

TECHNICAL

PART 7 - Maintenance Services. Tenderers should note that Section 01 93 00 (*Maintenance Services*) of the Employer's Requirements requires the Contractor to prepare and submit maintenance data and procedures with a complete and concise depiction of the provided Plant and Materials (equipment, product, component, or system), addressing and emphasizing the importance of system interactions, troubleshooting, and long-term preventive maintenance. The Contractor shall organize and present information in sufficient detail to clearly explain maintenance requirements at the system, equipment, component, and subassembly levels.

A. Maintenance and Repair Staff for Three Years. This is included in the subject of Provisional Sum No.5 and Provisional Sum No.6 as stated in the Schedule of Project Elements and Prices included in Part 9 Volume 5. Considering the requirements identified in paragraph 1.03.C. of Section 01 93 00 (*Maintenance Services*) of the Employer's Requirements, the Tenderer shall provide:

1. The proposed organization for the performance of all maintenance and repair activities for the lock complexes. The organization shall identify all labor force and supervisory positions the Tenderer visualizes as being necessary to support the maintenance of the Plant identified in the preliminary design.
2. A description for each position and responsibilities identified within the organization. The proposal shall identify qualifications required in the maintenance and repair of locks, including controls, operating machinery and the level of training required.

The narrative content of this subsection is not to exceed 1,800 words or three pages, whichever is less. Organizational charts shall be done on no more than two 11 by 17 inch sheets.

B. Maintenance Documentation Package. Considering the requirements identified in paragraph 1.03.B. of Section 01 93 00 (*Maintenance Services*) of the Employer's Requirements, the Tenderer shall provide a plan for development of the maintenance documentation package. This plan shall include, as a minimum, an outline of the maintenance documentation package and the maintenance manual. If this task is to be subcontracted, the Contractor shall submit documentation of the proven experience and capacity of the Subcontractor. The plan narrative shall be presented in no more than 1,800 words or three pages, whichever is less.

C. Transition Plan for Maintenance and Repair. This is included in the subject of Provisional Sum No.5 and Provisional Sum No.6 as stated in the Schedule of Project Elements and Prices included in Part 9 Volume 5. Considering the requirements identified in paragraph 1.04.B. of Section 01 93 00 (*Maintenance Services*) of the Employer's Requirements, the Tenderer shall provide a narrative that describes the approach and programme to be implemented by the maintenance and repair trades in their transition from performing all maintenance and repair work to having the Employer's staff fully trained and independently working under Contractor supervision within the 3 year period following the issuance of the Taking-Over Certificate.^{A16} The plan shall address the general progression from performing all maintenance and repair work through training the Employer's Personnel in maintenance and repair procedures, and ultimately being released from the maintenance and repair function. The plan narrative shall be presented in no more than 1,800 words or three pages, whichever is less.

D. Projected Total Cost of Ownership Analysis: Given that Tenderers are required to provide designs that ensure durability without loss of functionality throughout the required design life and

reduce Operations and maintenance requirements to the lowest practical level in terms of required outages, and maintenance and repair costs. Tenderers shall provide a projected total cost of ownership analysis (excluding manpower) for the Works, including, but not limited to, servicing, power and lubricants consumption, and Plant (equipment) replacement costs for a minimum of 25 years after Taking-Over Certificate is issued. The plan narrative shall be presented in no more than 3,000 words or five pages, whichever is less.

END OF SECTION