

# Offshore Wind Farm Baltica-2

## Invitation to Tender

### • Offshore Wind Farm Baltica-2:

### Expert Company for Grid Tests and Power Quality Measurements

# Agenda

- Invitation to Tender
- Offshore Wind Farm Baltica-2 – project description
- Scope of Work:
  - Test documentation and Contractor's responsibility
  - Test execution
  - Master Document Register
  - Tender & Contract Schedule

# Invitation to Tender

➤ Invitation to Tender:

The Contracting Entity [Elektrowania Wiatrowa Baltica-2 Sp. z o.o.] hereby invites you to participate in the Tender under the Directive 2014/25/EU and General rules and the description of internal procurement guidelines on the tender procedures of Integrated Project Team EWB-2 conducted in the mode of Negotiated procedure with prior call for competition

➤ The Contracting Entity:

Elektrownia Wiatrowa Baltica 2 – spółka z ograniczoną odpowiedzialnością with its registered office in Warsaw, (00-542) Mokotowska 49 St., entered into the Register of Entrepreneurs of the National Court Register held by the District Court in Warsaw, XII Commercial Division of the National Court Register under KRS number: 0000393178, with Tax Identification Number (NIP): 5272664722, REGON: 143426969

➤ Procurement System:

The Tender Documentation with attachments has been made available in the SWPP2 Procurement System at: <https://swpp2.gkpge.pl> in the folder regarding the procedure in question.

➤ Master Document Register:

The Tender Documentation is defined in the Master Document Register:

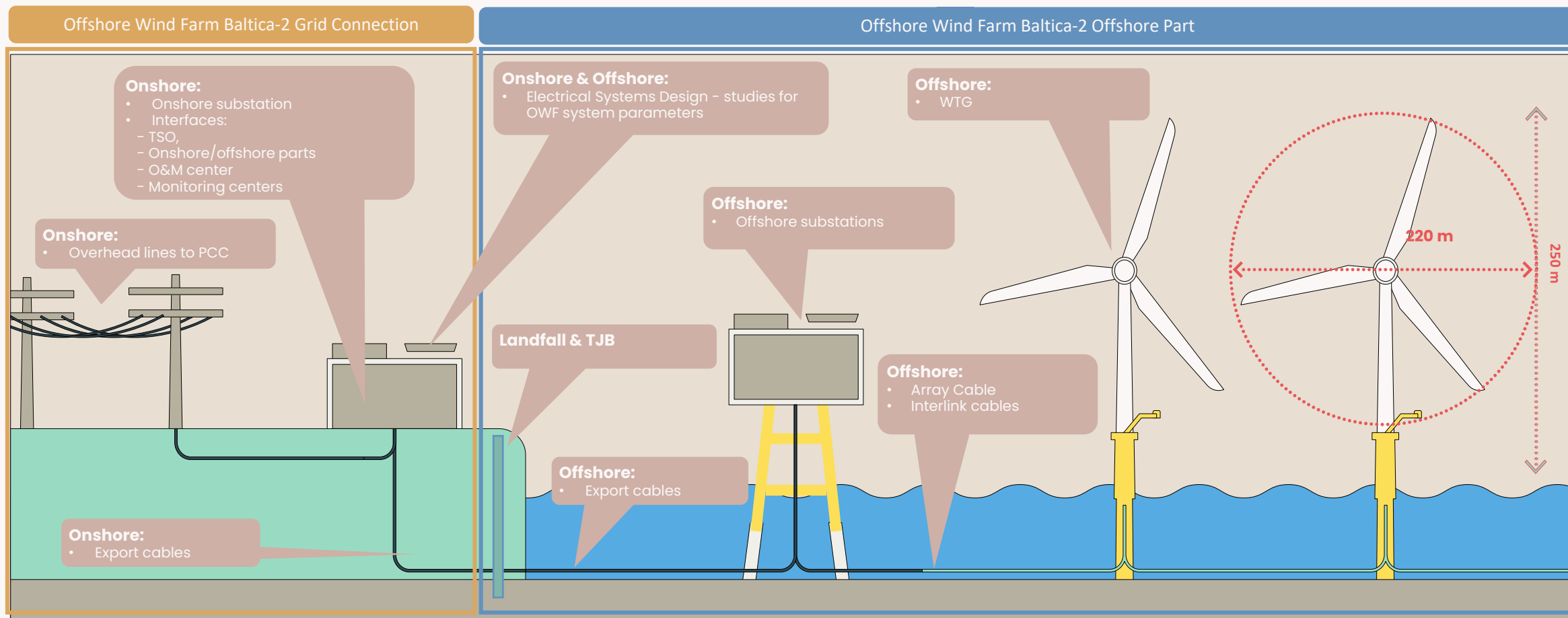
- Folder A: publicly available in the SWPP2 Procurement System
- Folder B & C: necessary to sign the non-disclosure agreement [NI. Appendix no 1 - NDA]

