

JAPAN INTERNATIONAL COOPERATION AGENCY
MINISTRY OF ECONOMY AND BUDGET PLANNING
ASTANA CITY GOVERNMENT
CAPITAL DEVELOPMENT CORPORATION

THE DETAILED DESIGN STUDY
OF
THE WATER SUPPLY AND SEWERAGE SYSTEM
FOR
ASTANA CITY
IN
THE REPUBLIC OF KAZAKHSTAN

ASTANA WATER SUPPLY AND SEWERAGE PROJECT
(DRAFT) TENDER DOCUMENTS

VOLUME 1
INSTRUCTION FOR BIDDING

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NJS CONSULTANTS CO., LTD.
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THE ASTANA WATER SUPPLY AND SEWERAGE PROJECT

BIDDING DOCUMENTS FOR CONTRACT CP-1:

CONSTRUCTION OF WATER SUPPLY AND SEWERAGE FACILITIES

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Date: (of Issuance of Invitation)

Loan No.: KAZ-P5

Contract No.: CP-1

- 1

5. A complete set of bidding documents may be purchased by interested eligible bidders on submission of a written application to the above office, and upon payment of a nonrefundable fee of _____ *[insert amount and currency]*.
6. All bids must be accompanied by a security of three million (3,000,000) United States Dollars or an equivalent amount in a freely convertible currency, and must be delivered to _____ *[indicate address and exact location]* at or before _____ *[hours]* on _____ *[date]*. Bids will be opened immediately thereafter in the presence of bidders' representatives who choose to attend.
7. The estimated date of award is *[indicate date]*.

SECTION 1.

INSTRUCTIONS TO BIDDERS

SECTION 1 – INSTRUCTIONS TO BIDDERS

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SECTION 1. INSTRUCTIONS TO BIDDERS

A. GENERAL

1.Scope of Bid

- 1.1 The ASTANA City Government (AKIMAT) of Republic of Kazakhstan, hereinafter referred to as the “Employer”, wishes to receive bids for the construction and completion of the Contract CP-1: Construction of Water Supply and Sewerage Facilities for ASTANA Water Supply and Sewerage Project of as defined in these bidding documents, hereinafter referred to as the “Works”.
- The Works will be composed of the followings;
- (a) Construction of new raw water Intake facility with capacity 210,000 m³/day;
 - (b) Construction of new water purification plant with 100,000 m³/day;
 - (c) Supply and laying of water distribution main pipeline with ND 1,000 mm and 5.6 km in length;
 - (d) Supply and laying of water distribution pipelines in total about 100 km;
 - (e) Supply and installation of water meter for 153,900 units;
 - (f) Rehabilitation works on waste water treatment plant with 136,000 m³/day;
 - (g) Rehabilitation works on 17 sewage pumping stations of structures and replacement of equipment;
 - (h) Rehabilitation works on manholes at 5300 places;
 - (i) Supply and installation of sewage pressured pipelines in ND 100 to 800 mm and about 21 km in length; and
 - (j) Supply and installation of operation and maintenance equipment.
- 1.2 The successful bidder will be expected to complete the Works within one thousand two hundred and sixty (1260) days from the date of commencement of the Works.

2. Source of Funds

- 2.1 The Government of the Republic of Kazakhstan has received an ODA Loan from JAPAN BANK FOR INTERNATIONAL COOPERATION, here in after referred to as “JBIC”, in the amount of twenty one billion three hundred and sixty one million (21,361,000,000) Yen toward the cost of Astana Water Supply and Sewerage Project agreed and signed on July 8, 2003 and intends to apply a portion of the proceeds of the loan to payments under this contract. Disbursement of an ODA Loan by JBIC will be subject, in all respects, to the terms and conditions of the Loan Agreement, including the disbursement procedures and the “Guidelines for Procurement under JBIC ODA Loans”. No party other than Government of the Republic of Kazakhstan shall derive any rights from the Loan Agreement or have any claim to loan proceeds. The above Loan Agreement will cover only a part of the project cost. As for the remaining portion, Government of the Republic of Kazakhstan will take appropriate measures for finance.
- 2.2 JBIC requires that bidders and contractors, as well as ASTANA City Government (AKIMAT), under contracts funded with JBIC ODA Loans and other Japanese ODA, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, JBIC;
- (a) will reject a proposal for award if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
 - (b) will recognize a contractor as ineligible, for a period determined by JBIC, to be awarded a contract funded with JBIC ODA Loans if it at any times determines that the contractor has engaged in corrupt or fraudulent practices in competing for, or in executing, another

contract funded with JBIC ODA Loans or other Japanese ODA.

3. Eligible Bidders

- 3.1 This Invitation to Bid is open to prequalified bidders meeting both of the following requirements:
- (a) a bidder (including all members of a joint venture) shall be from an eligible source country as listed in Section 5; and
 - (b) a bidder (including all members of a joint venture) shall not be one of the following:
 - (i) A firm or an organization which has been engaged by the Employer to provide consulting services for the preparation related to procurement for or implementation of this project;
 - (ii) Any association/affiliates (inclusive of parent firm) of a firm or an organization mentioned in subparagraph (i) above; or
 - (iii) A firm or an organization who lends, or temporarily seconds its personnel to firms or organizations which are engaged in consulting services for the preparation related to procurement for or implementation of the project, if the personnel would be involved in any capacity on the same project.
 - (c) a bidder or a leading partner in a joint venture shall have a license for construction activities in the Republic of Kazakhstan
- 3.2 Bidders shall provide such evidence of their eligibility satisfactory to the Employer as the Employer shall reasonably request.

4. Qualification of the Bidder

- 4.1 To be qualified for award of Contract, bidders shall:
- (a) submit a written power of attorney authorizing the signatory of the bid to commit the bidder; and
 - (b) submit documentary evidence establishing that the bidder has a license for construction activities in the Republic of Kazakhstan, adequate experience, financial capacity and technical capability to undertake the Contract. Confirmation of these matters may involve the updating, verification and reassessment of information which may previously have been considered during prequalification, and an assessment of bidder's proposals regarding work methods, scheduling and resourcing which shall be provided in sufficient detail to confirm the bidder's capability to complete the works in accordance with the specification and the time for completion.
- 4.2 Bids submitted by a joint venture of two or more firms as partners shall comply with the following requirements:
- (a) the bid, and in case of a successful bid, the Form of Agreement, shall be signed so as to be legally binding on all partners;
 - (b) one of the partners shall be authorized to be in charge; and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners;
 - (c) the partner in charge shall be authorized to incur liabilities, receive payments and receive instructions for and on behalf of any or all partners of the joint venture;

- (d) all partners of the joint venture shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms, and a relevant statement to this effect shall be included in the authorization mentioned under (b) above as well as in the Bid Form and the Form of Agreement (in case of a successful bid); and
- (e) a copy of the agreement entered into by the joint venture partners shall be submitted with the bid.

5. One Bid per Bidder

- 5.1 Each bidder shall submit only one bid either by itself, or as a partner in a joint venture. A bidder who submits or participates in more than one bid other than alternatives pursuant to Sub-Clause 17.1 will be disqualified.

6. Cost of Bidding

- 6.1 The bidder shall bear all costs associated with the preparation and submission of its bid and the Employer will in no case be responsible or liable for those costs.

7. Site Visit

- 7.1 The bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the bidder's own expense.
- 7.2 The bidder and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such inspection, but only upon the express condition that the bidder, its personnel and agents, will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof and will be responsible for death or personal injury, loss of or damage to property and any other loss, damage, costs and expenses incurred as a result of the inspection.
- 7.3 The Employer may conduct a Site visit concurrently with the Pre-Bid Meeting referred to in Clause 18.

B. BIDDING DOCUMENTS

8. Content of Bidding Documents

- 8.1 The bidding documents are those stated below, and should be read in conjunction with any Addenda issued in accordance with Clause 10:

| | |
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| | Invitation for Bids |
| Section | 1 Instructions to Bidders |
| | 2 Part I – General Conditions |
| | 3 Part II – Conditions of Particular Application |
| | 4 Technical Specifications |
| | 5 Forms of Bid, Appendix to Bid, Bid Security and List of Eligible Countries of JBIC ODA Loans |
| | 6 Bill of Quantities |
| | 7 Sample Form of Agreement |
| | 8 Sample Forms of Securities |
| | 9 Schedules of Supplementary Information |
| | 10 Drawings |

- 8.2 The bidder is expected to examine carefully the contents of the bidding documents. Failure to comply with the requirements of bid submission will be at the bidder's own risk. Pursuant to Clause 27, bids which are not substantially responsive to the requirements of the bidding documents will be rejected.

9. Clarification of Bidding Documents

- 9.1 A prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing or by fax (hereinafter, the term "fax" is deemed to include electronic transmission such as facsimile, cable and telex) at the Employer's address indicated in the Invitation for Bids. The Employer will respond to any request for clarification which it receives earlier than forty two (42) days prior to the deadline for submission of bids. Copies of the Employer's response will be forwarded to all purchasers of the bidding documents, including a description of the inquiry.

10. Amendment of Bidding Documents

- 10.1 At any time prior to the deadline for submission of bids, the Employer may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by issuing addenda.
- 10.2 Any addendum thus issued shall be part of the bidding documents pursuant to Sub-Clause 8.1, and shall be communicated in writing or by fax to all purchasers of the bidding documents. Prospective bidders shall acknowledge receipt of each addendum by fax to the Employer.
- 10.3 To afford prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer may extend the deadline for submission of bids, in accordance with Clause 21.

C. PREPARATION OF BIDS

11. Language of Bid

- 11.1 The bid, and all correspondence and documents, related to the bid, exchanged between the bidder and the Employer shall be written in the English language.

12. Documents Comprising the Bid

- 12.1 The bid submitted by the bidder shall comprise the following:
- (a) Bid Form and Appendix to Bid;
 - (b) Bid Security;
 - (c) priced Bill of Quantities;
 - (d) power of attorney
 - (e) information on eligibility and qualification;
 - (f) any other materials required to be completed and submitted by bidders in accordance with these Instructions to Bidders.

The documents listed under Sections 4, 5, and 8 of Sub-Clause 8.1 shall be filled-in without exception, subject to extensions thereof in the same format and to the provisions of Sub-Clause 16.2 regarding the alternative forms of bid security.

13. Bid Prices

- 13.1 Unless stated otherwise in the bidding documents, the Contract shall be for the whole Works as described in Sub-Clause 1.1, based on the schedule of unit rates and prices submitted by the bidder.

- 13.2 The bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the bidder will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities.
- 13.3 All duties, taxes and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of bids, shall be included in the rates and prices and the total bid price submitted by the bidder. The bidder shall be familiar with the Tax laws of the Employer's country. *[List taxes exempted, if any, by referring to the related clause numbers of the Tax law.]*
- 13.4 The rates and prices quoted by the bidder are subject to adjustment during the performance of the Contract in accordance with the provisions of Clause 70 of the Conditions of Contract. The bidder shall furnish the indices for the price adjustment formulae in the Appendix to Bid, and shall submit with its bid such other supporting information as required under Clause 70 of the Conditions of Contract.

14. Currencies of Bid and Payment

- 14.1 The unit rates and the prices shall be quoted by the bidder separately in
- (a) Japanese Yen for those inputs to the Works which the bidder expects to supply from outside the Employer's country (referred to as "the foreign currency requirements"); and
 - (b) Currency of Employer's country for those inputs to the Works which the bidder expects to supply from within the Employer's country.
- 14.2 Payment of the contract price shall be made in the currency or currencies in which the bid price is expressed in the bid of the successful bidder.
- 14.3 The rates of exchange to be used by the bidder for currency conversion during bid preparation shall be the selling rates for similar transactions prevailing on the date 28 days prior to the date of bid opening, as published by National Bank of Kazakhstan.
- 14.4 The foreign currency requirements generally include the following:
- (a) expatriate staff and labor employed directly on the Works;
 - (b) social, insurance, medical and other charges relating to such expatriate staff and labor, and foreign travel expenses;
 - (c) imported materials, both temporary and permanent, including fuels, oil and lubricants required for the Works;
 - (d) depreciation and usage of imported Plant and Contractor's Equipment, including spare parts, required for the Works;
 - (e) foreign insurance and freight charges for imported materials, Plant and Contractor's Equipment, including spare parts; and
 - (f) overhead expenses, fees, profit, and financial charges arising outside Republic of Kazakhstan in connection with the Works.
- 14.5 Bidders may be required by the Employer to clarify their foreign currency requirements, and

to substantiate that the amounts included in the unit rates and prices and shown in the Appendix to Bid are reasonable and responsive to Sub-Clause 14.1, in which case a detailed breakdown of its foreign currency requirements shall be provided by the bidder.

- 14.6 Bidders should note that during the progress of the Works, the foreign currency requirements of the outstanding balance of the Contract Price may be adjusted by agreement between the Employer and the Contractor in order to reflect any changes in foreign currency requirements for the Contract, in accordance with Sub-Clause 72.2 of the Conditions of Contract. Any such adjustment shall be effected by comparing the amounts quoted in the bid with the amounts already used in the Works and the Contractor's future needs for imported items.

15. Bid Validity

- 15.1 Bids shall remain valid for a period of one hundred and twenty (120) days after the date of bid opening specified in Clause 24.
- 15.2 In exceptional circumstances, prior to expiry of the original bid validity period, the Employer may request that the bidders extend the period of validity for a specified additional period. The request and the responses thereto shall be made in writing or by fax. A bidder may refuse the request without forfeiting its bid security. A bidder agreeing to the request will not be required or permitted to modify its bid, but will be required to extend the validity of its bid security for the period of the extension, and in compliance with Clause 16 in all respects.

16. Bid Security

- 16.1 The bidder shall furnish, as part of its bid, a bid security in the amount of three million (3,000,000) United States Dollar.
- 16.2 The bid security shall, at the bidder's option, be in the form of a certified check, bank draft, standby letter of credit or guarantee from a reputable bank. The format of the bank guarantee shall be in accordance with the sample form of bid security included in Section 5; other formats may be permitted, subject to the prior approval of the Employer. Letters of credit and bank guarantees issued as surety for the bid shall be valid for 28 days beyond the validity of the bid.
- 16.3 Any bid not accompanied by an acceptable bid security shall be rejected by the Employer as nonresponsive.
- 16.4 The bid securities of unsuccessful bidders will be returned as promptly as possible, but not later than 28 days after the expiration of the period of bid validity.
- 16.5 The bid security of the successful bidder will be returned when the bidder has signed the Agreement and furnished the required performance security.
- 16.6 The bid security may be forfeited
- (a) if the bidder withdraws its bid during the period of bid validity; or
 - (b) if the bidder does not accept the correction of its bid price, pursuant to Sub-Clause 28.2; or
 - (c) in the case of a successful bidder, if it fails within the specified time limit to
 - (i) sign the Agreement, or
 - (ii) furnish the required performance security.

17. Alternative Proposals by Bidders

- 17.1 Bidders shall submit offers which comply with the documents, including the basic technical design as indicated in the Drawings and Specifications. Alternatives will not be considered. The attention of bidders is drawn to the provisions of Clause 27 regarding the rejection of bids which are not substantially responsive to the requirements of the bidding documents.

18. Pre-Bid Meeting

- 18.1 The bidder or its official representative is invited to attend a pre-bid meeting which will take place at _____ [address of venue], on _____ [time and date].
- 18.2 The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 18.3 The bidder is requested to submit any questions in writing or by fax, to reach the Employer not later than one week before the meeting.
- 18.4 Minutes of the meeting, including the text of the questions raised and the responses given, will be transmitted without delay to all purchasers of the bidding documents. Any modification of the bidding documents listed in Sub-Clause 8.1 which may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause 10 and not through the minutes of the pre-bid meeting.
- 18.5 Bidders are advised to attend the pre-bid meeting. However, nonattendance at the pre-bid meeting will not be a cause for disqualification of a bidder. Bidders who do not attend the pre-bid meeting assume the responsibility to comply with modifications to the bidding documents mentioned in sub-Clause 18.4 above and which are communicated through an Addendum pursuant to Clause 10.

19. Format and Signing of Bid

- 19.1 The bidder shall prepare one original and six (6) copies of the Bid documents comprising the bid as described in Clause 12 of these Instructions to Bidders, bound with the volume containing the Form of Bid, and clearly marked "ORIGINAL" and "COPY" as appropriate. In the event of discrepancy between them, the original shall prevail.
- 19.2 The original and all copies of the bid shall be typed or written in indelible ink (in the case of copies, photostats are also acceptable) and shall be signed by a person or persons duly authorized to sign on behalf of the bidder, pursuant to Sub-Clauses 4.1 (a) or 4.2 (b), as the case may be. All pages of the bid where entries or amendments have been made shall be initialled by the person or persons signing the bid.
- 19.3 The bid shall contain no alterations, omissions or additions, except those to comply with instructions issued by the Employer, or as necessary to correct errors made by the bidder, in which case such corrections shall be initialled by the person or persons signing the bid.

D. SUBMISSION OF BIDS

20. Sealing and Marking of Bids

- 20.1 The bidder shall seal the original and each copy of the bid in an inner and an outer envelope, duly marking the envelopes as "ORIGINAL" and "COPY".
- 20.2 The inner and outer envelopes shall

(a) be addressed to the Employer at the following address:
_____ [insert address of office for bid submission]; and

(b) bear the following identification:

- Bid for Construction of Water Supply and Sewerage Facilities
- Bid Reference Number: JBIC KAZ-P5, CP-1
- DO NOT OPEN BEFORE _____ [time and date for bid opening, per Sub-Clause 24.1]

20.3 In addition to the identification required in Sub-Clause 20.2, the inner envelope shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared “late” pursuant to Clause 22.

20.4 If the outer envelope is not sealed and marked as above, the Employer will assume no responsibility for the misplacement or premature opening of the bid.

