



DiMAP 2022
DISPUTE MANAGEMENT IN AFRICA INFRASTRUCTURE PROJECTS

 **The Lancaster Accra**
 **31st October - 1st November, 2022**

DISPUTE MANAGEMENT IN AFRICA INFRASTRUCTURE PROJECTS (DiMAP) 2022
ACCRA, GHANA

CASE STUDY FOR BREAK-OUT SESSION (POWER AND RENEWABLE ENERGIES)

Introduction:

The Republic of Ghana enjoys a triple-A rating in the rankings of the major credit rating agencies (S&P, Moodys, Fitch, etc). Inspired by its sterling economic performance, its government considers that this is the right time to begin to implement its obligation under the United Nations Framework Convention on Climate Change (“the Paris Agreement”). As part of measures to achieve this, the government has launched its “Integrated Net Zero Energy for Ghana” (INEZ-4G). INEZ-4G is an integrated power project that will accumulate power from several zero carbon emission sources, comprising: (a) two offshore wind farms, (b) a hydro power plant and (c) thirty solar farm, all located in different parts of the country. INEZ-4G is managed and supervised directly by the Ghana Ministry of Energy (GMoE).

1) Risk Allocation:

On 31 October 2022, after a competitive bid process, the GMoE decides to award the contract for the Engineering, Procurement and Construction of the hydro power plant to HydroStar of South Korea (HSSK). Although HSSK is well known in East Asia, it has never done any project in Africa, and, having presented the winning bid for the project, it is very anxious to get along with the works. During the

negotiations in respect of the detailed contract terms, the representatives of GMoE and HSSK have identified the following risks that the hydro plant construction project will probably encounter:

- i) Adverse geological conditions
- ii) Labour strikes
- iii) New technology
- iv) Changes in laws and regulations
- v) Delays in permit approvals
- vi) Land acquisition problems

Exercise:

In relation to each risk listed above, participants in the Employer (GMoE) and Contractor (HSSK) groups are to discuss:

- i) What position they will take as to who (GMoE or HSSK) should bear the risk.
- ii) If they consider that the other party should bear the risk, what reasons they will advance to persuade the other party to accept the risk.
- iii) If the risk ultimately falls on them, what steps they will take to mitigate the potential impacts of the risk.

2) Dispute Management:

The GMoE has also awarded the contract for the design, fabrication and installation of the offshore wind farm to Iberian WindEnergy (IWS) of Spain, who also enjoys a triple-A credit rating. The relevant provisions of the agreement between GMoE and IWS are contained in three documents, namely: (1) the Employer's Requirements; (2) the Conditions of Contract and (3) the Ghana Infrastructure Regulatory Authority's (GIRA's) Standards for the Design of Offshore Wind Turbines ("the StanDOWT")— See Appendix 1.

In particular, while the Technical Requirements document provides that:

"The design of the structures addressed by this Design Basis shall ensure a lifetime of 20 years in every aspect without planned replacement. The choice of structure, materials, corrosion protection system operation and inspection programme shall be made accordingly",

it also provide that:

"IWS shall prepare the detailed design of the foundations in accordance with the Ghana Infrastructure Regulatory Authority's Standards for the Design of Offshore Wind Turbines" ("the StanDOWT").

Paragraph 4 of the StanDOWT provides that:

"In determining whether the grouted connections have sufficient axial capacity to take the axial load, the designer may assume that the height of surface irregularities is 0.090999 Rp for rolled steel surfaces".

IWS proceeded with the design and construction of the two wind farms (“the Works”). It produced a detailed design for the grouted connections, which did not include shear keys. It had decided to omit shear keys from the design based on the Ghana Infrastructure Regulatory Authority (the GIRA)’s statement in paragraph 4 of the StanDOWT quoted above. On the basis that such statement was correct, the grouted connections, as designed, would have more than sufficient axial capacity to take the axial load.

Pursuant to the Agreement, IWS appointed the GIRA, an agency of the government of Ghana, as the Certifying Authority to evaluate and approve the foundation designs. The GIRA evaluated and approved the foundation designs and issued Foundation Design Evaluation Conformity Statements for the various phases of the works. IWS then began the installation of foundations for the two Wind Farms and completed the works.

Shortly after the completion of the works, the grouted connections started to fail, and the transition pieces started to slip down the monopiles. It became necessary to do remedial works valued at US\$25 million. The GIRA had also done a re-assessment of its StanDOWT, and had found that the information provided at paragraph 4 of the StanDOWT was wrong, with the result that the axial capacity of the grouted connections in the wind farm foundations had been substantially over-estimated. If the remedial works were not done quickly, both wind farms would be lost completely. The value of the two wind farms on completion was US\$2 billion.

The GMoE insists that IWS must perform immediate remedial works at its own cost, but IWS disagrees.

Exercise:

Participants in the Employer group (GMoE) and the Contractor group (IWS) should discuss, from their respective standpoints, what measures each group may take to best manage the dispute that has arisen. In particular:

- (a) What are the available dispute management options?
- (b) What practical measures may best achieve the identified options?

3) Dispute Resolution:

The GMoE has commenced arbitration against IWS under the rules of the Ghana Arbitration Centre (attached). It happens that the the design of the foundations (including the grouted connections) had been done by Gibraltar Foundations (GF), another Spanish construction company, to whom IWS had sub-contracted the design. The arbitration clause in the sub-contract agreement between IWS and GF is identical to the arbitration clause in the Conditions of Contract between GMoE and IWS. IWS wants to protect against the risk that it may be found liable to GMoE. If such event were to arise, it desires that there should be a simultaneous determination that GF is liable to it in negligence and/or breach of contract. It therefore seeks to join GF to the arbitration commenced by GMoE.