➤ Contact Persons:

- Jan Kowalczyk: [Jan.Kowalczyk@gkpge.pl](mailto:Jan.Kowalczyk@gkpge.pl)
- Sylwester Mielcarek: [Sylwester.Mielcarek@gkpge.pl](mailto:Sylwester.Mielcarek@gkpge.pl)

# Offshore Wind Farm Baltica-2

- Developed jointly by PGE & Ørsted



# OWF Baltica-2

- Basic parameters

## Offshore Wind Farm Baltica-2

Divided into:

- Offshore Part
- Grid Connection

Parameters	Values
Power	<ul style="list-style-type: none"><li>• 1.5 GW</li></ul>
Turbines	<ul style="list-style-type: none"><li>• 107</li></ul>
Location	<ul style="list-style-type: none"><li>• Baltic Sea</li></ul>
PCC	<ul style="list-style-type: none"><li>• Choczewo PSE substation (Poland)</li></ul>
O&M center	<ul style="list-style-type: none"><li>• Ustka (Poland)</li></ul>
Surface	<ul style="list-style-type: none"><li>• 190 sq. km</li></ul>
Distance to shore	<ul style="list-style-type: none"><li>• 40 km</li></ul>

## Offshore Wind Farm Baltica-2 Grid Connection

Divided into:

- Onshore Substation
- Onshore export cable systems
- Overhead lines

Parameters	Values
Substation	<ul style="list-style-type: none"><li>• 400/275/15 kV</li></ul>
Export cables	<ul style="list-style-type: none"><li>• 4 x 275 kV</li></ul>
Overhead lines	<ul style="list-style-type: none"><li>• 2 x 400 kV</li></ul>
Substation location	<ul style="list-style-type: none"><li>• Choczewo (Poland)</li></ul>

# Scope of Work

Broken down into:

- Test documentation
- Test execution

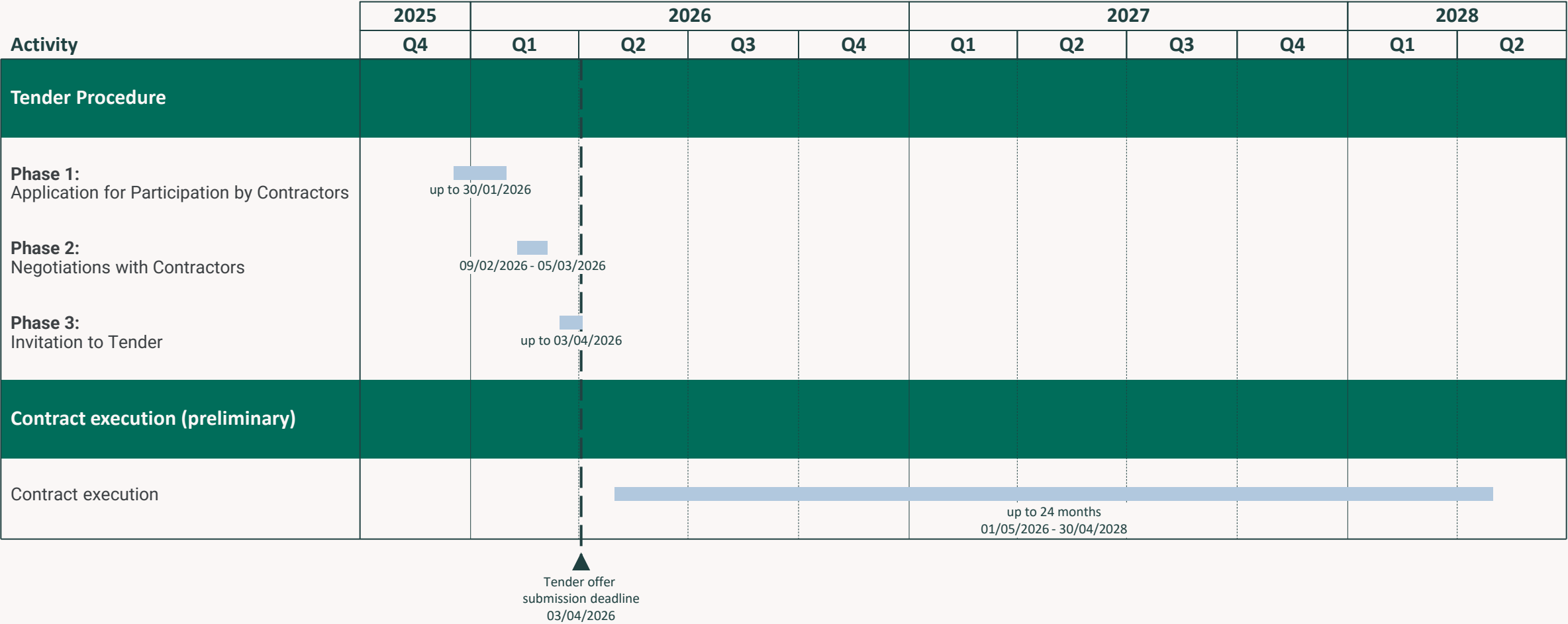
Grid Compliance Tests	Grid Verification Tests	Power Quality Measurements
Active power control range - Maximum capacity Pmax	Operator interface	Measurement stages: back-ground and at the different levels of power generation, for the following parameters, i.a.: <ul style="list-style-type: none"><li>• Rapid voltage change,</li><li>• Flicker emission,</li><li>• Voltage harmonics,</li><li>• Voltage total harmonic distortion,</li><li>• Voltage unbalance factor.</li></ul>
Active power control range - Minimum stable operating level Pmin	EB - Balancing Energy	
Limited frequency sensitive mode - Overfrequency (LFSM-O) response	Balancing power – frequency containment reserve (FCR)	
Limited frequency sensitive mode - Underfrequency (LFSM-U) response	Balancing power – automatic frequency restoration reserve (aFRR)	
Frequency sensitive mode (FSM) response	Balancing power – manual frequency restoration directly activated (mFRR)	
Active power controllability	Balancing power – replacement reserve (RR)	Other tests required by the TSO
Reactive power capability	ARNE Acceptance Tests	
Voltage control mode		
Reactive power control mode		
Power factor control mode		
Island operation		
	Acceptance tests of ARNE OWF Baltica-2 system, cooperating with the superior TSO voltage regulation systems.	Connection active power verification
		Other tests required by the TSO during tests execution to confirm the compliance of OWF Batlica-2 with TSO’s requirements