21. Deadline for Submission of Bids

21.1 Bids must be received by the Employer at the address specified above no later than _____ [insert time and date, which must be the same as those given in the *Invitation for Bids*].

21.2 The Employer may, at its discretion, extend the deadline for submission of bids by issuing an addendum in accordance with Clause 10, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will thereafter be subject to the deadline as extended.

22. Late Bids

22.1 Any bid received by the Employer after the deadline for submission of bids prescribed in Clause 21 will be rejected and returned unopened to the bidder.

23. Modification and Withdrawal of Bids

23.1 The bidder may modify or withdraw its bid after bid submission, provided that written notice of the modification or withdrawal is received by the Employer prior to the deadline for submission of bids.

23.2 The bidder’s modification or withdrawal notice shall be prepared, sealed, marked and delivered in accordance with the provisions of Clause 20, with the outer and inner envelopes additionally marked “MODIFICATION” or “WITHDRAWAL”, as appropriate. A withdrawal notice may also be sent by fax but must be followed by a signed confirmation copy.

23.3 No bid may be modified by the bidder after the deadline for submission of bids.

23.4 Withdrawal of a bid during the interval between the deadline for submission of bids and the expiration of the period of bid validity specified in the Form of Bid may result in the forfeiture of the bid security pursuant to Clause 16.

E. BID OPENING AND EVALUATION

24. Bid Opening

- 24.1 The Employer will open the bids, including modifications made pursuant to Clause 23, in the presence of bidders' representatives who choose to attend, at _____ *[insert time and date]* at the following location: _____ *[insert Address]*. The bidders' representatives who are present shall sign a register evidencing their attendance.
- 24.2 Envelopes marked "WITHDRAWAL" shall be opened first and the name of the bidder shall be read out. Bids for which an acceptable notice of withdrawal has been submitted pursuant to Clause 23 shall not be opened and will be returned to the bidder.
- 24.3 The bidders' names, the Bid Prices, the total amount of each bid, any discounts, bid modifications and withdrawals, the presence or absence of bid security, and such other details as the Employer may consider appropriate, will be announced and recorded by the Employer at the opening. Any bid price, discount or alternative bid price which is not read out and recorded at bid opening will not be taken into account in bid evaluation. The bidders' representatives will be required to sign the record.
- 24.4 The Employer shall prepare, besides the record of bid opening, minutes of the bid opening, including the information disclosed to those present in accordance with Sub-Clause 24.3.

25. Process to Be Confidential

- 25.1 Information relating to the examination, clarification, evaluation and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful bidder has been announced. Any effort by a bidder to influence the Employer's processing of bids or award decisions may result in the rejection of the bidder's bid.

26. Clarification of Bids

- 26.1 To assist in the examination, evaluation and comparison of bids, the Employer may, at its discretion, ask any bidder for clarification of its bid, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by fax, but no change in the price or substance of the bid shall be sought, offered or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the bids in accordance with Clause 28.

27. Preliminary Examination of Bids and Determination of Responsiveness

- 27.1 Prior to the detailed evaluation of bids, the Employer will determine whether each bid (i) meets the eligibility criteria of JBIC ODA Loans; (ii) has been properly signed; (iii) is accompanied by the required securities; (iv) is substantially responsive to the requirements of the bidding documents; and (v) provides any clarification and/or substantiation that the Employer may require pursuant to Clause 26.
- 27.2 A substantially responsive bid is one which conforms to all the terms, conditions and specifications of the bidding documents, without material deviation or reservation. A material deviation or reservation is one (i) which affects in any substantial way the scope, quality or performance of the Works; (ii) which limits in any substantial way, inconsistent with the bidding documents, the Employer's rights or the bidder's obligations under the Contract; or (iii) whose rectification would affect unfairly the competitive position of other bidders

presenting substantially responsive bids.

- 27.3 If a bid is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

28. Correction of Errors

- 28.1 Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Arithmetic errors will be rectified on the following basis. If there is a discrepancy between the unit rate and the total cost per item that is obtained by multiplying the unit rate and quantity, the unit rate shall prevail and the total cost per item will be corrected unless in the opinion of the Employer there is an obvious misplacement of the decimal point in the unit rate, in which case the total cost per item as quoted will govern and the unit rate corrected. If there is a discrepancy between the total bid amount and the sum of total costs per item, the sum of the total costs per item shall prevail and the total bid amount will be corrected.
- 28.2 The amount stated in the Form of Bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount of bid, its bid will be rejected, and the bid security may be forfeited in accordance with Sub-Clause 16.6 (b).

29. Conversion to Single Currency

- 29.1 The Employer will convert the amounts in various currencies in which the Bid Price is payable (excluding Provisional Sums but including Daywork where priced competitively) to Japanese Yen at the selling exchange rates officially prescribed for similar transactions as established by National Bank of Kazakhstan on the date of bid opening.

30. Evaluation and Comparison of Bids

- 30.1 The Employer will evaluate and compare only the bids determined to be substantially responsive in accordance with Clause 29 and qualified for award of Contract in accordance with Clause 4.
- 30.2 In evaluating the bids, the Employer will determine for each bid the Evaluated Bid Price by adjusting the Bid Price as follows:
- (a) making any correction for errors pursuant to Clause 28;
 - (b) excluding Provisional Sums and the provision, if any, for Contingencies in the Summary Bill of Quantities, but including Daywork, where priced competitively;
 - (c) making an appropriate adjustment for any other acceptable variations, deviations or alternative offers submitted in accordance with Clause 17;
 - (d) applying any discounts offered by the bidder for the award;
 - (e) excluding import duty and value added tax
 - (f) converting the amount resulting from applying (a) to (e) above to a single currency in accordance with Clause 29.

- 30.3 The Employer reserves the right to accept or reject any variation, deviation or alternative offer. Variations, deviations, alternative offers and other factors which are in excess of the requirements of the bidding documents or otherwise result in the accrual of unsolicited benefits to the Employer shall not be taken into account in bid evaluation.
- 30.4 The evaluation of bids shall take into account the price and other commercial features of the offer. In addition, it may also take into account other criteria, such as those listed below.
- Construction Time Schedule
 - Construction Method
 - Quality Control System
 - Labour and Materials
 - Safety Measures
- 30.5 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.
- 30.6 If the bid of the successful bidder is seriously unbalanced in relation to or substantially below the Engineer's estimate of the cost of work to be performed under the Contract, the Employer may require the bidder to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, the Employer may require that the amount of the performance security set forth in Clause 35 be increased at the expense of the successful bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful bidder under the Contract.

F. AWARD OF CONTRACT

31. Award

- 31.1 Subject to Clause 32, the Employer will award the Contract to the bidder whose bid has been determined to be substantially responsive to the bidding documents and who has offered the Lowest Evaluated Bid Price, provided that such bidder has been determined to be (i) eligible in accordance with the provisions of Sub-Clause 3.1; and (ii) qualified in accordance with the provisions of Clause 4. When there was pre-qualification, the latter examination shall be limited to confirming that the bidders' conditions for pre-qualification remain substantially unchanged, but this examination remains a prerequisite for award.

32. Employer's Right to Accept any Bid and to Reject any or all Bids

- 32.1 Notwithstanding Clause 31, the Employer reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for the Employer's action.

33. Notification of Award

- 33.1 Prior to expiration of the period of bid validity prescribed by the Employer, the Employer will notify the successful bidder by fax confirmed by registered letter that its bid has been accepted. This letter (hereinafter and in the Conditions of Contract called the "Letter of Acceptance") shall name the sum which the Employer will pay the Contractor in consideration

of the execution, completion and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Conditions of Contract called “the Contract Price”).

33.2 The notification of award will constitute the formation of the Contract.

33.3 Upon the furnishing by the successful bidder of a performance security, the Employer will promptly notify the other bidders that their bids have been unsuccessful.

34. Signing of Agreement

34.1 At the same time that the Employer notifies the successful bidder that its bid has been accepted, the Employer will send the bidder the Form of Agreement provided in the bidding documents, incorporating all agreements between the parties.

34.2 Within twenty eight (28) days of receipt of the Form of Agreement, the successful bidder shall sign the Form and return it to the Employer.

35. Performance Security

35.1 Within 28 days of receipt of the notification of award from the Employer, the successful bidder shall furnish to the Employer a performance security in an amount of ten (10) percent of the Contract Price in accordance with the Conditions of Contract. The form of performance security provided in Section 8 of the bidding documents may be used or some other form acceptable to the Employer.

35.2 Failure of the successful bidder to comply with the requirements of Clauses 34 or 35 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security.

SECTION 2

PART I: GENERAL CONDITIONS

SECTION 2

PART I – GENERAL CONDITIONS OF CONTRACT

THE GENERAL CONDITIONS OF CONTRACT APPLICABLE TO THIS CONTRACT SHALL BE THE CONDITIONS OF CONTRACT FOR WORKS OF CIVIL ENGINEERING CONSTRUCTION PREPARED AND PUBLISHED BY THE FEDERATION INTERNATIONALE DES INGENIEURS-CONSEILS (FIDIC)

FOURTH EDITION 1987

Reprinted in 1988 with editorial amendments

Reprinted in 1992 with further amendments

SECTION 3

PART II: CONDITIONS OF PARTICULAR APPLICATION

Section 3

PART II — CONDITIONS OF PARTICULAR APPLICATION

Sub-Clause 1.1 (a) (i) The Employer is ASTANA City Government (AKIMAT)

Definitions

(a) (iv) The Engineer is _____

Add the following sentence to subparagraph after the word “Conditions”:

“or any other competent person appointed by the Employer, and notified to the Contractor, to act in replacement of the Engineer.”

(b) (v) Add the following sentence to the end of subparagraph:

“The word ‘Tender’ is synonymous with ‘Bid’ and the words ‘Tender Documents’ with ‘Bidding Documents’.”

(e) (iv) In subparagraph, words “Sub-Clause 60.13” shall substitute for “Sub-Clause 60.8”

Sub-Clause 2.1

Engineer’s

Duties and

Authority

The followings are particular of requirement to the Engineer:

“The Engineer shall obtain the specific approval of the Employer before taking any of the following actions specified in Part I:

(a) approving subletting of any part of the Works under Clause 4;

(b) certifying additional cost determined under Clause 12;

(c) determining an extension of time under Clause 44;

(d) issuing a variation under Clause 51, except:

(i) in an emergency situation, as reasonably determined by the Engineer; or

(ii) if such variation would increase the Contract Price by less than ten (10) percent; or

(e) fixing rates or prices under Clause 52.”

Add the following sentence to the end of the Sub-Clause:

“Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, the Engineer may, without relieving the Contractor of any of its duties and responsibilities under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of approval of the

Employer, with any such instruction of the Engineer. The Engineer shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer.”

**Sub-Clause 5.1
Language and
Law**

- (a) The language is the English language.
- (b) The law is that in force in Republic of Kazakhstan

**Sub-Clause 5.2
Priority of
Contract
Documents**

Delete the documents listed 1 - 6 and substitute:

- (1) the Contract Agreement (if completed);
- (2) the Letter of Acceptance;
- (3) the Bid and the Appendix to Bid;
- (4) the Conditions of Contract Part II - Conditions of Particular Application;
- (5) the Conditions of Contract Part I - General Conditions;
- (6) the Particular Specifications;
- (7) the Standard Specifications;
- (8) the Drawings; and
- (9) the priced Bill of Quantities.

**Sub-Clause 8.1
Contractor's
General
Responsibilities**

Delete second sentence and substitute:

“The Contractor shall promptly notify the Employer and the Engineer of any error, omission, fault or other defect in the design of or Specification for the Works which he discovers when reviewing the Contract or executing the Works.”

**Sub-Clause
10.1
Performance
Security**

Replace the text of Sub-Clause 10.1 with the following:

“The Contractor shall provide security for its proper performance of the Contract to the Employer within 28 days after the receipt of the Letter of Acceptance. The performance security shall be in the form of a bank guarantee, issued either (a) by a bank located in the country of the Employer or a foreign bank through a correspondent bank located in the country of the Employer, or (b) directly by a foreign bank acceptable to the Employer, as stipulated by the Employer in the Appendix to Bid. The performance security shall be denominated in the types and proportions of currencies in which the Contract Price is payable. When providing such security to the Employer, the Contractor shall notify the Engineer of so doing.

Without limitation to the provisions of the preceding paragraph, whenever the Engineer determines an addition to the Contract Price as a result of a change in cost and/or legislation or as a result of a

variation amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency, the Contractor, at the Engineer's written request, shall promptly increase the value of the performance security in that currency by an equal percentage. The performance security of a joint venture shall be in the name of the joint venture."

**Sub-Clause
11.2
Access to Data**

Add new Sub-Clause 11.2:

"Data made available by the Employer in accordance with Sub-Clause 11.1 shall be deemed to include data listed elsewhere in the Contract as open for inspection at the project office of Astana City Government (AKIMAT)

**Sub-Clause
14.1
Program to be
Submitted**

The time within which the program shall be submitted shall be twenty eight (28) days.

**Sub-Clause
14.3
Cash Flow
Estimate to be
Submitted**

The time within which the detailed cash flow estimate shall be submitted shall be twenty eight (28) days.

**Sub-Clause
15.2
Language
Ability of
Contractor's
Representative**

Add the following Sub-Clause 15.2:

"If the Contractor's authorized representative is not, in the opinion of the Engineer, fluent in the English language, the Contractor shall have available on site at all times a competent interpreter to ensure the proper transmission of instructions and information."

**Sub-Clause
16.3
Language
Ability of
Superintending
Staff**

Add the following Sub-Clause 16.3:

"A reasonable proportion of the Contractor's superintending staff shall have a working knowledge of the English language or the Contractor shall have available on site at all times a sufficient number of competent interpreters to ensure the proper transmission of instructions and information."

**Sub-Clause
19.1
Safety, Security
and Protection
of the
Environment**

Add the following Sub-Clause 19.1(d):

"comply with all provisions in the loan agreement between JBIC and the Employer with respect to the JBIC Environmental Guidelines for ODA Loans applicable to ODA Loans provided by JBIC under Section(1), Paragraph 2, Article 23 of THE JAPAN BANK FOR INTERNATIONAL COOPERATION LAW."

**Sub-Clause
20.4
Employer's
Risks**

Sub-Clause 20.4 is amended to read as follows:

"The Employer's risks are

- (a) insofar as they directly affect the execution of the Works in the country where the Permanent Works are to be executed:

- (i) war and hostilities (whether war be declared or not), invasion, act of foreign enemies;
 - (ii) rebellion, revolution, insurrection, or military or usurped power, or civil war;
 - (iii) ionizing radiation, or contamination by radioactivity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof;
 - (iv) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds;
 - (v) riot, commotion or disorder, unless solely restricted to the employees of the Contractor or of its Subcontractors and arising from the conduct of the Works;
- (b) loss or damage due to the use or occupation by the Employer of any Section or part of the Permanent Works, except as may be provided for in the Contract;
- (c) loss or damage to the extent that it is due to the design of the Works, other than any part of the design provided by the Contractor or for which the Contractor is responsible; and
- (d) any operation of the forces of nature (insofar as it occurs on the Site) which an experienced contractor:
- (i) could not have reasonably foreseen, or
 - (ii) could reasonably have foreseen, but against which he could not reasonably have taken appropriate measures to prevent loss or damage to physical property occurring.”

**Sub-Clause
21.1**

**Insurance of
Works and
Contractor’s
Equipment**

Add the following words at the end of sub-paragraph. (a) and (b) of Sub-Clause 21.1:

“, it being understood that such insurance shall provide for compensation to be payable in currencies required to rectify the loss or damage incurred.”

**Sub-Clause
21.2
Scope of Cover**

Paragraph (a) of Sub-Clause 21.2 is amended by deletion of the words “... from the start of work at the Site ...” and by the substitution therefor of the words “... from the first working day after the Commencement Date ...”.