Exercise:

From the perspective of the group they represent, i.e., Employer (GMoE) or Contractor (IWS), participants should discuss:

- (a) Their position on whether GF may be joined in the arbitration between GMoE and IWS, and the arguments which support their position.
- (b) Their position on whether IWS is liable to GMoE, and the arguments which support their position.

APPENDIX

DOCUMENT 1 – EMPLOYER’S (GMoE’s) REQUIREMENTS

Technical Requirements:

1. General Description of Works and Scope of Supply

- 1.6. The Works, together with the interfaces, shall be designed to withstand the full range of operational and environmental conditions with minimal maintenance.

The Works elements shall be designed for a minimum site specific ‘design life’ of twenty (20) years without major retrofits or refurbishments; all elements shall be designed to operate safely and reliably in the environmental conditions that exist on the site for at least this lifetime.

2. Design Basis (Wind Turbine Foundations)

2.1. Introduction:

- (i) It is stressed that the requirements contained in this section and the environmental conditions given are the MINIMUM requirements of GMoE to be taken into account in the design.
- (ii) It shall be the responsibility of IWS to identify any areas where the works need to be designed to any additional or more rigorous requirements or parameters

2.2 Design Principles:

- (i) IWS shall prepare the detailed design of the foundations in accordance with the Ghana Infrastructure Regulatory Authority’s (GIRA’s) Standards for the Design of Offshore Wind Turbines (“the StanDOWT”).
- (ii) The design of the foundations shall ensure a lifetime of 20 years in every aspect without planned replacement. The choice of structure, materials, corrosion protection system operation and inspection programme shall be made accordingly.
- (iii) IWS shall design and construct grouted connections in accordance with .
- (iv) IWS shall determine whether to employ shear keys within the grouted connection.

2.3. Design Basis:

- (i) The design of the structures addressed by this Design Basis shall ensure a lifetime of 20 years in every aspect without planned replacement. The choice of structure, materials, corrosion protection system operation and inspection programme shall be made accordingly

DOCUMENT 2 – THE CONDITIONS OF CONTRACT FOR THE DESIGN, FABRICATION AND INSTALLATION OF OFFSHORE WIND FARMS (“THE CONDITIONS OF CONTRACT”):

1. Definitions.

“Fit for Purpose” means fitness for purpose in accordance with, and as can properly be inferred from, the Employer’s Requirements.

“Employer’s Requirements” includes the Technical Requirements attached as Part I of this Contract.

“Good Industry Practice” means those standards, practices, methods and procedures conforming to all Legal Requirements to be performed with the exercise of skill, diligence, prudence and foresight that can ordinarily and reasonably be expected from a fully skilled contractor who is engaged in a similar type of undertaking or task in similar circumstances in a manner consistent with recognised international standards.

2. In the event of inconsistencies, the order of precedence of the contractual documents should be as follows:

- (a) the form of agreement;
- (b) the Conditions of Contract and the List of Definitions;
- (c) the commercial schedules and the schedule of prices, payment profile and draft programme;
- (d) the Employer’s Requirements;
- (e) the annexes to the Employer’s Requirements;
- (f) volumes 2A, 2B and 3 of the contractor’s tender return.

3. In accordance with this Agreement, IWT shall design, manufacture, test, deliver and install and complete the Works:

- (a) in a professional manner in accordance with modern commercial and engineering, design, project management and supervisory principles and practices and in accordance with internationally recognised standards and Good Industry Practice; ...
- (b) so that the Works, when completed, comply with the requirements of this Agreement ...

- (c) so that [MTH] shall comply at all times with all Legal Requirements and the standards of Good Industry Practice;
- (d) so that each item of Plant and the Works as a whole shall be free from defective workmanship and materials and fit for its purpose as determined in accordance with the Specification using Good Industry Practice;
- (e) so that the design of the Works and the Works when Completed by [MTH] shall be wholly in accordance with this Agreement and shall satisfy any performance specifications or requirements of the Employer as set out in this Agreement. ...

4. Defects after taking over:

4.1. IWT shall be responsible for making good any defect or damage arising from defective materials, workmanship or design, any breach by IWT of its obligations under this Agreement or Works not being Fit for Purpose, which may appear or occur before or during the Defects Liability Period.

4.2. The Defects Liability Period is a period of 24 months from the date GMoE takes over the Works from IWT.

4.3. GMoE shall give notice forthwith of any such defects to IWT.

4.4. GMoE shall provide IWS with a Defects Liability Certificate once the Defects Liability Period has expired and IWS has satisfied all its obligations under this clause.

5. Dispute resolution:

Any dispute, controversy, claim or interpretation arising out of or relating to this contract, or the breach of this contract, shall be finally settled by arbitration under the auspices and Rules of the Ghana Arbitration Centre by one or more arbitrators appointed in accordance with the Rules of the Ghana Arbitration Centre

DOCUMENT 3 - GHANA INFRASTRUCTURE REGULATORY AUTHORITY'S STANDARDS FOR THE DESIGN OF OFFSHORE WIND TURBINES ("THE STANDOWT").

1. An objective of StanDOWT is to provide an internationally acceptable level of safety by defining minimum requirements for structures and structural components.
2. StanDOWT is a contractual reference document and a guideline.
3. The design fatigue life for structural components should be based on the specified service life of the structure. If a service life is not specified, 20 years should be used.

Design and construction of grouted connections:

4. In determining whether the grouted connections have sufficient axial capacity to take the axial load, the designer may assume that the height of surface irregularities is 0.090999 Rp for rolled steel surfaces.