors, including safety, reliability, and performance (APM, 2017). The incentive is designed to encourage the contractor to focus on delivering high-quality work and to meet the project objectives.

The table below summarizes the contract incentives for the Offshore Wind Farm Project:

| Contract Incentive | Description |
|------------------------------------|---|
| Early completion incentive | Financial reward for completing the project ahead of schedule |
| Performance incentive | Financial reward for meeting or exceeding performance targets |
| Penalty for late completion | Penalty for completing the project after the agreed deadline |
| Quality incentive | Financial reward for meeting or exceeding quality standards |

Contract incentives can be an effective tool for motivating contractors to perform to the best of their ability and for aligning the interests of the client and the contractor (Kadefors et al, 2021). However, it is important to ensure that the incentives are designed in a way that is fair and reasonable and that they do not incentivize the contractor to cut corners or to compromise on quality (APM, 2017). It is also important to monitor the incentives to ensure that they are having the desired effect and to make adjustments as necessary.

Section (III) Multi-tier dispute resolution arrangement

The process by which parties to a contract try to settle differences or conflicts that come up during the performance of the contract is known as dispute resolution. In the case of the Offshore Wind Farm Project, it is crucial to have a dispute resolution system in place to guarantee that any disagreements are settled swiftly and effectively and that the project is not hampered or hindered as a result (APM, 2017). Multi-tier dispute resolution (MDR) is a procedure that incorporates numerous stages or layers of addressing disputes or disagreements that may develop between parties to a commercial agreement (Baily et al, 2015). The main objective of MDR is to provide a cost-effective and timely method of resolving disputes while maintaining a good relationship between the parties involved (Eunson, 2012). The MDR process typically involves the following stages captured in the table below:

| Multi-tier dispute resolution Element | Description |
|--|--|
| Negotiation | Negotiation is a process of communication between parties with the aim of reaching a mutually acceptable agreement. Negotiation can be a useful strategy in managing the relationships between the client, contractors, and other stakeholders in the case study project (Baily et al., 2015). Conflicts can be settled through negotiation, as can expectations for project goals and risk management. Good communication abilities, the capacity to comprehend the demands and interests of all parties, and a willingness to make concessions in order to establish a consensus are necessary for effective negotiation |

| | |
|----------------------|---|
| | (Kadefors et al., 2021). |
| Mediation | <p>Mediation is a non-binding, confidential process that involves the appointment of an impartial third party (the mediator) to facilitate negotiations between the parties with a view to reaching a mutually acceptable settlement of the dispute. In the case of the Offshore Wind Farm Project, the multi-tier dispute resolution (MDR) arrangement includes mediation as one of the steps to be taken if negotiation fails to resolve the dispute (Eunson, 2012). In the context of the Offshore Wind Farm Project, mediation may be particularly useful given the long-term and complex nature of the project, as well as the desire to maintain ongoing relationships between the parties.</p> |
| Expert determination | <p>Expert determination is another method of dispute resolution that may be utilized in the case study project. It involves the appointment of a neutral third-party expert who is appointed to make a binding decision on the dispute. The expert is usually an individual who has extensive knowledge and experience in the field of the dispute (Eunson, 2012). For Offshore Wind Farm Project, expert determination may be used in the event of disputes related to technical or engineering issues. For example, if there is a dispute over the quality of materials used or the design of a particular component, an expert may be appointed to review the evidence and make a binding decision (Mitchell, 2013).</p> |

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|--------------|--|
| Adjudication | Adjudication is a dispute resolution method in which an independent third party, known as an adjudicator, is appointed to make a binding decision on a dispute. For the given study project, adjudication may be used if negotiation, mediation, and expert determination have failed to resolve a dispute (Eunson, 2012). Adjudication is a quicker and less formal process compared to arbitration or litigation, and the adjudicator's decision is binding and enforceable. |
| Arbitration | Arbitration is another dispute resolution method that can be used in the case of a deadlock in negotiations or mediation. It involves appointing a neutral third party (an arbitrator) who will listen to both sides of the dispute and make a legally binding decision (Mitchell, 2013). In the context of the Offshore Wind Farm Project, if the parties are unable to resolve their dispute through negotiation, mediation, or expert determination, they can opt for arbitration as a means of resolving the issue (Eunson, 2012). |

Conclusion

The Offshore Wind Farm Project is a complex and challenging project that requires a well-planned and executed contracting strategy. The project's success depends on the procurement strategy and delivery model selected, and the DB strategy was thought to be appropriate given the project's nature and the long-term investment needed. The success of the project depends heavily on the buyer-supplier commercial connection, so the project's goals were

carefully evaluated and chosen when choosing the supplier selection and tendering criteria, as well as the reimbursement method (APM, 2017). The standard form of contract is also essential in ensuring that the rights and responsibilities of all parties involved are clearly defined and that the risks are allocated in a fair and balanced manner. Additionally, the contract incentives provide motivation for the supplier to deliver the project on time, within budget, and to the required quality. Finally, the multi-tier dispute resolution arrangement, including negotiation, mediation, expert determination, adjudication, and arbitration, provides a structured approach to resolving disputes that may arise during the project's implementation.

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