**Sub-Clause
21.4
Exclusions**

Sub-Clause 21.4 is amended to read as follows:

“There shall be no obligation for the insurances in Sub-Clause 21.1 to include loss or damage caused by the risks listed under Sub-Clause 20.4 paras. (a) (i) to (iv).”

| | |
|---|---|
| Sub-Clause 25.1 Evidence and Terms of Insurances | Sub-Clause 25.1 is amended by inserting the words "... as soon as practicable after the respective insurances have been taken out but in any case..." before the words "...prior to the start of work at the Site...". |
| Clause 34 Labour | Add the following Sub-Clauses 34.2 to 34.15 to the Clause 34 Labour |
| Sub-Clauses 34.2 Rates of Wages and Conditions of Labor | The Contractor shall pay rates of wages and observe conditions of labor not less favorable than those established for the trade or industry where the work is carried out. In the absence of any rates of wages or conditions of labor so established, the Contractor shall pay rates of wages and observe conditions of labor which are not less favorable than the general level of wages and conditions observed by other employers whose general circumstances in the trade or industry in which the Contractor is engaged are similar. |
| Sub-Clause 34.3 Employment of Persons in the Service of Others | The Contractor shall not recruit or attempt to recruit his staff and labor from amongst persons in the service of the Employer or the Engineer. |
| Sub-Clause 34.4 Repatriation of Labor | The Contractor shall be responsible for the return to the place where they were recruited or to their domicile of all such persons as he recruited and employed for the purposes of or in connection with the Contract and shall maintain such persons as are to be so returned in a suitable manner until they shall have left the site or, in the case of persons who are not nationals of and have been recruited outside Republic of Kazakhstan shall have left Republic of Kazakhstan. |
| Sub-Clause 34.5 Housing for Labor | Save insofar as the Contract otherwise provides, the Contractor shall provide and maintain such accommodation and amenities as he may consider necessary for all his staff and labor, employed for the purposes of or in connection with the Contract, including all fencing, water supply (both for drinking and other purposes), electricity supply, sanitation, cookhouses, fire prevention and firefighting equipment, air conditioning, cookers, refrigerators, furniture and other requirements in connection with such accommodation or amenities. On completion of the Contract, unless otherwise agreed with the Employer, the temporary camps/housing provided by the Contractor shall be removed and the site reinstated to its original condition, all to the approval of the Engineer. |
| Sub-Clause 34.6 Accident Prevention Officer; Accidents | The Contractor shall have on his staff on Site an officer dealing only with questions regarding the safety and protection against accidents of all staff and labor. This officer shall be qualified for this work and shall have the authority to issue instructions and shall take protective measures to prevent accidents. |

| | |
|--|---|
| Sub-Clause 34.7 Health and Safety | Due precautions shall be taken by the Contractor, and at his own cost, to ensure the safety of his staff and labor and, in collaboration with and to the requirements of the local health authorities, to ensure that medical staff, first aid equipment and stores, sick bay and suitable ambulance service are available at the camps, housing and on the Site at all times throughout the period of the Contract and that suitable arrangements are made for the prevention of epidemics and for all necessary welfare and hygiene requirements. |
| Sub-Clause 34.8 Measures Against Insect and Pest Nuisance | The Contractor shall at all times take the necessary precautions to protect all staff and labor employed on the Site from insect nuisance, rats, and other pests and reduce the dangers to health and the general nuisance caused by the same. He shall comply with all the regulations of the local health authorities in these respects and shall in particular arrange to spray thoroughly with approved insecticide all buildings erected on the Site. Such treatment shall be carried out at least once a year or as instructed by the Engineer. |
| Sub-Clause 34.9 Epidemics | In the event of any outbreak of illness of an epidemic nature, the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government or the local medical or sanitary authorities, for the purpose of dealing with and overcoming the same. |
| Sub-Clause 34.10 Burial of the Dead | The Contractor shall make any necessary arrangements for the transport, to any place as required for burial, of any of his expatriate employees or members of their families who may die in Republic of Kazakhstan. The Contractor shall also be responsible, to the extent required by the local regulations, for making any arrangements with regard to burial of any of his local employees who may die while engaged upon the Works. |
| Sub-Clause 34.11 Supply of Water | The Contractor shall, so far as is reasonably practicable, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of his staff and labor. |
| Sub-Clause 34.12 Alcoholic Liquor or Drugs | The Contractor shall not, otherwise than in accordance with the Statutes, Ordinances and Government Regulations or Orders for the time being in force, import, sell, give, barter, or otherwise dispose of any alcoholic liquor or drugs, or permit or suffer any such importation, sale, gift, barter or disposal by his Subcontractors, agents, staff or labor. |
| Sub-Clause 34.13 Arms and Ammunition | The Contractor shall not give, barter, or otherwise dispose of to any person or persons, any arms or ammunition of any kind or permit or suffer the same as aforesaid. |
| Sub-Clause 34.14 Festivals and Religious Customs | The Contractor shall in all dealings with his staff and labor have due regard to all recognized festivals, days of rest and religious and other customs. |

**Sub-Clause
34.15
Disorderly
Conduct**

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst his staff and labor and for the preservation of peace and protection of persons and property in the neighborhood of the Works against the same.

**Sub-Clause
35.2
Reporting of
Accidents**

Add the following Sub-Clause 35.2 Reporting of Accidents to Clause 35 Returns of Labour and Contractor's Equipment.

"The Contractor shall report to the Engineer details of any accidents as soon as possible after its occurrence. In the case of any fatality or serious accident, the Contractor shall, in addition, notify the Engineer immediately by the quickest available means."

**Sub-Clause
48.5
Prevention
from Testing**

Add following Sub-Clause 48.5:

"If the Contractor is prevented from carrying out the Tests on Completion by a cause for which the Employer or the Engineer or other contractors employed by the Employer are responsible, the Employer shall be deemed to have taken over the Works on the date when the Tests on Completion would have been completed but for such prevention. The Engineer shall issue a Taking-Over Certificate accordingly. Provided always that the Works shall not be deemed to have been taken over if they are not substantially in accordance with the Contract.

If the Works are taken over under this Sub-Clause the Contractor shall nevertheless carry out the Tests on Completion during the Defects Liability Period. The Engineer shall require the Tests to be carried out by giving 14 days notice.

Any additional costs to which the Contractor may be put, in making the Tests on Completion during the Defects Liability Period, shall be added to the Contract Price."

**Sub-Clause
49.5
Extension of
Defects
Liability**

Add following Sub-Clause 49.5:

"The provisions of this Clause shall apply to all replacements or renewals of Plant carried out by the Contractor to remedy defects and damages as if the replacements and renewals had been taken over on the date they were completed. The Defects Liability Period for the Works shall be extended by a period equal to the period during which the Works cannot be used by reason of a defect or damage. If only part of the Works is affected the Defects Liability Period shall be extended only for that part. In neither case shall the Defects Liability Period extend beyond one year from the date of taking over.

When progress in respect of Plant has been suspended under Clause 40, the Contractor's obligations under this Clause shall not apply to any defects occurring more than one year after the Time for Completion established on the date of issue of notice of commencement."

Sub-Clause**52.1****Valuation of
Variations**

Add final sentences as follows:

“Where the Contract provides for the payment of the Contract Price in more than one currency, and varied work is valued at, or on the basis of, the rates and prices set out in the Contract, payment for such varied work shall be made in the amounts of various currencies specified in the Appendix to Bid for payment of the Contract Price. Where the Contract provides for payment of the Contract Price in more than one currency, and new rates or prices are agreed, fixed or determined as stated above, the amount payable in each of the applicable currencies shall be specified when the rates or prices are agreed, fixed or determined, it being understood that in specifying these amounts the Contractor and the Engineer (or, failing agreement, the Engineer) shall take into account the actual or expected currencies of cost of the inputs of the varied work without regard to the amounts of various currencies specified in the Appendix to Bid for payment of the Contract Price.”

Sub-Clause**52.2****Power of
Engineer to Fix
Rates**

Add a final sentence to the first paragraph, as follows:

“Where the Contract provides for the payment of the Contract Price in more than one currency, the amount payable in each of the applicable currencies shall be specified when the rates or prices are agreed, fixed or determined as stated above, it being understood that in specifying these amounts the Contractor and the Engineer (or, failing agreement, the Engineer) shall take into account the actual or expected currencies of cost of the inputs of the varied work without regard to the amounts of various currencies specified in the Appendix to Bid for payment of the Contract Price.”

Sub-Clause**52.2****Power of
Engineer to Fix
Rates**

Add as a third paragraph:

“Provided further that no change in the rate or price for any item contained in the Contract shall be considered unless such item accounts for an amount more than 2 percent of the Contract Price as stated in the Letter of Acceptance and the actual quantity of work executed under the item exceeds or falls short of the quantity set out in the Bill of Quantities by more than 25 percent.”

Sub-Clause**52.3****Variations
Exceeding 15
percent**

Add a final sentence as follows:

“Where the Contract provides for the payment of the Contract Price in more than one currency, the amount payable in each of the applicable currencies shall be specified when such further sum is agreed or determined, it being understood that in specifying these amounts the Contractor and the Engineer (or, failing agreement, the Engineer) shall take into account the currencies in which the Contractor’s Site and general overhead cost of the Contract were incurred without being bound by the amounts of various currencies specified in the Appendix to Bid for payment of the Contract Price.”

Clause 60**Certificates
and Payment**

Clause 60 of the General Conditions is deleted and the following Sub-Clauses 60.1 to 60.14 are substituted therefor:

**Sub-Clause
60.1
Monthly
Statements**

Disbursement procedures of JBIC ODA Loans shall be applied for disbursement of the proceeds of JBIC ODA Loans for eligible payment under this contract. The Contractor shall submit a statement in six (6) copies to the Engineer at the end of each month, in a tabulated form approved by the Engineer, showing the amounts to which the Contractor considers himself to be entitled. The statement shall include the following items, as applicable, which shall be taken into account in the sequence listed:

- (a) the estimated contract value of the Temporary and Permanent Works executed up to the end of the month in question, determined in accordance with Sub-Clause 56.1, at the unit rates and prices included in the Contract, in the various currencies of the Contract Price in which the contract is payable;
- (b) the actual value certified for payment for the Temporary and Permanent Works executed up to the end of the previous month, at the unit rates and prices included in the Contract, in the various currencies of the Contract Price;
- (c) the estimated contract value at the unit rates and prices included in the Contract of the Temporary and Permanent Works for the month in question, in the various currencies of the Contract Price, obtained by deducting (b) from (a);
- (d) the value of any variations executed up to the end of the month in question, less the amount certified in the previous Interim Payment Certificate, expressed in the relevant amounts of foreign and local currencies, pursuant to Clause 52;
- (e) amounts approved in respect of Daywork executed up to the end of the month in question, less the amount for Daywork certified in the previous Interim Payment Certificate, indicating the amounts of foreign and local currencies as determined from the Daywork Schedule of the Bill of Quantities;
- (f) amounts reflecting changes in cost and legislation, pursuant to Clause 70, expressed in the relevant amounts of foreign and local currencies;
- (g) any credit or debit for the month in question in respect of materials and Plant for the Permanent Works, in the relevant amounts in foreign and local currencies, and under the conditions set forth in Sub-Clause 60.3;
- (h) any amount to be withheld under the provisions of Sub-Clause 60.5, determined by applying the percentage set forth in Sub-Clause 60.5 to the amounts in foreign and local currencies due under paragraphs 60.1 (c), (d), (e), and (f);
- (i) any amounts to be deducted as repayment of the Advance under the provisions of Sub-Clause 60.8; and
- (j) any other sum, expressed in the applicable currency or currencies,

to which the Contractor may be entitled under the Contract or otherwise.

**Sub-Clause
60.2
Monthly
Payments**

The said statement shall be approved or amended by the Engineer in such a way that, in the Engineer's opinion, it reflects the amounts in various currencies due to the Contractor in accordance with the Contract, after deduction, other than pursuant to Clause 47, of any sums which may have become due and payable by the Contractor to the Employer. In cases where there is a difference of opinion as to the value of any item, the Engineer's view shall prevail. Within 28 days of receipt of the monthly statement referred to in Sub-Clause 60.1, the Engineer shall determine the amounts due to the Contractor and shall issue to the Employer and the Contractor a certificate herein called - "Interim Payment Certificate", certifying the amounts due to the Contractor.

Provided that the Engineer shall not be bound to certify any payment under this Sub-Clause if the net amount thereof, after all retentions and deductions, would be less than the Minimum Amount of Interim Payment Certificates stated in the Appendix to Bid.

Notwithstanding the terms of this Clause or any other Clause of the Contract, no amount will be certified by the Engineer for payment until the performance security has been provided by the Contractor and approved by the Employer.

**Sub-Clause
60.3
Materials and
Plant for the
Permanent
Works**

With respect to materials and Plant brought by the Contractor to the Site for incorporation in the Permanent Works, the Contractor shall (i) receive a credit in the month in which these materials and Plant are brought to the Site and (ii) be charged a debit in the month in which they are incorporated in the Permanent Works, both such credit and debit to be determined by the Engineer in accordance with the following provisions:

- (a) no credit shall be given unless the following conditions shall have been met to the Engineer's satisfaction:
 - (i) the materials and Plant are in accordance with the specifications for the Works;
 - (ii) the materials and Plant have been delivered to the Site and are properly stored and protected against loss, damage or deterioration;
 - (iii) the Contractor's records of the requirements, orders, receipts and use of materials and Plant are kept in a form approved by the Engineer, and such records are available for inspection by the Engineer;
 - (iv) the Contractor has submitted a statement of his cost of acquiring and delivering the materials and Plant to the Site, together with such documents as may be required for the purpose of evidencing such cost; and

- (v) the origin of the materials and Plant and the currencies of payment therefor are those indicated in the Appendix to Bid;
- (b) the amount to be credited to the Contractor shall be the equivalent of 75 percent of the Contractor's reasonable cost of the materials and Plant delivered to the Site, as determined by the Engineer after review of the documents listed in paragraph (a) (iv) above, as determined by the Engineer;
- (c) the amount to be debited to the Contractor for any materials and Plant incorporated into the Permanent Works shall be equivalent to the credit previously granted to the Contractor for such materials and Plant pursuant to Sub-Clause (b) above, as determined by the Engineer; and
- (d) the currencies in which the respective amounts shall be credited or debited as set forth above shall be determined by the Engineer, provided (i) that in the case of a credit, the currencies shall be those listed in the Appendix to Bid for the relevant item of materials or Plant; and (ii) that in the case of a debit, the currencies shall be those in which the credit for the respective item of materials or Plant had been given.

**Sub-Clause
60.4
Place of
Payment**

Payments to the Contractor by the Employer shall be made in the currencies in which the Contract Price is payable, into a bank account or accounts nominated by the Contractor.

**Sub-Clause
60.5
Retention
Money**

A retention amounting to ten (10) percent of the amounts due in each currency, determined in accordance with the procedure set out in Sub-Clause 60.1 (i) shall be made by the Engineer in the first and following Interim Payment Certificates.

**Sub-Clause
60.6
Payment of
Retention
Money**

Upon the issue of the Taking-Over Certificate with respect to the whole of the Works, one half of the Retention Money, or upon the issue of a Taking-Over Certificate with respect to a Section or part of the Permanent Works only such proportion thereof as the Engineer determines having regard to the relative value of such Section or part of the Permanent Works, shall be certified by the Engineer for payment to the Contractor.

At the request on the Contractor, the second half of the Retention Money may also be released at the issue of the Taking-Over Certificate provided a bank guarantee is provided by the Contractor for an amount equal to half the Retention Money for the period from the issue of the Taking-Over Certificate to the expiry of the Contract Period.

Upon the expiration of the Defects Liability Period for the Works the other half of the Retention Money shall be certified by the Engineer for payment to the Contractor. Provided that, in the event of different Defects Liability Periods being applicable to different Sections or parts of the Permanent Works pursuant to Clause 48, the expression "expiration of the Defects Liability Period" shall, for the purposes of

this Sub-Clause, be deemed to mean the expiration of the latest of such periods.

Provided also that if at such time, there shall remain to be executed by the Contractor any work instructed, pursuant to Clauses 49 and 50, in respect of the Works, the Engineer shall be entitled to withhold certification until completion of such work of so much of the balance of the Retention Money as shall, in the opinion of the Engineer, represent the cost of the work remaining to be executed.

**Sub-Clause
60.7
Advance
Payment**

- (a) The Employer will make an interest-free advance payment to the Contractor exclusively for the costs of mobilization in respect of the Works in an amount equivalent to fifteen (15) percent of the Contract Price named in the Letter of Acceptance, payable in the proportions of foreign and local currencies of the Contract Price. Payment of such advance amount will be due under separate certification by the Engineer after (i) execution of the Form of Agreement by the parties hereto; (ii) provision by the Contractor of the performance security in accordance with Sub-Clause 10.1; and (iii) provision by the Contractor of an unconditional bank guarantee in a form and by a bank acceptable to the Employer in amounts and currencies equal to the advance payment. Such bank guarantee shall remain effective until the advance payment has been repaid pursuant to paragraph (b) below, but the amount thereof shall be progressively reduced by the amount repaid by the Contractor as indicated in Interim Payment Certificates issued in accordance with this Clause.
- (b) The advance payment shall be repaid through percentage deductions from the interim payments certified by the Engineer in accordance with this Clause. Deductions shall commence in the next Interim Payment Certificate following that in which the total of all interim payments certified to the Contractor has reached thirty (30) percent of the Contract Price less Provisional Sums, and shall be made at the rate of thirty (30) percent of the amount of all Interim Payment Certificates in the types and proportionate amounts of currencies of the advance payment until such time as the advance payment has been repaid; always provided that the advance payment shall be completely repaid prior to the time when 80 percent of the Contract Price has been certified for payment.

**Sub-Clause
60.8
Time of
Payment and
Interest**

The amount due to the Contractor under any Interim Payment Certificate issued by the Engineer pursuant to this Clause, or to any other term of the Contract, shall, subject to Clause 47, be paid by the Employer to the Contractor within 56 days after the Contractor's monthly statement has been submitted to the Engineer for certification or, in the case of the Final Certificate pursuant to Sub-Clause 60.13, within 84 days after the agreed Final Statement and written discharge have been submitted to the Engineer for certification. In the event of the failure of the Employer to make payment within the times stated, the Employer shall pay to the Contractor interest compounded monthly at the rate(s) stated in the Appendix to Bid upon all sums unpaid from the date upon which the same should have been paid, in the currencies in which the payments are due.

**Sub-Clause
60.9
Correction of
Certificates**

The Engineer may by any Interim Payment Certificate make any correction or modification in any previous Interim Payment Certificates which has been issued by the Engineer, and shall have authority, if any work is not being carried out to the satisfaction of the Engineer, to omit or reduce the value of such work in any Interim Payment Certificate.

**Sub-Clause
60.10
Statement at
Completion**

Not later than 84 days after the issue of the Taking-Over Certificate in respect of the whole of the Works, the Contractor shall submit to the Engineer six (6) copies of a Statement at Completion with supporting documents showing in detail, in the form approved by the Engineer,

- (a) the final value of all work done in accordance with the Contract up to the date stated in such Taking-Over Certificate;
- (b) any further sums which the Contractor considers to be due; and
- (c) an estimate of amounts which the Contractor considers will become due to him under the Contract.

Estimated amounts shall be shown separately in such Statement at Completion. The Engineer shall certify payment in accordance with Sub-Clause 60.2.

**Sub-Clause
60.11
Final
Statement**

Not later than 56 days after the issue of the Defects Liability Certificate pursuant to Sub-Clause 62.1, the Contractor shall submit to the Engineer for consideration six (6) copies of a draft final statement with supporting documents showing in detail, in the form approved by the Engineer,

- (a) the value of all work done in accordance with the Contract; and
- (b) any further sums which the Contractor considers to be due to him under the Contract or otherwise.