Type of test	Test Program	Test execution	Test Protocols and Reports
Grid Compliance Tests ARNE Acceptance Tests	<ul style="list-style-type: none"><li>• review &amp; approval of test program developed by the Employer</li><li>• support in preparation and TSO’s approval process</li></ul>	<ul style="list-style-type: none"><li>• witness</li></ul>	<ul style="list-style-type: none"><li>• review and confirmation of the compliance with the applicable requirements</li></ul>
Grid Verification Tests	<ul style="list-style-type: none"><li>• development of test program</li><li>• approval of test program with the Contracting Entity and TSO</li></ul>	<ul style="list-style-type: none"><li>• witness</li></ul>	<ul style="list-style-type: none"><li>• development and confirmation of the compliance with the applicable requirements</li></ul>
Power Quality Measurements	<ul style="list-style-type: none"><li>• review &amp; approval of test program developed by the Employer</li><li>• support in preparation and TSO’s approval process</li></ul>	<ul style="list-style-type: none"><li>• witness</li></ul>	<ul style="list-style-type: none"><li>• review and confirmation of the compliance with the applicable requirements</li></ul>
Optional scope: <ul style="list-style-type: none"><li>• Pre-tests</li><li>• Test Repetitions</li><li>• Additional Tests</li></ul>	<ul style="list-style-type: none"><li>• review &amp; approval of test program developed by the Employer</li><li>• support in preparation and TSO’s approval process</li></ul>	<ul style="list-style-type: none"><li>• witness</li></ul>	<ul style="list-style-type: none"><li>• review and confirmation of the compliance with the applicable requirements</li></ul>

# Master Document Register

Folder A. Request for proposals - Tender conditions, tender forms, rates, prices			
		N00. Appendix no 00 - OWF Baltica-2 Expert Company – Invitation ( <i>this document</i> )	ENG
		N0. Appendix no 0 - DNR	ENG
		N0. Appendix no 0 - OPIW	PL
		N1. Appendix no 1- NDA	ENG/PL
		N2. Appendix no 2 - Entry Requirements and Conditions	ENG/PL
		N3. Appendix no 3 - Required documents	ENG/PL
		Master Document Register	ENG/PL
Folder B. Contract documents - agreement, schedules, annexes			
		B0. Contract	ENG/PL
		B1. Appendix no 1 - Not Applicable	ENG/PL
		B2. Appendix no 2 - Schedule of Payments	ENG/PL
		B3. Appendix no 3 - Schedule of Rates and Prices	ENG/PL
		B4. Appendix no 4 - Not Applicable	ENG/PL
		B5. Appendix no 5 -Named Personnel	ENG/PL
		B6. Appendix no 6 - Relevant Contract Data	ENG/PL
		B7. Appendix no 7 - Not Applicable	ENG/PL
		B8. Appendix no 8 - Not Applicable	ENG/PL
		B9. Appendix no 9 - Not Applicable	ENG/PL
		B10. Appendix no 10 - Representation for VAT invoices	ENG/PL
		B11. Appendix no 11 - Insurance	ENG/PL
		B12. Appendix no 12 - Code of Conduct	ENG/PL
		B13. Appendix no 13 - Not Applicable	ENG/PL
		B14. Appendix no 14 – Comment sheet	ENG/PL
		B15. Appendix no 15 – Not Applicable	ENG/PL
		B16. Appendix no 16 - Price adjustment	ENG/PL
		B17. Appendix no 17 - Not Applicable	ENG/PL
		B18. Appendix no 18 - Not Applicable	ENG/PL
		B19. Appendix no 19 - Representation for tax purposes	ENG/PL
		B20. Appendix no 20 - Personal Data Processing Agreement	ENG/PL
		B21. Appendix no 21 - Not Applicable	ENG/PL
		B22. Appendix no 22- Subcontractors engaged by the Contractor	ENG/PL
		B23. Appendix no 23- Template of payment certificate	ENG/PL
Folder C. Employer requirements - SoW, HSEQ requirements, permits, consents, management			
		C1. Scope of Work	ENG
		C1. Appendix to SoW no 1 – Test Program Draft (an example)	ENG
		C1. Appendix to SoW no 2 - Single-line diagram of OWF Baltica-2	ENG
		C1. Appendix to SoW no 3 - Contractor's personnel time sheet	ENG

# Tender & Contract Schedule\*



\*presented schedule is preliminary and subject to change by the Contracting Authority.



Thank you for your attention

