Scenario 5

Fully Costed Contract Bid Scenario: 25 MW Offshore Wind Power Purchase Agreement (PPA)

Overview

This contract bid scenario is for the design, build, and implementation of a 25 MW offshore wind project in Scotland under a 15-year Power Purchase Agreement (PPA). The project requires a minimum contracted capacity of 95%, with the Consumer Price Index (CPI) used to measure price inflation. Bidders must present a comprehensive proposal including technical plans, cost breakdowns, and timelines for implementation. The project must comply with all relevant regulatory requirements and industry standards.

Project Description

        •       Project Name: 25 MW Offshore Wind Project
        •       Location: Offshore, Scotland
        •       Capacity: 25 MW
        •       Contract Duration: 15 years (PPA)
        •       Minimum Contracted Capacity: 95%
        •       Bid Submission Deadline: [Specify the date]
        •       Contact Information: [Contact details for bid submission and inquiries]

Scope of Work

        1.      Design Phase:
        •       Conduct site assessment, marine surveys, and wind resource analysis.
        •       Design the offshore wind farm layout, including turbine placement.
        •       Obtain necessary permits and approvals from Scottish and UK authorities.
        •       Develop grid connection and subsea cable routing plans.
        2.      Build Phase:
        •       Procure and install offshore wind turbines and foundations.
        •       Install subsea cables, offshore substation, and grid connection infrastructure.
        •       Establish access routes for installation and maintenance vessels.
        •       Conduct commissioning and testing.
        3.      Implementation Phase:
        •       Operate and maintain the offshore wind farm.
        •       Ensure continuous energy generation and delivery to the grid at 95% capacity or higher.
        •       Provide regular maintenance and repairs, including underwater inspections.
        •       Comply with environmental, health, and safety regulations.

Cost Breakdown

        1.      Design Phase Costs:
        •       Site Assessment and Marine Surveys: $2,000,000
        •       Design and Engineering: $3,000,000
        •       Permitting and Legal Fees: $1,000,000
        •       Grid Connection Planning: $1,500,000
        •       Total Design Phase Costs: $7,500,000
        2.      Build Phase Costs:
        •       Wind Turbines: $1,500,000 per MW x 25 MW = $37,500,000
        •       Turbine Transport and Installation: $7,000,000
        •       Foundations and Installation: $10,000,000
        •       Subsea Cables and Offshore Substation: $15,000,000
        •       Commissioning and Testing: $3,000,000
        •       Total Build Phase Costs: $72,500,000
        3.      Implementation Phase Costs (15 years):
        •       Operation and Maintenance (O&M) Annual Cost: $2,500,000
        •       Total O&M Cost for 15 Years: $2,500,000 x 15 = $37,500,000
        4.      Financing Costs:
        •       Interest During Construction: $4,000,000
        •       Debt Service Costs: $5,000,000
        •       Total Financing Costs: $9,000,000
        5.      Contingency:
        •       Design and Build Contingency (10%): $8,000,000
        6.      Total Project Cost:
        •       Sum of All Costs: $7,500,000 (Design) + $72,500,000 (Build) + $37,500,000 (O&M) + $9,000,000 (Financing) + $8,000,000 (Contingency)
        •       Total Project Cost: $134,500,000

Financial Proposal

        1.      Proposed PPA Price:
        •       Initial PPA Price: £ XXXXX MWh (base year)
        •       Price Adjustment: PPA price to be adjusted annually based on CPI to account for inflation.
        2.      Annual Energy Production Estimate:
        •       Capacity: 25 MW x 24 hours/day x 365 days/year x 0.45 (offshore capacity factor) = 98,550 MWh/year
        3.      Annual Revenue:
        •       Year 1 Revenue: 98,550 MWh/year x $85/MWh = $8,376,750
        •       15-Year Revenue: Assuming 2% average annual CPI increase:
        •       Total Revenue Over 15 Years ≈ $8,376,750 (Year 1) increasing annually by CPI.
        4.      ROI and Payback Period:
        •       15-Year Revenue (approximate, adjusted for CPI): $150,000,000 - $160,000,000
        •       Payback Period: Estimated 12-13 years, depending on actual CPI and operational efficiencies.

Bid Requirements

        1.      Technical Proposal:
        •       Detailed project plan and timeline.
        •       Marine and wind resource assessments.
        •       Design specifications and technology used.
        •       Engineering, procurement, and construction (EPC) plan.
        •       Operation and maintenance (O&M) strategy.
        2.      Financial Proposal:
        •       Total project cost breakdown (design, construction, operation).
        •       Proposed PPA price per MWh and annual CPI adjustment method.
        •       Financing plan and sources of funding.
        •       Expected return on investment (ROI) and payback period.
        3.      Experience and Qualifications:
        •       Company profile and relevant experience.
        •       Examples of similar completed projects, especially offshore.
        •       Resumes of key personnel.
        •       Partnerships with turbine manufacturers and other subcontractors.
        4.      Compliance and Risk Management:
        •       Plan for obtaining permits and regulatory approvals.
        •       Environmental impact assessment and mitigation measures.
        •       Risk management strategy.
        •       Health and safety plan, with a focus on offshore operations.

Evaluation Criteria

        •       Technical Feasibility: Quality and robustness of the technical proposal.
        •       Financial Viability: Cost-effectiveness and financial stability, including CPI adjustment strategy.
        •       Experience and Expertise: Proven track record in offshore wind projects.
        •       Compliance and Risk Management: Adherence to regulations and risk mitigation.
        •       Innovation and Sustainability: Use of advanced technology and sustainable practices.

Submission Instructions

        •       Submit proposals electronically via [submission platform/email] by [deadline date].
        •       Include all required documents and supporting materials.
        •       Proposals must be in PDF format, clearly labeled with the bidder’s name and project title.

Contact for Questions

        •       Name: [Contact Person]
        •       Phone: [Contact Number]
        •       Email: [Contact Email]

Key Dates

        •       RFP Release Date: [Release Date]
        •       Bid Submission Deadline: [Deadline Date]
        •       Evaluation Period: [Evaluation Start Date] to [Evaluation End Date]
        •       Award Notification: [Award Notification Date]
        •       Project Start Date: [Project Start Date]

This scenario outlines a detailed and fully costed bid for the design, build, and implementation of a 25 MW offshore wind project in Scotland. The bid includes a financial proposal with a CPI-adjusted PPA price to address inflation over the 15-year term. Bidders should ensure their proposals are comprehensive and aligned with the specified requirements to be considered for the contract.