If the Engineer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Engineer may reasonably require and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Engineer the final statement as agreed (for the purposes of these Conditions referred to as the “Final Statement”).

If, following discussions between the Engineer and the Contractor and any changes to the draft final statement which may be agreed between them, it becomes evident that a dispute exists, the Engineer shall issue to the Employer an Interim Payment Certificate for those parts of the draft final statement which are not in dispute. The dispute shall then be settled in accordance with Clause 67. The Final Statement shall be agreed upon settlement of the dispute.

| | |
|---|---|
| Sub-Clause 60.12 Discharge | Upon submission of the Final Statement, the Contractor shall give to the Employer, with a copy to the Engineer, a written discharge confirming that the total of the Final Statement represents full and final settlement of all monies due to the Contractor arising out of or in respect of the Contract. Provided that such discharge shall become effective only after payment due under the Final Payment Certificate issued pursuant to Sub-Clause 60.13 has been made and the - performance security referred to in Sub-Clause 10.1 has been returned to the Contractor. |
| Sub-Clause 60.13 Final Payment Certificate | <p>Within 28 days after receipt of the Final Statement, and the written discharge, the Engineer shall issue to the Employer (with a copy to the Contractor) a Final Payment Certificate stating</p> <p>(a) the amount which, in the opinion of the Engineer, is finally due under the Contract or otherwise, and</p> <p>(b) after giving credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled, other than Clause 47, the balance, if any, due from the Employer to the Contractor or from the Contractor to the Employer as the case may be.</p> |
| Sub-Clause 60.14 Cessation of Employer's Liability | The Employer shall not be liable to the Contractor for any matter or thing arising out of or in connection with the Contract or execution of the Works, unless the Contractor shall have included a claim in respect thereof in his Final Statement and (except in respect of matters or things arising after the issue of the Taking-Over Certificate in respect of the whole of the Works) in the Statement at Completion referred to in Sub-Clause 60.10. |
| Sub-Clause 65.2 Special Risks | <p>Sub-Clause 65.2 is amended to read as follows:</p> <p>“The Special Risks are the risks defined under paragraph. (a), subparagraphs (i) to (v) of Sub-Clause 20.4.”</p> |
| Sub-Clause 67 Settlement of Disputes | Clause 67 of the General Conditions is deleted and the following Sub-Clauses 67.1 to 67.6 are substituted therefor: |
| Sub-Clause 67.1 Dispute Adjudication Board | <p>If a dispute of any kind whatsoever arises between the Employer and the Contractor in connection with, or arising out of, the Contract or the execution of the Works, including any dispute as to any opinion, instruction, determination, certificate or valuation of the Engineer, the dispute shall initially be referred in writing to the Dispute Adjudication Board (“the Board”) for its decision. Such reference shall state that it is made under this Sub-Clause.</p> <p>Unless the member or members of the Board have been previously mutually agreed by the parties and named in the Contract, the parties shall, within 28 days of the Commencement Date, jointly ensure the appointment of the Board. The Board shall comprise suitably qualified persons as members, the number of members being either one or three, as stated in the Appendix to Tender. If the Board is to comprise three members, each party shall nominate one member for</p> |

the approval of the other party, and the parties shall mutually agree upon and appoint the third member (who shall act as chairman).

The terms of appointment of the Board shall:

- (a) incorporate the model terms therefor and procedural rules of the Dispute Adjudication Board published by the FIDIC, included in Annex A and B to Conditions of Particular Applications, as they may have been amended by the parties,
- (b) require each member of the Board to be, and to remain throughout his appointment, independent of the parties,
- (c) require the Board to act impartially and in accordance with the Contract, and
- (d) include undertakings by the parties (to each other and to the Board) that the member of the Board shall in no circumstances be liable for anything done or omitted in the discharge of their functions unless the act or omission is shown to have been in bad faith; the parties shall indemnify the members against such claims.

The terms of remuneration of each member of the Board, including the remuneration of any expert from whom the Board may seek advice, shall mutually agreed upon by the Employer, the Contractor and each member of the Board when agreeing the terms of appointment. In the event of disagreement, the remuneration of each member shall include a daily fee in accordance with the daily fee established from time to time for arbitrators under the administrative and financial regulations of the International Centre for Settlement of Investment Disputes, a retainer fee per calendar month equivalent to three times such daily fee and reimbursement for reasonable expenses. The Employer and the Contractor shall each be responsible for paying one-half of the Board's remuneration.

The appointment of any member of the Board may be terminated (other than on a member's own initiative) only by mutual agreement of the Employer and the Contractor. The appointment of each member of the Board shall expire when the discharge referred to in Sub-Clause 60.7 shall have become effective, or at such time as the parties may mutually agree.

If at any time the parties so agree, they may appoint a suitably qualified person or persons to replace (or to be available to replace) any or all members of the Board. Unless the parties agree otherwise, the appointment will come into effect if a member of the Board declines to act or is unable to act as a result of death, disability, resignation or termination of appointment. If any of such circumstances should occur and no such replacement is available, the member shall be replaced in the same manner as such member was nominated or agreed upon.

If any of the following conditions apply, namely:

- (a) either party fails to nominate a member (acceptable to the other party), for a Board of three members, within 28 days of the Commencement Date,
- (b) the parties fail to agree upon the appointment of the third member (to act as the chairman) for a Board of three members within 28 days of the Commencement Date, or
- (c) the parties fail to agree upon the appointment of a replacement member of the Board within 28 days of the date on which a member of the Board declines to act or is unable to act as a result of death, disability, resignation or termination of appointment,

then the appointing body or official named in the Appendix to Tender shall, after due consultation with the parties, appoint such member of the Board, and such appointment shall be final and conclusive.

**Sub-Clause
67.2
Procedure for
Obtaining the
Board's
Decision**

When in accordance with Sub-Clause 67.1 a dispute is referred by one party to the Board, a copy of such reference shall be sent by that party to the other party and (for information) to the Engineer. The parties shall promptly make available to the Board all such additional information, further access to the Site, and appropriate facilities, as the Board may require for the purposes of rendering a decision.

The Board shall have full power, among other things, to:

- (a) establish the procedure to be applied in deciding a dispute,
- (b) decide upon the Board's own jurisdiction, and as to the scope of any dispute referred to it,
- (c) take the initiative in ascertaining the facts and matters required for a decision,
- (d) make use of its own specialist knowledge, if any,
- (e) decide upon the payment of interest in accordance with the Contract,
- (f) decide to grant provisional relief such as interim or conservatory measures, and
- (g) open up, review and revise any opinion, instruction, determination, certificate or valuation of the Engineer related to the dispute.

No later than the eighty-fourth day after the day on which it received such reference, the Board, acting as a panel of expert(s) and not as arbitrator(s), shall give notice of its decision, to the parties and (for information) to the Engineer. Such decision, which shall be reasoned, shall state that it is given under this Sub-Clause.

Unless the Contract has already been repudiated or terminated, the Contractor shall, in every case, continue to proceed with the Works with all due diligence, and the Contractor and the Employer, as well

as the Engineer, shall give effect forthwith to every decision of the Board, unless and until the same shall be revised, as hereinafter provided, in an amicable settlement or an arbitral award.

If either party is dissatisfied with the Board's decision, then either party, on or before the twenty-eighth day after the day on which it received notice of such decision, may notify the other party and (for information) the Engineer of its dissatisfaction. In either event, such notice of dissatisfaction shall state that it is given under this Sub-Clause, and set out the matter in dispute and the reason(s) for dissatisfaction. Subject to Sub-Clauses 67.5 and 67.6, no arbitration in respect of such dispute may be commenced unless such notice is given.

If the Board has given notice of its decision as to a matter in dispute to the Employer, the Contractor and the Engineer, and no notice of dissatisfaction has been given by either party on or before the twenty-eighth day after the day on which the parties received the Board's decision, then the Board's decision shall become final and binding upon the Employer and the Contractor.

**Sub-Clause
67.3
Amicable
Settlement**

Where notice of dissatisfaction has been given under Sub-Clause 67.2, the parties shall attempt to settle such dispute amicably before the commencement of arbitration. Provided that unless the parties agree otherwise, arbitration may be commenced on or after the fifty-sixth day after the day on which notice of dissatisfaction was given, even if no attempt at amicable settlement has been made.

**Sub-Clause
67.4
Arbitration**

Any dispute in respect of which:

- (a) the decision, if any, of the Board has not become final and binding pursuant to Sub-Clause 67.2, and
- (b) amicable settlement has not been reached,

shall be settled, unless otherwise specified in the Contract, under the Rules of Conciliation and Arbitration of the International Chamber of Commerce by one or more arbitrators appointed under such Rules. The arbitrator(s) shall have full power to open up, review and revise any decision of the Board, as well as any opinion, instruction, determination, certificate or valuation of the Engineer, related to the dispute.

Neither party shall be limited in the proceedings before such arbitrator(s), to the evidence or arguments previously put before the Board to obtain its decision.

Arbitration may be commenced prior to or after completion of the Works. Any decision of the Board shall be admissible in evidence in the arbitration. The obligations of the parties, the Engineer and the Board shall not be altered by reason of the arbitration being conducted during the progress of the Works.

| | | |
|--|-----|--|
| Sub-Clause 67.5 Failure to Comply with the Board's Decision | | Where neither party has given notice of dissatisfaction within the period in Sub-Clause 67.2 and the Board's related decision, if any, has become final and binding, either party may, if the other party fails to comply with such decision, and without prejudice to any other rights it may have, refer the failure itself to arbitration under Sub-Clause 67.4. The provisions of Sub-Clauses 67.2 and 67.3 shall not apply to any such reference. |
| Sub-Clause 67.6 Expiry of the Board's Appointment | | When the appointment of the members of the Board, including any replacements, has either been terminated or expired, any such dispute referred to in Sub-Clause 67.2 shall be finally settled by arbitration pursuant to Sub-Clause 67.4. The provisions of Sub-Clauses 67.2 and 67.3 shall not apply to any such reference. |
| Sub-Clause 68.2 Notice to Employer and Engineer | | For the purposes of this Sub-Clause the respective addresses are: (a) The Employer: _____ (b) The Engineer: _____ |
| Sub-Clause 69.1 Default of Employer | (a) | In Sub-Clause 69.1 (a), substitute "56 days" for "28 days". |
| | (d) | Sub-Clause 69.1(d) is deleted |
| Sub-Clause 69.3 Payment on Termination | | Delete words from "but, in addition to the payments specified....." to the end of the sub-clause. |
| Clause 70 Changes in Cost and Legislation | | Delete Clause 70 in its entirety and substitute: |
| Sub Clause 70.1 Price Adjustment | | The amounts payable to the Contractor and valued at base rates and prices pursuant to Sub-Clause 60.1 (d), (e) and (f) shall be adjusted in respect of the rise or fall in the cost of labor, Contractor's Equipment, Plant, materials and other inputs to the Works, by the addition or subtraction of the amounts determined by the formulae prescribed in this Clause. |
| Sub-Clause 70.2 Other Changes in Cost | | To the extent that full compensation for any rise or fall in costs to the Contractor is not covered by the provisions of this or other Clauses in the Contract, the unit rates and prices included in the Contract shall be deemed to include amounts to cover the contingency of such other rise or fall of costs. |
| Sub-Clause 70.3 Adjustment Formulae | | The amount to be added to or deducted from the Adjustment Interim Payment Certificates in respect of changes in cost and legislation shall be determined from formulae for each of the currencies of payment and each of the types of construction work to be performed and Plant |

to be supplied. The formulae will be of the following general type:

$$P_n = a + b(L_n/L_o) + c(M_n/M_o) + d(E_n/E_o) + \text{etc.}$$

Where:

“P_n” is the adjustment factor to be applied to the estimated value of the work carried out in month “n”, determined in accordance with Sub-Clause 60.1 (d), (e) and (f);

“a” is a fixed coefficient, specified in the Appendix to Bid, representing the nonadjustable portion in contractual payments;

“b”, “c”, “d”, etc., are coefficients representing the estimated proportion of each cost element (labor, materials, etc.) in the Works or sections thereof, net of Provisional Sums, as specified in the Appendix to Bid;

“L_n”, “M_n”, “E_n”, etc., are the current cost indices or reference prices for month “n”, determined pursuant to Sub-Clause 70.5, applicable to each cost element; and

L_o, M_o, E_o, etc., are the base cost indices or reference prices corresponding to the above cost elements at the date specified in Sub-Clause 70.5.

**Sub-Clause
70.4
Sources of
Indices**

The sources of indices shall be those listed in the Appendix to Bid, as approved by the Engineer.

**Sub-Clause
70.5
Base, Current
and Provisional
Indices**

The base cost indices or prices shall be those Base, prevailing on the day 28 days prior to the closing and date for submission of bids. Current indices or prices shall be those prevailing on the day 28 days prior to the last day of the period to which a particular Interim Payment Certificate is related. If at any time the current indices are not available, provisional indices as determined by the Engineer will be used, subject to subsequent correction of the amounts paid to the Contractor when the current indices become available.

**Sub-Clause
70.6
Adjustment
after
Completion**

If the Contractor fails to complete the whole of the Works within the time for completion prescribed under Clause 43, adjustment of prices thereafter until the date of completion of the Works shall be made using either the indices or prices relating to the prescribed time for completion, or the current indices or prices, whichever is more favorable to the Employer, provided that if an extension of time is granted pursuant to Clause 44 the above provision shall apply only to adjustments made after the expiry of such extension of time.

**Sub-Clause
70.7
Weightings**

The weightings for each of the factors of cost given in the Appendix to Bid shall be adjusted if, in the opinion of the Engineer, they have been rendered unreasonable, unbalanced or inapplicable as a result of varied or additional work already executed or ordered under Clause 51 or for any other reason.

**Sub-Clause
70.8
Subsequent
Legislation**

If, after the date 28 days prior to the latest date for submission of bids for the Contract there occur in the country in which the Works are being or are to be executed changes to any National or State Statute, Ordinance, Decree or other Law or any regulation or by-law of any local or other duly constituted authority, or the introduction of any such State Statute, Ordinance, Decree, Law, regulation or by-law which causes additional or reduced cost to the Contractor, other than under the preceding Sub-Clauses of this Clause, in the execution of the Contract, such additional or reduced cost shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be added to or deducted from the Contract Price and the Engineer shall notify the Contractor accordingly, with a copy to the Employer. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same shall already have been taken into account in the indexing of any inputs to the Price Adjustment Formulae in accordance with the provisions of Sub-Clauses (1) to (7) of this Clause.”

**Sub-Clause
72.2
Currency
Proportions**

Delete the words from “...prevailing...” to the end of the sentence, and substitute:

“Selling rates prevailing, as determined by National Bank of Kazakhstan or another appropriate source agreed between the Employer and the Contractor, on the date 28 days prior to the deadline for submission of tenders.”

**Clause 73
Taxation**

Add following Clause 73 Taxation to the Part I General Conditions:

**Sub-Clause
73.1
Foreign
Taxation**

The prices bid by the Contractor shall include all taxes, duties and other charges imposed outside the Employer’s country on the production, manufacture, sale and transport of the Contractor’s Equipment, Plant, materials and supplies to be used on or furnished under the Contract, and on the services performed under the Contract.

**Sub-Clause
73.2
Local Taxation**

The prices bid by the Contractor shall include all customs duties, import duties, business taxes, income and other taxes that may be levied in accordance to the laws and regulations in being as of the date 28 days prior to the closing date for submission of bids in the Employer’s country on the Contractor’s Equipment, Plant, materials and supplies (permanent, temporary and consumable) acquired for the purpose of the Contract and on the services performed under the Contract. Nothing in the Contract shall relieve the Contractor from his responsibility to pay any tax that may be levied in the Employer’s country on profits made by him in respect of the Contract. The Contractor shall be deemed to be familiar with the tax laws in the Employer’s country.

**Sub-Clause
73.3
Income Taxes
on Staff**

The Contractor’s staff and labor will be liable to pay personal income taxes in the Employer’s country in respect of such of their salaries and wages as are chargeable under the laws and regulations for the time being in force, and the Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such laws and regulations.

**Sub-Clause
73.4
Taxes
Exemption**

Notwithstanding Sub-Clause 73.1, 73.2 and 73.3 above, the Government of the Employer's country will exempt:

- (a) Japanese companies operating as supplier or contractors from all fiscal levies and taxes imposed in the Employer's country with respect to the income accruing from the supply of products and/or services to be provided under the JBIC loan for the Contract.
- (b) Japanese companies operating as the Contractor from all duties and related fiscal charges imposed in the Employer's country with respect to the import and re-export of the Contractor's equipment needed for the implementation of the Contract, and
- (c) Japanese employees engaged in the implementation of the Contract from all fiscal levies and taxes imposed in the Employer's country on their personal income derived from Japanese companies operating as supplier or contractors.

**Sub-Clause
74.1
Bribes**

Add following Sub-Clause 74.1 Bribes to the Part I General Conditions:

"If the Contractor, or any of his Subcontractors, agents or servants gives or offers to give to any person any bribe, gift, gratuity or commission as an inducement or reward for doing or forbearing to do any action in relation to the Contract or any other contract with the Employer, or for showing or forbearing to show favor or disfavor to any person in relation to the Contract or to any other contract with the Employer, then the Employer may enter upon the Site and the Works and expel the Contractor and the provisions of Clause 63 hereof shall apply as if such entry and expulsion had been made pursuant to that Clause."

**Sub-Clause
75.1
Termination of
Contract for
Employer's
Convenience**

Add following Sub-Clause 75.1 Termination of Contractor for Employer's Convenience to the Part I General Conditions:

"The Employer shall be entitled to terminate this Contract at any time for the Employer's convenience after giving 56 days prior notice to the Contractor, with a copy to the Engineer. In the event of such termination, the Contractor

(a) shall proceed as provided in Sub-Clause 65.7; and

(b) shall be paid by the Employer as provided in Sub-Clause 65.8."

**Sub-Clause
76.1
Restrictions on
Eligibility**

Add following Sub-Clause 76.1 Restrictions on Eligibility to the Part I General Conditions:

"(a) Any Plant or services which will be incorporated in or required for the Works, as well as the Contractor's Equipment and other supplies, shall have its origin in eligible source countries as listed in Section 5.

(b) For the purposes of this clause, "origin" means the place where the equipment is produced, or manufactured, or from which the

services are provided.

- (c) The origin of Goods and Services is distinct from the nationality of the Supplier.”

**Sub-Clause
77.1
Joint and
Several
Liability**

Add following Sub-Clause 77.1 Joint and Several Liability to the Part I General Conditions:

“If the Contractor is a joint venture of two or more persons, all such persons shall be jointly and severally bound to the Employer for the fulfillment of the terms of the Contract and shall designate one of such persons to act as a leader with authority to bind the joint venture. The composition or the constitution of the joint venture shall not be altered without the prior consent of the Employer.”

**Sub-Clause
78.1
Details to be
Confidential**

Add following Sub-Clause 78.1 Details to be Confidential to the Part I General Conditions:

“The Contractor shall treat the details of the Contract as private and confidential, save insofar as may be necessary for the purposes thereof, and shall not publish or disclose the same or any particulars thereof in any trade or technical paper or elsewhere without the previous consent in writing of the Employer or the Engineer. If any dispute arises as to the necessity of any publication or disclosure for the purpose of the Contract the same shall be referred to the decision of the Employer whose award shall be final.”

SECTION 5

FORM OF BID, APPENDIX, BID SECURITY AND LIST OF ELIGIBLE COUNTRIES OF JBIC ODA LOANS

FORM OF BID

Name of Contract: CP-1 Construction of Water Supply and Sewerage Facilities

To: ASTANA CITY GOVERNMENT (AKIMAT)_

Gentlemen:

1. Having examined the Conditions of Contract, Specification, Drawings, and Bill of Quantities and Addenda Nos. _____ for the execution of the above-named Works we, the undersigned, offer to execute and complete such Works and remedy any defects therein in conformity with the Conditions of Contract, Specification, Drawings, Bill of Quantities and Addenda for the sum of _____

(words and (figures) in Kazakhstan Tenge andwords and (figures) in Japanese Yen)

as specified in the Appendix to Bid or such other sums as may be ascertained in accordance with the said Conditions.

2. We acknowledge that the Appendix forms part of our Bid.
3. We undertake, if our Bid is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Engineer's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Appendix to Bid.
4. We agree to abide by this Bid for the period of one hundred fifty (150) days from the date fixed for receiving the same, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
5. Unless and until a formal Agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
6. We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this _____ day of _____ (state year)_____

Signature_____ in the capacity of _____duly

authorized to sign bids for and on behalf of _____

[in block capitals or typed]

Address

Witness

Address

Occupation

APPENDIX TO BID

Bidders should fill in appropriate blank spaces. Use only those items which are relevant to the specific Works.

| Sub-Clause | | |
|--|--------------|--|
| Engineer's authority to issue variations | 2.1 (d) (ii) | <u>Ten (10)</u> percent of the Contract Price |
| Amount of Performance Security | 10.1 | <u>Ten (10)</u> percent of the Contract Price <i>(for banker's guarantee)</i> |
| Minimum amount of the third party insurance | 23.2 | <u>Fifty thousand (50,000) US Dollars</u> per occurrence, with the number of occurrences unlimited |
| Time for issue of the notice to commence | 41.1 | within <u>fifty six (56)</u> days after the Letter of Acceptance |
| Time for Completion after the commencement date | 43.1 | <u>One thousand two hundred and sixty (1,260)</u> days |
| Amount of liquidated damages | 47.1 | <u>One tenth (0.1) percent of the Contract Price</u> per day |
| Limit of liquidated damages | 47.1 | <u>Ten (10) percent of the Contract Price</u> |
| Defects Liability Period | 49.1 | <u>Three hundred and sixty five (365)</u> days |
| Percentage for Adjustment of Provisional Sums | 59.4(c) | * _____ percent |
| Rates of exchange for currencies used by the bidder in calculating its bid price | 72.2 | _____ = _____ |
| Source for obtaining rates of exchange for currencies used by the bidder in | 72.2 | <u>National Bank of Kazakhstan</u> |

calculating its bid price

Indicate source of exchange if
exchange rates are not published
by the source indicated

| | | | |
|--|-----------------------|---|---|
| Minimum amount of Interim Payment Certificates | 60.2 | <u>Six hundred and fifty million (650,000,000) Japanese Yen equivalent</u> | |
| Origin of materials and Plant | 60.3(a)(v) 60.3(d) | <i>[Listed under Sub-Clause 70.4]</i> | |
| Retention Money | 60.5 | <u>Ten (10)</u> | percent of Interim Payment Certificates |
| Advance Payment | 60.7 | <u>Fifteen (15)</u> | percent of the Contract Price |
| Start Repayment of Advance Payment | 60.7 | After certification of <u>thirty (30)</u> percent of the Contract Price less Provisional Sums | |
| Monthly amortization of Advance Payment | 60.7 | <u>Thirty (30)</u> | percent of the amount of monthly Interim Payment Certificates |
| Rate of interest upon unpaid sums | 60.8 | <u>Fifteen (15)</u> | percent for payments in local currency; for other currencies, refer to the table below: |

| Currency (as per Sub-Clause 60.1) | Rate of Commercial Interest for Daily Borrowing in Country of Origin, plus 2 percent |
|-----------------------------------|--|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

The above rates of interest for foreign currencies shall be supplied by the bidder, and are subject to negotiation before formalizing the Contract.

Procedure for Settlement of Disputes and Arbitration in accordance with Conditions of Particular Application

| | | |
|--------------------------------------|------|--|
| Procedure for Settlement of Disputes | 67 | The procedure for Settlement of Disputes is as stipulated in Clause 67 Settlement of Dispute of Conditions of Particular Applications. |
| | 67.1 | Number of members of Dispute Adjudication Board: <u>three (3)</u> |
| | 67.1 | Member of Dispute Adjudication Board (if not agreed) to be appointed by the Chairman or President for the International Arbitration Court of the Republic of Kazakhstan, Dostyk Business Centre, 43 Dostyk Avenue, Almaty. |
| Number of arbitrators | 67.4 | <u>Three (3)</u> |
| Place of arbitration | 67.4 | <u>Republic of Kazakhstan</u> |
| Language of arbitration | 67.4 | English |
| Factors for price adjustment formula | 70.3 | <i>[See table below]</i> |

| Description | Factor | % Range of Weighting |
|----------------------------|--------|----------------------|
| (a) Fixed | 0.1 | 10 % |
| (b) Labor | | 5 to 15 % |
| (c) Contractor's Equipment | | 15 to 25 % |
| (e) Fuel | | 10 to 20 % |
| (f) Cement | | 5 to 15 % |
| (g) Reinforcement Bar | | 15 to 25 % |
| (h) Other Material | | 15 to 25 % |
| etc. | | |
| Total | 1.00 | 100 % |

Sources of Indices

70.4 [See table below]

| Index for: (factor) | Origin of Input (country) | Currency of Index | Published Source of Index | Base Value on the date 28 days prior to submission of Bid |
|------------------------|------------------------------|-------------------|------------------------------|--|
| (LL) Labor | Local | _____ | _____ | _____ |
| (FL) Labor | _____ | _____ | _____ | _____ |
| (..) _____ | _____ | _____ | _____ | _____ |
| (..) _____ | _____ | _____ | _____ | _____ |
| (..) _____ | _____ | _____ | _____ | _____ |
| (..) _____ | _____ | _____ | _____ | _____ |
| etc. | | | | |

S A M P L E

FORM OF BID SECURITY (BANK GUARANTEE)

WHEREAS, _____ [Name of Bidder] (hereinafter called “the Bidder”) has submitted his bid dated _____ [Date] for the Construction of Water Supply and Sewerage Facilities (Reference CP-1) of Astana Water Supply and Sewerage Project (hereinafter called “the Bid”).

KNOW ALL MEN by these presents that We _____ [Name of Bank] of _____ [Name of Country] having our registered office at _____ (hereinafter called “the Bank”) are bound unto the Astana City Government (AKIMAT) (hereinafter called “the Employer”) in the sum of three million (3,000,000) United States Dollar for which payment well and truly to be made to the said Employer the Bank binds himself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of _____ (state year)_____.

THE CONDITIONS of this obligation are:

- (1) If the Bidder withdraws his Bid during the period of bid validity specified in the Form of Bid: or
- (2) If the Bidder does not accept the correction of arithmetical errors of his bid price in accordance with the Instructions to Bidders: or
- (3) If the Bidder having been notified of the acceptance of his Bid by the Employer during the period of bid validity:
 - (a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or
 - (b) fails or refuses to furnish the Performance Security, in accordance with the Instructions to Bidders,

we undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date twenty eight (28) days after the date

of expiration of the Bid Validity as it is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE _____ SIGNATURE OF THE BANK _____

WITNESS _____ SEAL _____

(Signature, Name, and Address)

LIST OF ELIGIBLE COUNTRIES OF JBIC ODA LOANS

All countries and areas are eligible.

SECTION 7

SAMPLE FORM OF AGREEMENT

Bidders Should not complete the Form of Agreement at this time. Only the successful bidder will be required to complete the Form.

AGREEMENT

This Agreement made this _____ day of _____ (state month and year) between Astana City Government (AKIMAT) of Republic of Kazakhstan (hereinafter called “the Employer”) of the one part and _____ of _____ (hereinafter called “the Contractor”) of the other part.

Whereas the Employer is desirous that certain Works should be executed by the Contractor, viz. Construction of Water Supply and Sewerage Facilities of Astana Water Supply and Sewerage Project and has accepted a Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

Now this Agreement witnesseth as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz:
 - (a) The Letter of Acceptance;
 - (b) The said Bid and the Appendix to Bid;
 - (c) The Conditions of Particular Application (Part II);
 - (d) The General Conditions (Part I);
 - (e) The Particular Specifications;
 - (f) The Standard Specifications;
 - (g) The Drawings;
 - (h) The Priced Bill of Quantities; and
 - (i) The Schedules of Supplementary Information
3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

In Witness whereof the parties hereto have caused this Agreement to be executed the day and

year first before written.

SIGNED by: _____ SIGNED by: _____

for and on behalf of the Employer in the
presence of

for and on behalf of the Contractor in the
presence of

Witness: _____

Witness: _____

Name: _____

Name: _____

Address: _____

Address: _____

Date: _____

Date: _____

SECTION 8

SAMPLE FORM OF SECURITIES

Section 8

SAMPLE FORMS OF SECURITIES

Notes on the Sample Forms: The Performance Security and the Advance Payment Security forms should not be completed by the bidders at the time of bid preparation. Only the successful Bidder will be required to provide these securities in accordance with the forms indicated herein or in another form acceptable to the Employer.

FORM OF PERFORMANCE SECURITY

(BANK GUARANTEE)

THIS AGREEMENT is made on the _____ day of _____ (state month and year) between _____ [*name of bank*] of _____ [*address of bank*] (hereinafter called “the Guarantor”) of the one part and Astana City Government (AKIMAT) of _____ ;[*address of Employer*] (hereinafter called “the Employer”) of the other part.

WHEREAS

(1) this agreement is supplemental to a contract (hereinafter called “the Contract”) made between [*name of Contractor*] of _____ [*address of Contractor*](hereinafter called “the Contractor”) of the one part and the Employer of the other part whereby the Contractor agreed and undertook to execute the Works of Construction of Water Supply and Sewerage Facilities of Astana Water Supply and Sewerage Project for the sum of _____ [*amount in Contract currency*] being the Contract Price; and

(2) the Guarantor has agreed to guarantee the due performance of the Contract in the manner hereinafter appearing.

NOW, THEREFORE, the Guarantor hereby agrees with the Employer as follows:

(a) If the Contractor (unless relieved from the performance by any clause of the Contract or by statute or by the decision of a tribunal of competent jurisdiction) shall in any respect fail to execute the Contract or commit any breach of his obligations thereunder then the Guarantor will indemnify and pay the Employer the aggregate sum of _____ [*amount of Guarantee*] [*in words*], such sum being payable in the types and amounts of currencies in which the Contract Price is payable, provided that the Employer or his authorized representative has notified the Guarantor to that effect and has made a claim against the Guarantor before the issue of the Defects Liability Certificate.

(b) The Guarantor shall not be discharged or released from his guarantee by an arrangement between the Contractor and the Employer, with or without the consent of the Guarantor, or by any alteration in the obligations undertaken by the Contractor, or by any forbearance on the part of the Contractor, whether as to payment, time, performance, or other wise, and any notice to the Guarantor of any such arrangement, alteration, or forbearance is hereby expressly waived.

This Guarantee shall be valid until a date 28 days from the date of issue of the Taking-Over Certificate.

Given under our hand on the date first mentioned above.

| | |
|------------------------------|-----------------------------|
| SINGED BY _____ | SINGED BY _____ |
| for and on behalf of the | for and on behalf of the |
| Guarantor in the presence of | Employer in the presence of |

| | |
|-----------|-----------|
| _____ | _____ |
| (Witness) | (Witness) |

FORM OF ADVANCE PAYMENT SECURITY

(BANK GUARANTEE)

To: Astana City Government (AKIMAT)

_____ [address of Employer]

CP-1; Construction of Water Supply and Sewerage Facilities

Gentlemen:

In accordance with the provisions of the Conditions of Particular Application, Sub-Clause 60.7 (“Advance Payment”) of the above-mentioned Contract, _____ [name and Address of Contractor] (hereinafter called “the Contractor”) shall deposit with Astana City Government (AKIMAT) a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of _____ [amount of Guarantee] _____ [in words].

We, the _____ [bank or financial institution], as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to Astana City Government (AKIMAT) on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding _____ [amount of Guarantee] _____ [in words].

We further agree that no change or addition to or other modification of the terms of the Contract or of Works to be performed thereunder or of any of the Contract documents which may be made between Astana City Government (AKIMAT) and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until Astana City Government (AKIMAT) receives full repayment of the same amount from the Contractor.

Yours truly, _____

SIGNATURE AND SEAL: _____

Name of Bank/Financial Institution: _____

Address: _____

Date: _____

SECTION 9

SCHEDULES OF SUPPLEMENTARY INFORMATION

SCHEDULE I**MAJOR ITEMS OF CONSTRUCTIONAL PLANT**

The bidder shall enter in this Schedule all major items of Constructional Equipment which he proposes to bring on site, both owned and leased (rented), and shall indicate the proposed port of entry.

The bidder shall list in this Schedule the capacity in tons, cubic meters or other appropriate measures, for each equipment.

| Description (Type, Model, Make) | No. of Each | Year of Manufacture | New or Used | Owned (O) or Leased (L) | Est. CIF Value | Power Rating | Capacity t or m ³ |
|--|----------------|------------------------|-------------------|-------------------------------|----------------------|-----------------|---------------------------------|
| 1. Hauler (trailer, truck, dump truck, etc.) | | | | | | | |
| 2. Earth Works (bulldozer, excavator with bucket, excavator with clamshell grab, shovel loader, tire roller, rammer, vibrating roller, vibrating compactor etc.) | | | | | | | |
| 3. Crane (crawler crane, truck crane, etc.) | | | | | | | |
| 4. Concreting (concrete mixer, concrete pump, concrete agitator truck, concrete batch plant, etc.) | | | | | | | |
| 5. Pile Driving (diesel hammer, vibrating pile-driver, etc) | | | | | | | |
| 6. Piping (Plumbing Tools including equipment for pipe pressure test, Pipe Jacking Equipment, Jack, etc.) | | | | | | | |
| 7. General Equipment for Construction (engine generator, welder, drain pump, air compressor, etc.) | | | | | | | |
| 8. Others (asphalt finisher, asphalt cutter, concrete breaker, steel sheet piles, etc.) | | | | | | | |

SCHEDULE II**KEY PERSONNEL**

The bidder shall list in this Schedule the key personnel (including first nominee and the second choice alternate) he will employ from headquarters and from Site Office to direct and execute the Work, together with their qualifications, experience, positions held and their nationalities.

| Name of (1) Nominee (2) Alternate | Summary of Qualifications Experience and Present Occupation |
|--|--|
| <p>Headquarters</p> <ul style="list-style-type: none"> - Partner/Director - Other Key Staff <p>(give designation)</p> <p>Site Office</p> <ul style="list-style-type: none"> - Project Manager - Civil Works Manager - Mechanical Works Manager - Electrical Works Manager - Logistic and Administrative Manager - Other Experts and Engineer for respective works <p>(give designation)</p> | |

SCHEDULE III**SUBCONTRACTORS**

The bidder shall enter in this Schedule a list of the sections and appropriate value of the work for which he proposes to use subcontractors, together with the names and addresses of the proposed subcontractors. The bidder shall attach documentary evidences of intent on subcontract(s) exchanged between the Bidder and Subcontractor(s). The bidder shall also enter a statement of similar works previously executed by the proposed subcontractors, including description, location and value of work, year completed, and name and address of the employer/engineer. Notwithstanding such information the bidder, if awarded the Contract, shall remain entirely and solely responsible for the satisfactory completion of the Works.

| Element of Work | Approximate Value | Name and Address of Subcontractor | Statement of Similar Works Previously Executed |
|-----------------|-------------------|-----------------------------------|--|
| | | | |

SCHEDULE IV

OTHER TECHNICAL PROPOSAL

The bidder shall attach technical proposal including drawings in following respects:

- (1) Construction Time Schedule, including delivery schedule of Plant including pipes.
- (2) Construction Method,
- (3) Quality Control System, and
- (4) Organization.

SCHEDULE V

FINANCIAL INFORMATION

The bidder shall attach the following updated financial information:

(1) Annual Report

The bidder including all partners if joint venture shall submit annual report for the last five (5) years which have been audited by a registered accountant. The bidder shall demonstrate his financial status to complete the Work.

(2) Bank reference

The bidders shall submit a bank reference letter from a reputable commercial bank to the effect that such bank certifies the financial capability of the bidder to meet their financial obligation to perform the said contract and considers to issue a specific line of credit when and if the contract is awarded to the bidder.

(3) Estimated Cash Flow

The bidders shall submit estimated monthly cash flow for the entire duration of the Contract.

SCHEDULE VI

SCHEDULE OF PROPOSED EQUIPMENT/MATERIALS

The Bidder shall fill the following tables to describe the required information of the proposed equipment/materials.

Sub-schedule VI-1 Principal Manufacturers and Suppliers

The Bidder shall present names of manufacturers and demonstrate their qualification to meet to the following requirements for manufacturers of the equipment/materials listed in the table. The Bidder shall not alter the proposed manufacturers without consent of the Employer through bidding and execution of the contract when the Bidder is awarded.

The details in these schedules are to be completed and provided by the Bidder and are to be submitted with the Bidding Documents. Failure to provide the required information or documentary evidence shall result in rejection of the tender.

If the Bidder wishes to propose more than one source of supply, he may use the separate sheets of the same format for the purpose, and shall mark additional sheets as Sub-schedule 1A, 1B, etc.

Information must be given strictly according to the specification.

Unless otherwise specified acceptable documentary evidence with regard to manufacturing and supplying of the equipment to overseas locations on similar contracts completed outside of home country shall consist of:

- A certified copy of signed letter on headed notepaper from each end user giving details of the equipment; or
- Certified copies of shipping lists; or
- Certified copies of invoices; or
- Certified inspection reports from reputable inspection agencies.

ISO registration certificates must be valid for design and manufacture of the equipment to be supplied and have the same registered company name and address as the proposed supplier listed in the tender.

Table VI-1-1 Water Supply

| Item | Tag Number or Type | Name of Proposed Manufacturer or Subcontractor | Country of Manufacture | Particular Requirements |
|--------|----------------------------|--|------------------------|-------------------------|
| Pumps | W11 RP 11 to 61 | (same manufacturer) | | A |
| | W35 WP 11 to 61 | | | B |
| | W36 BP 11 to 31 | (same manufacturer) | | C |
| | All Slurry/Sludge Pumps | | | - |
| Motors | W11 RP 11 to 61 | (same manufacturer) | | - |
| | W11 WP 11 to 31 | | | D |
| Pipes | Steel Pipe | | | - |
| | Ductile Cast Iron Pipe | | | - |
| Valves | Motorized Butterfly Valves | (same manufacturer) | | E |
| | W33 PV 11 to 64 | | | - |
| | W12 MV 11 | (same manufacturer) | | F |
| | W31 MV 11 to 21 | | | |
| | W34 HV 03 to 04 | | | - |
| | W35 HV 01 | | | - |

| Item | Tag Number or Type | Name of Proposed Manufacturer or Subcontractor | Country of Manufacture | Particular Requirements |
|---------------------------------|----------------------------|--|------------------------|-------------------------|
| Gates | All | | | - |
| Distribution Weirs | W31MG 11 to 31 | | | - |
| Cranes/Hoists | All | | | - |
| Surge Control System | All | | | G |
| Sludge Scrapers | W33 SC 11 to 61 | | | H |
| Rapid Sand Filters | All | | | I |
| Sludge Thickeners | W37 SS 11 to 21 | | | - |
| Evaporators | W45 EV 01 to 02 | (same manufacturer) | | - |
| Chlorinators | W45 CL 11 to 41 | | | - |
| Chemical Pumps | All Chemical Pumps | | | - |
| 11kV & 35kV Switchgear | All | (same manufacturer) | | - |
| 11/6 kV Power Transformer | W47 PTR 01/02 | (same manufacturer) | | - |
| 6kV Switchgear | All | (same manufacturer) | | - |
| 6kV Motor Starter | All | | | - |
| 6kV VVVF Unit | W47VVVF01 | | | - |
| 6/0.38 kV Transformer | W47LTR01/02 S24TRP01/02 | (same manufacturer) | | - |
| MCC & Ry Panel | All | (same manufacturer) | | - |
| Local Operation Panel | ALL | (same manufacturer) | | - |
| Ultrasonic Type Flow meter | ALL | (same manufacturer) | | - |
| Electromagnetic Type Flow Meter | ALL | (same manufacturer) | | - |

| Item | Tag Number or Type | Name of Proposed Manufacturer or Subcontractor | Country of Manufacture | Particular Requirements |
|--|--------------------|--|------------------------|-------------------------|
| Submersible Hydrostatic Type Level Meter | ALL | (same manufacturer) | | - |
| Flange Type (Hydrostatic Type) Level Meter | ALL | (same manufacturer) | | - |
| PLC Panel | ALL | (same manufacturer) | | - |
| Monitoring System | | | | - |

Requirements

1. Minimum Requirement

- a. Manufacturer shall possess quality assurance system certified by ISO 9000 series
- b. Manufacturer shall have experiences in installation of the proposed plants outside of home country during last 10 years

2. Particular Requirements

A: W11 RP 11 to 61

- a. The pump manufacturer shall substantiate quoted efficiency with at least one owner's certificate and corresponding test record of specific speed similar to the specified pump with suction diameter of not less than 500 mm.
- b. The pump manufacturer shall substantiate manufacturing and supplying of pumps and motors with the following conditions satisfactorily completed outside of home country during the last 5 years:
 1. Vertical centrifugal pump of similar capacity and head with floating shaft and intermediate bearing unit.
 2. Vertical centrifugal pump with quoted pump efficiency at same or lower speed and capacity than specified.
- c. The pump manufacturer shall have experience of surge analysis of similar discharge capacity of the pump and the approximately 25 km of transmission pipelines.

B: W35 WP 11 to 61

- a. The pump manufacturer shall substantiate quoted efficiency with at least one owner's certificate and corresponding test record of specific speed similar to the specified pump with suction

diameter of not less than 500 mm.

- b. The pump manufacturer shall substantiate manufacturing and supplying of pumps and motors with the following conditions satisfactorily completed outside of home country during the last 5 years:
 - 1. Horizontal centrifugal pumps of similar capacity and head with quoted pump efficiency at same or lower speed and capacity than specified.
 - 2. Horizontal centrifugal pump with invert type variable speed motor of similar motor output with quoted pump.

C: W36 BP 11 to 31

- a. The pump manufacturer shall substantiate quoted efficiency with at least one owner's certificate and corresponding test record of specific speed similar to the specified pump with suction diameter of not less than 250 mm.
- b. The pump manufacturer shall substantiate manufacturing and supplying of pumps and motors with the horizontal centrifugal slurry pumps of similar capacity and head with quoted pump efficiency at same or lower speed and capacity than specified satisfactorily completed outside of home country during last 10 years:

D: Motor for W11 WP 11

- a. The motor manufacturer shall substantiate manufacturing and supplying of pumps and motors with the invert type variable speed motor of similar motor output satisfactorily completed outside of home country during the last 10 years.

E: W11 MV 01 to 03

- a. The valve manufacturer shall substantiate manufacturing and supplying of pumps and motors with the motor driven metal-seated butterfly valve with diameter of 1500 mm or over satisfactorily completed outside of home country during the last 10 years.

F: W12 MV 11

- a. The valve manufacturer shall substantiate manufacturing and supplying of pumps and motors with the motor driven toothed butterfly valve with diameter of 1100 mm or over satisfactorily completed outside of home country during the last 10 years.

G.: W12 ST 01 to 02

- a. The surge control system manufacturer shall substantiate manufacturing and supplying of surge control system with capacity of 75 m³ or over satisfactorily completed outside of home country during the last 10 years.

H: W33 SC 11 to 61

- a. The sludge collector manufacturer shall substantiate manufacturing and supplying of the similar type and equal or larger size of the sludge collectors satisfactorily completed outside of home country during the last 10 years.

I: Rapid Sand Filters

- a. The rapid sand filter manufacturer shall substantiate manufacturing and supplying of rapid sand filter with production capacity of 100,000 m³/day or over satisfactorily completed outside of home country during the last 10 years.

Table VI-1-2 Sewerage

| Item | Tag Number or Type | Name of Proposed Manufacturer or Subcontractor | Country of Manufacture | Particular Requirements |
|-----------------------|----------------------------|--|------------------------|-------------------------|
| Pumps | S02 IP 10 to 30 | (same manufacturer) | | J |
| | S02 IP 11 to 21 | | | |
| | S12 CP 01 to 03 | | | |
| | S12 IP 04 to 05 | | | |
| | S51 SP 01 to 04 | (same manufacturer) | | K |
| | S52 SP 01 to 03 | | | |
| | S53 SP 01 to 05 | | | |
| | S54 SP 01 to 03 | | | |
| | S55 SP 01 to 04 | | | |
| | S56 SP 01 to 06 | | | |
| | S57 SP 01 to 05 | (same manufacturer) | | L |
| | S56 SP 03 to 04 | | | |
| | S57 SP 01 to 05 | | | |
| | S58 SP 01 to 03 | | | |
| | S60 SP 01 to 03 | | | |
| S62 SP 01 to 02 | | | | |
| S64 SP 01 to 02 | | | | |
| S65 SP 01 to 02 | | | | |
| Motors | S02 IP 10 to 30 | (same manufacturer) | | M |
| | S02 IP 11 to 21 | | | |
| | S12 CP 01 to 03 | | | |
| | S12 CP 04 to 05 | | | |
| | S55 SP 01 to 04 | (same manufacturer) | | |
| | S56 SP 01 to 02 | | | |
| | S08 AB 01 to 05 | | | |
| Pipes | Ductile Cast Iron Pipe | | | - |
| Valves | Motorized Butterfly Valves | (same manufacturer) | | N |
| | Motorized Gate Valves | | | |
| Gates | All | (same manufacturer) | | - |
| Cranes/Hoists | All | | | - |
| Grit Chamber | | | | - |
| Air Blowers | S08 AB 01 to 05 | | | O |
| Sludge Collectors | S05 SC 01 to 02 | (same manufacturer) | | P |
| | S10 SC 01 to 02 | | | |
| Mechanical Thickeners | S24 MT 01 to 03 | | | Q |
| Dewatering Machines | S24 DM 01 to 03 | | | R |

| Item | Tag Number or Type | Name of Proposed Manufacturer or Subcontractor | Country of Manufacture | Particular Requirements |
|--|----------------------------|--|------------------------|-------------------------|
| Chemical Facilities | All | (same manufacturer) | | - |
| Motor Control Centers | All | (same manufacturer) | | - |
| 6kV Switchgears | All | (same manufacturer) | | - |
| 6kV Motor Starter | All | | | - |
| 6/0.38 kV Transformer | W47LTR01/02 S24TRP01/02 | (same manufacturer) | | - |
| MCC & Ry Panel | All | (same manufacturer) | | - |
| Local Operation Panel | ALL | (same manufacturer) | | - |
| Ultrasonic Type Flow meter | ALL | (same manufacturer) | | - |
| Electromagnetic Type Flow Meter | ALL | (same manufacturer) | | - |
| Submersible Hydrostatic Type Level Meter | ALL | (same manufacturer) | | - |
| Flange Type (Hydrostatic Type) Level Meter | ALL | (same manufacturer) | | - |
| Float Type Level Meter | S27ILE01/02 | | | - |
| pH Meter | | | | - |
| Sludge Density Meter | | | | - |
| PLC Panel | ALL | (same manufacturer) | | - |
| Monitoring System | | | | - |

Requirements

1. Minimum Requirement

- a. Manufacturer shall possess quality assurance system certified by ISO 9000 series
- b. Manufacturer shall have experiences in installation of the proposed plants outside of home country during last 10 years

2. Particular Requirements

J: S02 IP 10 to 30, S02 IP 11 to 21, S12 CP 01 to 03 and S12 IP 04 to 05

- a. The pump manufacturer shall substantiate manufacturing and supplying of pumps and motors with the following conditions satisfactorily completed outside of home country during last 5 years.
 1. Vertical shaft volute type mixed flow pump of similar capacity and head with floating shaft and intermediate bearing unit.
 2. Vertical shaft volute type mixed flow pump efficiency at lower speed and capacity than specified.

K: S51 SP 01 to 04, S52 SP 01 to 03, S53 SP 01 to 05, S54 SP 01 to 03, S55 SP 01 to 04, S56 SP 01 to 06 and S57 SP 01 to 05

- a. The pump manufacturer shall substantiate manufacturing and supplying of pumps and motors with the following conditions satisfactorily completed outside of home country during last 5 years.
 1. Horizontal shaft volute type mixed flow pump of similar capacity and head with floating shaft and intermediate bearing unit.
 2. Horizontal shaft volute type mixed flow pump efficiency at lower speed and capacity than specified.
- b. The pump manufacturer shall carry out surge analysis on the discharge pipelines on the basis of data of rotating element, characteristic of reflux valve and the pipelines to ensure no damages caused due to the surge. If any protection methods required for the surge, the methods shall be proposed by the pump manufacturer for the engineer's approval along with report of surge analysis included with the tender. The pump manufacturer shall have experience of surge analysis of similar discharge capacity of the pump and the similar length of transmission pipelines. (only for S51 SP 01 to 04, S52 SP 01 to 03, S55 SP 01 to 04, S56 SP 01 to 06 and S57 SP 01 to 05)

L: S56 SP 03 to 04, S57 SP 01 to 05, S58 SP 01 to 03, S60 SP 01 to 03, S62 SP 01 to 02, S64 SP 01 to 02 and S65 SP 01 to 02

- a. The pump manufacturer shall carry out surge analysis on the discharge pipelines on the basis of data of rotating element, characteristic of reflux valve and the pipelines to ensure no damages caused due to the surge. If any protection methods required for the surge, the methods shall be proposed by the pump manufacturer for the engineer's approval along with report of surge analysis included with the tender. The pump manufacturer shall have experience of surge analysis of similar discharge capacity of the pump and the similar length of transmission pipelines. (only

for S58 SP 01 to 03, S60 SP 01 to 03, S62 SP 01 to 02, S64 SP 01 to 02 and S65 SP 01 to 02)

M: Motor for S02 IP 10 to 30, S02 IP 11 to 21, S12 CP 01 to 03, S12 CP 04 to 05, S55 SP 01 to 04, S56 SP 01 to 02 and S08 AB 01 to 05

- a. The motor manufacturer shall substantiate manufacturing and supplying of pumps and motors with the similar applications satisfactorily completed outside of home country during the last 10 years.

N: Motorized butterfly valves and motorized gate valves

- a. The valve manufacturer shall substantiate manufacturing and supplying of valves and motorized actuators with the similar sizes satisfactorily completed outside of home country during the last 10 years.

O: S08 AB 01 to 05

- a. The air blower manufacturer shall substantiate manufacturing and supplying of air blowers with the similar volume and pressure satisfactorily completed outside of home country during the last 10 years.

P: S05 SC 01 to 02 and S10 SC 01 to 02

- a. The sludge collector manufacturer shall substantiate manufacturing and supplying of sludge collectors with the similar diameter satisfactorily completed outside of home country during the last 10 years.

Q: S24 MT 01 to 03

- a. The mechanical thickener manufacturer shall substantiate manufacturing and supplying of mechanical thickeners with the similar capacity satisfactorily completed outside of home country during the last 10 years.

R: S24 DM 01 to 03

- a. The dewatering machine manufacturer shall substantiate manufacturing and supplying of dewatering machines with the similar capacity satisfactorily completed outside of home country during the last 10 years.

(SAMPLE FORMAT)**Sub-schedule VI-1-1 (Name of Equipment/Materials)**

The manufacturer should have more than 10 years experience in manufacturing, supplying, installing and commissioning of equipment/materials of comparable size to those required in this project, to overseas locations.

| | |
|-------------------------------------|------------------------------------|
| Name of firm | |
| Head office address | |
| Telephone | Contact |
| Fax | E-mail |
| Place of incorporation/registration | Year of incorporation/registration |

Enter below the name of products and year ISO 9000 series accreditation obtained.

| Product | ISO N ⁰ | Date of First Certification | Expiry Date |
|------------------------|--------------------|-----------------------------|-------------|
| | | | |
| | | | |
| | | | |
| Accredited Local Agent | | | |

(SAMPLE FORMAT)**Sub-schedule VI-1-2 (Name of Equipment/Materials) (continued)**

1.1 Port of Shipment

1.2 The following documents shall be forwarded along with the Bidding Documents;

- a Manufacturers specifications for the products
- b Certificates of compliance to ISO 9000 series
- c List of equipment/materials supplied to overseas locations during the last 10 years including name of end user, contract name, size of equipment, value and dates.
- d The equipment/materials manufacturer shall substantiate manufacturing, supplying and completion within the last 10 years, with user's certificate and arrangement drawing of equipment and/or materials for the following conditions:

(refer to the above "Particular Requirements" for related Equipment/Materials)

- i Name of end users
- ii Name of contact person (*must be able to speak and write in English*)
- iii Contact telephone number
- iv Fax no. and e-mail address
- v Address
- vi Name of project
- vii Location of project
- viii Value of project and value of equipment supplied, if different
- ix Date of commencement
- x Date of completion
- xi Arrangement drawings

Sub-schedule VI-2 Technical Specifications

The details in this schedule are to be completed by the Bidder and are to be submitted with the Bidding Documents. The details shall give a factual indication of the Bidder's proposals. It is recognised that this may necessitate some parts of the printed schedule being altered so as to suit the process or facilities being offered. However the Contractor shall keep alterations to a minimum.

When the Bid is awarded to the contract and as a result of carrying out further detailed design the Contractor considers it to be necessary or desirable to amend any of the details in this schedule, he shall notify the Employer accordingly but no such amendment shall be made without the prior approval of the Employer.

Descriptive literature shall be attached and shall give full specifications of the equipment offered.

Sub-schedule VI-2-1 Water Supply

Sub-schedule VI-2-1-1

| Raw Water Pumps | |
|---|--|
| Tag nos. W11 RP 11 to W11 RP 61 | |
| Manufacturer | |
| Manufacturer's type designation | |
| Place of manufacture | |
| Type of pump | |
| Nominal capacity (l/s) | |
| Nominal head (m) | |
| Shut off head (min.) (m) | |
| NPSHR (m) | |
| Minimum efficiency (%) at rated point | |
| Minimum efficiency (%) at water level of 402 m amsl | |
| Size of suction (mm) | |
| Size of delivery (mm) | |
| Nominal impeller diameter | |
| Casing material | |
| Impeller material | |
| Casing wear ring material | |
| Type of top & bottom bearings | |
| Shaft material | |
| Shaft sleeve material | |
| Type of seal | |
| Class of flanges | |
| Hydraulic test pressure (bar) | |
| Speed (rpm) | |
| Max. noise level at 1 m distance | |
| Weight (kg) | |

Preventative measures to counteract surge pressures

Type

Specifications of Equipment

(The necessary calculations and figures shall be submitted with the Bidr)

Pump Motors

Manufacturer

Place of manufacture

Type of motor

Speed (rpm)

Insulation class

Frame size

Continuous maximum rating (kW)

No load current (A)

Full load current (A)

Maximum starting current with proposed starter (A)

Maximum torque (Nm)

Minimum torque with proposed starter (Nm)

Motor bearings – type

Motor efficiency at 100% rated load

Power factor (uncorrected)

at 100% rated load

at 75% rated load

at 50% rated load

Max. noise level at 1 m distance

Enclosure class (IP)

Weight (kg)

Complete Pump Set

Weight (kg)

Dimensions (mm)

(Characteristic curves showing head, power, efficiency and NPSH plotted against flow shall be submitted with the Bid)

Sub-schedule VI-2-1-2**Distribution Pump No. 4****Tag no. W35 WP 11**

Manufacturer
 Manufacturer's type designation
 Place of manufacture
 Type of pump
 Nominal capacity (l/s)
 Nominal head (m)
 Shut off head (min.) (m)
 NPSHR (m)
 Minimum efficiency (%) at rated point
 Size of suction (mm)
 Size of delivery (mm)
 Nominal impeller diameter
 Casing material
 Impeller material
 Casing wear ring material
 Type of top & bottom bearings
 Shaft material
 Shaft sleeve material
 Type of seal
 Class of flanges
 Hydraulic test pressure (bar)
 Speed (rpm)
 Max. noise level at 1 m distance
 Weight (kg)

Pump Motors

Manufacturer
 Place of manufacture
 Type of motor
 Speed (rpm)
 Insulation class
 Frame size
 Continuous maximum rating (kW)
 No load current (A)
 Full load current (A)
 Maximum starting current with proposed starter (A)
 Maximum torque (Nm)
 Minimum torque with proposed starter (Nm)
 Motor bearings – type
 Motor efficiency
 at 100% rated load

| | |
|--|--|
| at 75% rated load | |
| at 50% rated load | |
| Power factor (uncorrected) | |
| at 100% rated load | |
| at 75% rated load | |
| at 50% rated load | |
| Max. noise level at 1 m distance | |
| Enclosure class (IP) | |
| Weight (kg) | |
| | |
| Variable Speed Drive | |
| | |
| Service factor | |
| Type of speed controller | |
| Type of adjustable speed drive | |
| Minimum capacity | |
| Type of construction | |
| | |
| Complete Pump Set | |
| | |
| Weight (kg) | |
| Dimensions (mm) | |
| (Characteristic curves showing head, power, efficiency and NPSH plotted against flow for different speeds shall be submitted with the Bid) | |

Sub-schedule VI-2-1-3**Distribution Pump No. 7****Tag no. W35 WP 21**

Manufacturer
 Manufacturer's type designation
 Place of manufacture
 Type of pump
 Nominal capacity (l/s)
 Nominal head (m)
 Shut off head (min.) (m)
 NPSHR (m)
 Minimum efficiency (%) at rated point
 Size of suction (mm)
 Size of delivery (mm)
 Nominal impeller diameter
 Casing material
 Impeller material
 Casing wear ring material
 Type of top & bottom bearings
 Shaft material
 Shaft sleeve material
 Type of seal
 Class of flanges
 Hydraulic test pressure (bar)
 Speed (rpm)
 Max. noise level at 1 m distance
 Weight (kg)

Pump Motors

Manufacturer
 Place of manufacture
 Type of motor
 Speed (rpm)
 Insulation class
 Frame size
 Continuous maximum rating (kW)
 No load current (A)
 Full load current (A)
 Maximum starting current with proposed starter (A)
 Maximum torque (Nm)
 Minimum torque with proposed starter (Nm)
 Motor bearings – type
 Motor efficiency at 100% rated load
 Power factor (uncorrected)
 at 100% rated load

| | |
|--|--|
| at 75% rated load | |
| at 50% rated load | |
| Max. noise level at 1 m distance | |
| Enclosure class (IP) | |
| Weight (kg) | |
| | |
| Complete Pump Set | |
| Weight (kg) | |
| Dimensions (mm) | |
| <i>(Characteristic curves showing head, power, efficiency and NPSH plotted against flow shall be submitted with the Bid)</i> | |

Sub-schedule VI-2-1-4**Distribution Pump No. 8****Tag no. W35 WP 31**

Manufacturer
 Manufacturer's type designation
 Place of manufacture
 Type of pump
 Nominal capacity (l/s)
 Nominal head (m)
 Shut off head (min.) (m)
 NPSHR (m)
 Minimum efficiency (%) at rated point
 Size of suction (mm)
 Size of delivery (mm)
 Nominal impeller diameter
 Casing material
 Impeller material
 Casing wear ring material
 Type of top & bottom bearings
 Shaft material
 Shaft sleeve material
 Type of seal
 Class of flanges
 Hydraulic test pressure (bar)
 Speed (rpm)
 Max. noise level at 1 m distance
 Weight (kg)

Pump Motors

Manufacturer
 Place of manufacture
 Type of motor
 Speed (rpm)
 Insulation class
 Frame size
 Continuous maximum rating (kW)
 No load current (A)
 Full load current (A)
 Maximum starting current with proposed starter (A)
 Maximum torque (Nm)
 Minimum torque with proposed starter (Nm)
 Motor bearings – type
 Motor efficiency at 100% rated load
 Power factor (uncorrected)

| | |
|--|--|
| at 100% rated load | |
| at 75% rated load | |
| at 50% rated load | |
| Max. noise level at 1 m distance | |
| Enclosure class (IP) | |
| Weight (kg) | |
| <hr/> | |
| <hr/> | |
| Complete Pump Set | |
| <hr/> | |
| Weight (kg) | |
| Dimensions (mm) | |
| <i>(Characteristic curves showing head, power, efficiency and NPSH plotted against flow shall be submitted with the Bid)</i> | |
| <hr/> | |

Sub-schedule VI-2-1-5**Backwash Recovery Pumps****Tag nos. W36 BP 11, W36 BP 21 and W36 BP 31**

Manufacturer
 Manufacturer's type designation
 Place of manufacture
 Type of pump
 Nominal capacity (l/s)
 Nominal head (m)
 Shut off head (min.) (m)
 NPSHR (m)
 Minimum efficiency (%) at rated point
 Size of suction (mm)
 Size of delivery (mm)
 Nominal impeller diameter
 Casing material
 Impeller material
 Casing wear ring material
 Type of top & bottom bearings
 Shaft material
 Shaft sleeve material
 Type of seal
 Class of flanges
 Hydraulic test pressure (bar)
 Speed (rpm)
 Max. noise level at 1 m distance
 Weight (kg)

Pump Motors

Manufacturer
 Place of manufacture
 Type of motor
 Speed (rpm)
 Insulation class
 Frame size
 Continuous maximum rating (kW)
 No load current (A)
 Full load current (A)
 Maximum starting current with proposed starter (A)
 Maximum torque (Nm)
 Minimum torque with proposed starter (Nm)
 Motor bearings – type
 Motor efficiency at 100% rated load
 Power factor (uncorrected)

| | |
|--|--|
| at 100% rated load | |
| at 75% rated load | |
| at 50% rated load | |
| Max. noise level at 1 m distance | |
| Enclosure class (IP) | |
| Weight (kg) | |
| <hr/> | |
| <hr/> | |
| Complete Pump Set | |
| <hr/> | |
| Weight (kg) | |
| Dimensions (mm) | |
| <i>(Characteristic curves showing head, power, efficiency and NPSH plotted against flow shall be submitted with the Bid)</i> | |
| <hr/> | |

Sub-schedule VI-2-1-6

Pipe – Steel Pipe

Manufacturer

Material

Standards

Class of pipe

Class of flange

Pressure rating (m head)

Pressure test – at factory

(m head) at site

Type of lining

Thickness of lining

Type of coating

Thickness of coating

Fitting class

Sub-schedule VI-2-1-7

Pipe – Ductile Cast Iron Pipe

Manufacturer

Material

Standards

Class of pipe

Class of flange

Pressure rating (m head)

Pressure Test – at factory

(m head) at site

Type of lining

Thickness of lining

Type of coating

Thickness of coating

Fitting class

Sub-schedule VI-2-1-8**Valves - Motorized Butterfly Valve**

| Tag nos. | W11 MV 01 to 03 | W11 MV 04 to 05 | W11 MV 11 to 61 |
|--------------------------------------|------------------------|------------------------|------------------------|
| Manufacturer (valve) | | | |
| Type (valve) | | | |
| Nominal size (mm) | | | |
| Pressure rating | | | |
| Flange class | | | |
| Material - body | | | |
| - disc | | | |
| - seat | | | |
| Manufacturer (motor-driven operator) | | | |
| Type (motor-driven operator) | | | |
| Continuous maximum rating-CMP (kW) | | | |
| Permissive torque (N-m) | | | |
| Enclosure class (IP) | | | |
| Total weight (kg) | | | |
| Tag nos. | W35 MV 11 to 33 | W35 MV 12 | W32 MV 22 to 32 |
| Manufacturer (valve) | | | |
| Type (valve) | | | |
| Nominal size (mm) | | | |
| Pressure rating | | | |
| Flange class | | | |
| Material - body | | | |
| - disc | | | |
| - seat | | | |
| Manufacturer (motor-driven operator) | | | |
| Type (motor-driven operator) | | | |
| Continuous maximum rating-CMP (kW) | | | |
| Permissive torque (N-m) | | | |
| Enclosure class (IP) | | | |
| Total weight (kg) | | | |

Sub-schedule VI-2-1-9**Flow Control Valves**

| Tag nos. | W12 MV 11 | W31 MV 11 to 21 |
|--|------------------|------------------------|
| Manufacturer (valve) | | |
| Type (valve) | | |
| Nominal size (mm) | | |
| Pressure rating | | |
| Flange class | | |
| Material - body | | |
| - disc | | |
| - seat | | |
| Manufacturer (motor-driven operator) | | |
| Type (motor-driven operator) | | |
| Continuous maximum rating-CMP (kW) | | |
| Permissive torque (N-m) | | |
| Enclosure class (IP) | | |
| Total weight (kg) | | |
| <i>(Characteristic of valves, such as loss coefficients, cavitation coefficients, capacity coefficients etc.shall be submitted with the Bid)</i> | | |

Sub-schedule VI-2-1-10**Flow Control Valves****Tag nos. W34 HV 03 to 04**

| | |
|--|--|
| Manufacturer | |
| Type | |
| Size (mm) | |
| Pressure rating | |
| Flange class | |
| Material - body | |
| - disc | |
| - seat | |
| Weight (kg) | |
| <i>(Characteristic of valves, such as loss coefficients, cavitation coefficients, capacity coefficients etc.shall be submitted with the Bid)</i> | |

Sub-schedule VI-2-1-11**Pneumatic Operated Eccentric Valves****Tag nos. W33 PV 11 to 64**

Manufacturer (Valve)

Type (Valve)

Size (mm)

Pressure rating

Flange class

Material - body

- disc

- seat

Manufacturer (pneumatic operator)

Type (pneumatic operator)

Volume of air cylinder (l)

Pressure of compressed air (MPa)

Total weight (kg)

Sub-schedule VI-2-1-12**Pressure Reducing Valves****Tag nos. W35 HV 11 to 64**

Manufacturer (valve)

Type (valve)

Size (mm)

Pressure rating

Range of pressure - primary

- secondary

Flange class

Material - body

- piston

- cylinder

Weight (kg)

(Characteristic of valves, such as loss coefficients, cavitation coefficients, capacity coefficients etc. shall be submitted with the Bid)

Sub-schedule VI-2-1-13**Motor Driven Gates**

| Tag nos. | W31 MG 11 to 31 | W33 MG 11 to 61 |
|--------------------------------------|------------------------|------------------------|
| Manufacturer (gate) | | |
| Type (gate) | | |
| Size (mm) | | |
| Pressure rating | | |
| Material - frame | | |
| - gate disc | | |
| - frame seat | | |
| - gate seat | | |
| Manufacturer (motor-driven operator) | | |
| Type (motor-driven operator) | | |
| Continuous maximum rating-CMP (kW) | | |
| Permissive torque (N-m) | | |
| Enclosure class (IP) | | |
| Total weight (kg) | | |

Sub-schedule VI-2-1-14**Overflow Weir****Tag nos. W31 MG 11 to 31**

| | |
|--------------------------------------|--|
| Manufacturer (weir) | |
| Type (weir) | |
| Size (mm) | |
| Pressure rating | |
| Material - frame | |
| - gate disc | |
| - frame seat | |
| - gate seat | |
| Manufacturer (motor-driven operator) | |
| Type (motor-driven operator) | |
| Continuous maximum rating-CMP (kW) | |
| Permissive torque (N-m) | |
| Enclosure class (IP) | |
| Total weight (kg) | |

Sub-schedule VI-2-1-15**Bridge Cranes****Tag nos. W35 MC 01**

Manufacturer
 Type
 Lift (kg)
 Span (m)
 Length of runway gantry beams (m)
 Size of runway of gantry beams (mm)
 Height of lift (m)
 Make of slings and chains
 Hoisting speed (m/min)
 Traveling speed (m/min)
 Traversing speed (m/min)
 Motor output (hoisting/traveling/traversing)

Sub-schedule VI-2-1-16**Hoists**

| Tag nos. | W11 MH 01 to 02 | W11 MH 03 | W34 MH 01 to 02 |
|------------------------------------|------------------------|------------------|------------------------|
| Manufacturer | | | |
| Type | | | |
| Lift (kg) | | | |
| Height of lift (m) | | | |
| Make of slings and chains | | | |
| Hoisting speed (m/min) | | | |
| Traveling speed (m/min) | | | |
| Motor output (hoisting/ traveling) | | | |

| Tag nos. | W45 MH 01 | W45 MH 02 |
|------------------------------------|------------------|------------------|
| Type | | |
| Lift (kg) | | |
| Height of lift (m) | | |
| Make of slings and chains | | |
| Hoisting speed (m/min) | | |
| Traveling speed (m/min) | | |
| Motor output (hoisting/ traveling) | | |

Sub-schedule VI-2-1-17

Sedimentation Basin Sludge Scrapers
Tag Nos. W33 SC 11 to 61

Manufacturer
Place of manufacturing
Model
Type
Scraping speed (m/s)
Return speed (m/s)
Speed control method
Motor output

Sub-schedule VI-2-1-18

Rapid Sand Filter

Manufacturer
Model
Type
Filtration speed (m/day)
Backwashing speed ($\text{m}^3/\text{m}^2/\text{min}$)
Surface washing speed ($\text{m}^3/\text{m}^2/\text{min}$)
Filter sand (dia. x thickness)
Filter gravels (dia. x thickness)
Filter underdrain system

Sub-schedule VI-2-1-19

Sludge Thickeners
Tag Nos. W37 SS 11, W37 SS 21

Manufacturer
Model
Type
Scraping speed (m/s)
Speed control method
Motor output

Sub-schedule VI-2-1-20

Evaporators
Tag Nos. W45 EV 01, W45 EV 02

Manufacturer

Model

Type

Rated capacity (kg/h)

Hydraulic test pressure

Design pressure

Materials - vaporizing chamber

- water jacket
- cabinet

Weight (kg)

Sub-schedule VI-2-1-21

Chlorinators

| Tag nos. | W45 CL 11 to 21 | W45 CL 31 to 41 |
|---|------------------------|------------------------|
| Manufacturer | | |
| Model | | |
| Type | | |
| Feed Range (kg/h) | | |
| Accuracy at Full Scale | | |
| Minimum Required Pressure of Injector (bar) | | |
| Solution Discharge Pressure from Injector (bar) | | |
| Weight (kg) | | |

Sub-schedule VI-2-1-22

| Chemical Pumps | | |
|--------------------------|------------------------|------------------------|
| Tag nos. | W45 CP 11 to 21 | W45 CP 31 to 41 |
| Manufacturer | | |
| Model | | |
| Type of pump | | |
| Nominal capacity (l/s) | | |
| Nominal head (m) | | |
| Shut off head (min.) (m) | | |
| Size of suction (mm) | | |
| Size of delivery (mm) | | |
| Casing material | | |
| Impeller material | | |
| Casing liner material | | |
| Type of seal | | |
| Class of flanges | | |
| Speed (rpm) | | |
| Motor output (kW) | | |
| Weight (kg) | | |
| Tag nos. | W45 CP 51 to 61 | W45 CP 71 to 81 |
| Model | | |
| Type of pump | | |
| Nominal capacity (l/s) | | |
| Nominal head (m) | | |
| Shut off head (min.) (m) | | |
| Size of suction (mm) | | |
| Size of delivery (mm) | | |
| Casing material | | |
| Impeller material | | |
| Casing liner material | | |
| Type of seal | | |
| Class of flanges | | |
| Speed (rpm) | | |
| Motor output (kW) | | |
| Weight (kg) | | |

Sub-schedule VI-2-1-23

11/6kV Power Transformer
W47 PTR01/02

Manufacturer
Place of Manufacturer (Country of Origin)
Type
Rated Capacity (kVA)
Rated Primary Tap Voltage (V)
Rated Secondary Voltage (V)
Insulation Degrees
Cooling Method
Overall Length (mm)
Overall Depth (mm)
Overall Height (mm)
Degrees of Protection (IP)
Total Weight (kg)
Dimensions of Largest Single Transportable Cubicle (mm)

Sub-schedule VI-2-1-24

LV Power Transformer
W47LTR01/02

Manufacturer
Place of Manufacturer (Country of Origin)
Type
Rated Capacity (kVA)
Rated Primary Tap Voltage (V)
Rated Secondary Voltage (V)
Insulation Degrees
Cooling Method
Overall Length of Panel (mm)
Overall Depth of Panel (mm)
Overall Height of Panel (mm)
Protection Degrees of Panel (IP)
Total Weight (kg)
Dimensions of Largest Single Transportable Cubicle (mm)

Sub-schedule VI-2-1-25

| 35kV and 11kV Metal-clad Switchgear in WTP | | |
|---|-------------|-------------|
| | 35kV | 11kV |
| General | | |
| Manufacturer | | |
| Place of Manufacturer (Country of Origin) | | |
| Type of Switchgear | | |
| Bus Bar Rate Current (A) | | |
| Control Voltage (V) | | |
| Overall Length (mm) | | |
| Overall Depth (mm) | | |
| Overall Height (mm) | | |
| Protection Degrees (IP) | | |
| Total Weight (kg) | | |
| No. of Cubicles | | |
| Dimensions of Largest Single | | |
| Transportable Cubicle (mm) | | |
| Circuit Breaker | | |
| Manufacturer | | |
| Type of Breaker | | |
| Type of Operating Mechanism | | |
| Rated Voltage (V) | | |
| Rated Current (A) | | |
| Rated Breaking Current (kA) | | |
| Rated Breaking Time (cycle) | | |
| Interlocking Mechanism | --- | |

Sub-schedule VI-2-1-27

| 6kV Metal-clad Switchgear in WTP | |
|---|-------------------------|
| | |
| | |
| Primary Sub-Station | for Pump Station |
| General | |
| Manufacturer | |
| Place of Manufacturer (Country of Origin) | |
| Type of Switchgear | |
| Bus Bar Rate Current (A) | |
| Control Voltage (V) | |
| Overall Length (mm) | |
| Overall Depth (mm) | |
| Overall Height (mm) | |
| Protection Degrees (IP) | |
| Total Weight (kg) | |
| No. of Cubicles | |
| Dimensions of Largest Single | |
| Transportable Cubicle (mm) | |
| Circuit Breaker | |
| Manufacturer | |
| Type of Breaker | |
| Type of Operating Mechanism | |
| Rated Voltage (V) | |
| Rated Current (A) | |
| Rated Breaking Current (kA) | |
| Rated Breaking Time (cycle) | |
| Interlocking Mechanism | |
| Power Capacitor | --- |
| Manufacturer | --- |
| Type of Capacitor | --- |
| Method of Auto Adjustment for | --- |
| Power Factor | |
| Target Power Factor (%) | --- |

Sub-schedule VI-2-1-28

| 6kv Independent Motor Starter Panel | | | |
|--|-----------------|-----------------|-----------------|
| | W11RPP01 | W47DPP02 | W47DPP03 |
| General | | | |
| Manufacturer | | | |
| Place of Manufacturer (Country of Origin) | | | |
| Type of Switchgear | | | |
| Bus Bar Rate Current (A) | | | |
| Short Time Current Rating (kA) | | | |
| Control Circuit Voltage (V) | | | |
| Overall Length (mm) | | | |
| Overall Depth (mm) | | | |
| Overall Height (mm) | | | |
| Protection Degrees (IP) | | | |
| Total Weight (kg) | | | |
| Calorific Value (kW) | | | |
| Dimensions of Largest Single | | | |
| Transportable Cubicle (mm) | | | |
| Motor Starter | | | |
| Manufacturer | | | |
| Type of Starter | | | |
| Type and Capacity of Contactor | | | |
| Type and Capacity of Power Fuse | | | |
| Type and Capacity of Static Capacitor | | | |
| Corrected Power Factor | | | |

Sub-schedule VI-2-1-29

6kv Inverter Unit for Speed Control
W47VVF01

Manufacturer

Place of Manufacturer (Country of Origin)

Type of Switchgear

Rate Current (A)

Capacity (kVA)

Control Circuit Voltage (V)

Inverter Power Factor

Modulation Method

Cooling Method

Method of Higher Harmonic Protection

Overall Length (mm)

Overall Depth (mm)

Overall Height (mm)

Protection Degrees (IP)

Total Weight (kg)

Calorific Value (kW)

Dimensions of Largest Single

Transportable Cubicle (mm)

Sub-schedule VI-2-1-30

Low Voltage Metal-clad Switchgear
W47 STP01/02

General

Manufacturer

Place of Manufacturer (Country of Origin)

Type of Switchgear

Bus Bar Rate Current (A)

Control Voltage (V)

Overall Length (mm)

Overall Depth (mm)

Overall Height (mm)

Protection Degrees (IP)

Total Weight (kg)

No. of Cubicles

Dimensions of Largest Single

Transportable Cubicle (mm)

Circuit Breaker

Manufacturer

Type of Breaker

Rated Voltage (V)

Rated Current (A)

Rated Breaking Current (kA)

Type of Operating Mechanism

Interlocking Mechanism

Sub-schedule VI-2-1-31

Motor Control Centers
W44MCC02

Manufacturer

Place of Manufacturer (Country of Origin)

Bus Bar Rate Current (A)

Short Time Current Rating (kA)

Control Circuit Voltage (V)

Overall Length (mm)

Overall Depth (mm)

Overall Height (mm)

Protection Degrees (IP)

Total Weight (kg)

Dimensions of Largest Single

Transportable Cubicle (mm)

Sub-schedule VI-2-1-32

Local Operation Panel

Manufacturer

Place of Manufacturer (Country of Origin)

Type of Control Switch

Sub-schedule VI-2-1-33**Ultrasonic Type Flow meter**

Manufacturer

Place of Manufacturer (Country of Origin)

Nominal Accuracy

Necessary Straight Line

(Ratio to the Diameter)

Measurement Range

(Flow Rate)

Descriptive Literature References

Sub-schedule VI-2-1-34**Electromagnetic Type Flow meter**

Manufacturer

Place of Manufacturer (Country of Origin)

Nominal Accuracy

Necessary Straight Line

(Ratio to the Diameter)

Measurement Range

(Flow Rate)

Descriptive Literature References

Sub-schedule VI-2-1-35**Submersible Hydrostatic Type Level Meter**

Manufacturer

Place of Manufacturer (Country of Origin)

Nominal Accuracy

Measurement Range

Descriptive Literature References

Sub-schedule VI-2-1-36**Flange Type (Hydrostatic Type) Level Meter**

Manufacturer

Place of Manufacturer (Country of Origin)

Nominal Accuracy

Measurement Range

Descriptive Literature References

Sub-schedule VI-2-1-37**PLC Panel
W44 PLC02/03**

Manufacturer

Place of Manufacturer (Country of Origin)

Power Supply

Maximum I/O Capacities

Transmission Protocol

Transmission Speed

Type of Transmission Line

Length (mm)

Width (mm)

Height (mm)

Protection Degrees (IP)

Weight (kg)

Sub-schedule VI-2-1-38

Central Monitoring System

Manufacturer

Place of Manufacturer (Country of Origin)

Power Supply

Maximum I/O Capacities

OS

Program Language

Type of Monitoring Computer

Type of Server Computer

Type of Printer

Length (mm)

Width (mm)

Height (mm)

Sub-schedule VI-2-2 Sewerage**Sub-schedule VI-2-2-1**

| Influent Pumps | |
|---|--|
| Tag nos. S02 IP 10 & S02 IP 11 | |
| Type of pump | |
| Nominal capacity (m ³ /m) | |
| Nominal head (m) | |
| Shut off head (min.) (m) | |
| NPSHR (m) | |
| NPSH safety margin (m) | |
| Minimum efficiency (%) | |
| Manufacturer | |
| Manufacturer's type designation | |
| Place of manufacture | |
| Size of suction (mm) | |
| Size of delivery (mm) | |
| Nominal impeller diameter | |
| Casing material | |
| Impeller material | |
| Casing wear ring material | |
| Type of top & bottom bearings | |
| Shaft material | |
| Shaft sleeve material | |
| Type of seal | |
| Class of flanges | |
| Hydraulic test pressure (bar) | |
| Speed (rpm) | |
| Max. noise level | |
| Weight (kg) | |
| Preventative measures to counteract surge pressures | |
| Type | |
| Equipment | |
| <i>(The necessary calculations and figures shall be submitted with the Bid)</i> | |
| Pump Motors | |
| Manufacturer | |
| Type of motor | |
| Speed (rpm) | |
| Insulation class | |
| Frame size | |
| Place of manufacture | |
| Continuous maximum rating (kW) | |
| No load current (A) | |
| Full load current (A) | |
| Maximum starting current with proposed starter (A) | |

Maximum torque (Nm)
Minimum torque with proposed starter (Nm)
Motor bearings - type
Motor heater - rating (W)
- voltage (V)
- current (A)
Power factor (uncorrected)
at 100% rated load
at 75% rated load
at 50% rated load
Enclosure class (IP)
Weight (kg)

Complete Pump Set

Weight (kg)
Dimensions (mm)

(Characteristic curves showing head, power, efficiency and NPSH plotted against flow shall be submitted with the Bid)

Sub-schedule VI-2-2-2

Air Blower
Tag nos. 08 AB 01

Type of Blower
 Nominal capacity (m³/m)
 Nominal Pressure (kpa)
 Max. Efficiency (%)
 Manufacturer
 Manufacturer's type designation
 Place of manufacture
 Size of suction (mm)
 Size of delivery (mm)
 Casing material
 Impeller material
 Bearing material
 Shaft material
 Shaft sleeve material
 Class of flanges
 Speed (rpm)
 Max. noise level
 Weight (kg)

(The necessary calculations and figures shall be submitted with the Bid)

Blower Motors

Manufacturer
 Type of motor
 Speed (rpm)
 Insulation class
 Frame size
 Place of manufacture
 Continuous maximum rating (kW)
 No load current (A)
 Full load current (A)
 Maximum starting current with proposed starter (A)
 Maximum torque (Nm)
 Minimum torque with proposed starter (Nm)
 Motor bearings - type
 Motor heater - rating (W)
 - voltage (V)
 - current (A)
 Power factor (uncorrected)
 at 100% rated load
 at 75% rated load
 at 50% rated load

Enclosure class (IP)

Weight (kg)

Complete Blower Set

Weight (kg)

Dimensions (mm)

(Characteristic curves showing head, power and efficiency plotted against flow must be submitted with the Bid)

Sub-schedule VI-2-2-3

Mechanical Thickener**Tag nos. S24 MT 01**

Type
Nominal capacity
Manufacturer
Manufacturer's type designation
Place of manufacture
Outer Cylinder material
Screen material
Screw material
Shaft, Impeller material
Type of seal
Speed (rpm)
Max. noise level
Weight (kg)

(The necessary calculations and figures shall be submitted with the Bid)

Sub-schedule VI-2-2-4

Dewatering Machine**Tag nos. S24 DM 01 to 03**

Type
Nominal capacity
Manufacturer
Manufacturer's type designation
Place of manufacture
Outer Cylinder material
Screen material
Screw material
Shaft, Impeller material
Type of seal
Speed (rpm)
Max. Noise level
Weight (kg)

(The necessary calculations and figures shall be submitted with the Bid)

Sub-schedule VI-2-2-5**Valves****Tag nos. S02 MV 11, S02 MV 41 & S02 MV 12, S02 MV 42**

Valves (Motor Driven)
 Manufacturer (Valve)
 Type (Valve)
 Size (mm)
 Pressure Rating
 Flange Class
 Manufacturer (Motor-Driven Operator)
 Type (Motor-Driven Operator)
 Continuous Maximum Rating-CMP (kW)
 Permissive Torque (N-m)
 Enclosure Class (IP)
 Total Weight (kg)

Sub-schedule VI-2-2-6**Fine Screens****Tag Nos. S02 MS 11, S51 MS 01, S53 MS 01, S54 MS 01, S56 MS 01**

Manufacturer
 Place of Manufacturer
 Model
 Type

Sub-schedule VI-2-2-7**Sewage Pumps**

Tag nos. S51 SP 01, S52 SP 01, S53 SP 01, S54 SP 01, S55 SP 01, S56 SP 01, S56 SP 03, S56 SP 05, S57 SP 01, S58 SP 01, S59 SP 01, S60 SP 01, S61 SP 01, S62 SP 01, S63 SP 01,

Type of pump
 Nominal capacity (m³/m)
 Nominal head (m)
 NPSHR (m)
 NPSH safety margin (m)
 Manufacturer
 Manufacturer's type designation
 Place of manufacture
 Size of delivery (mm)
 Nominal impeller diameter
 Casing material
 Impeller material
 Casing wear ring material
 Shaft material
 Shaft sleeve material
 Type of seal
 Class of flanges
 Hydraulic test pressure (bar)
 Speed (rpm)
 Weight (kg)

(The necessary calculations and figures shall be submitted with the Tender)

Pump Motors

Manufacturer
 Type of motor
 Speed (rpm)
 Insulation class
 Frame size
 Place of manufacture
 Continuous maximum rating (kW)
 No load current (A)
 Full load current (A)
 Maximum starting current with proposed starter (A)
 Maximum torque (Nm)
 Minimum torque with proposed starter (Nm)
 Motor bearings - type
 Motor heater - rating (W)
 - voltage (V)
 - current (A)
 Power factor (uncorrected)

at 100% rated load
at 75% rated load
at 50% rated load
Power factor (corrected)
at 100% rated load
at 75% rated load
at 50% rated load
Capacitor rating (kVAr)
Enclosure class (IP)
Weight (kg)

Complete Pump Set

Weight (kg)
Dimensions (mm)

(Characteristic curves showing head, power, efficiency and NPSH plotted against flow must be submitted with the Bid)

Sub-schedule VI-2-2-8**Sewage Pumps****Tag nos. S64 SP 01, S65 SP 01, S66 SP 01, S67 SP 01**

Type of pump
Nominal capacity (m³/m)
Nominal head (m)
Manufacturer
Manufacturer's type designation
Place of manufacture
Size of delivery (mm)
Nominal impeller diameter
Casing material
Impeller material
Casing wear ring material
Shaft material
Shaft sleeve material
Type of seal
Class of flanges
Hydraulic test pressure (bar)
Speed (rpm)
Weight (kg)

(The necessary calculations and figures shall be submitted with the Bid)

Sub-schedule VI-2-2-9

| Gates | |
|-----------------------|--|
| Manufacturer | |
| Place of Manufacturer | |
| Model | |
| Type | |

Sub-schedule VI-2-2-10

| Bridge Cranes |
|-------------------------------------|
| Manufacturer |
| Type |
| Lift (kg) |
| Span (m) |
| Length of Runway Gantry Beams (m) |
| Size of Runway of Gantry Beams (mm) |
| Height of Lift (m) |
| Make of Slings and Chains |
| Permissive Torque (N-m) |

Sub-schedule VI-2-2-11

| 10/0.38kV Power Transformer S54 ETR01 |
|---|
| Manufacturer |
| Place of Manufacturer (Country of Origin) |
| Type |
| Rated Capacity (kVA) |
| Rated Primary Tap Voltage (V) |
| Rated Secondary Voltage (V) |
| Insulation Degrees |
| Cooling Method |
| Overall Length (mm) |
| Overall Depth (mm) |
| Overall Height (mm) |
| Degrees of Protection (IP) |
| Total Weight (kg) |
| Dimensions of Largest Single Transportable Cubicle (mm) |

Sub-schedule VI-2-2-12**6/0.38 kV Power Transformer****S24TRP01/02**

Manufacturer

Place of Manufacturer (Country of Origin)

Type

Rated Capacity (kVA)

Rated Primary Tap Voltage (V)

Rated Secondary Voltage (V)

Insulation Degrees

Cooling Method

Overall Length of Panel (mm)

Overall Depth of Panel (mm)

Overall Height of Panel (mm)

Protection Degrees of Panel (IP)

Total Weight (kg)

Dimensions of Largest Single Transportable Cubicle (mm)

Sub-schedule VI-2-2-13

| 6kV Metal-clad Switchgear in Sewage Treatment Plant | | | |
|--|---------------------------|--------------|------------------|
| | Sludge Treatment Building | Blower House | Electrical House |
| General | | | |
| Manufacturer | | | |
| Place of Manufacturer (Country of Origin) | | | |
| Type of Switchgear | | | |
| Bus Bar Rate Current (A) | | | |
| Control Voltage (V) | | | |
| Overall Length (mm) | | | |
| Overall Depth (mm) | | | |
| Overall Height (mm) | | | |
| Protection Degrees (IP) | | | |
| Total Weight (kg) | | | |
| No. of Cubicles | | | |
| Dimensions of Largest Single | | | |
| Transportable Cubicle (mm) | | | |
| Circuit Breaker | | | |
| Manufacturer | | | |
| Type of Breaker | | | |
| Type of Operating Mechanism | | | |
| Rated Voltage (V) | | | |
| Rated Current (A) | | | |
| Rated Breaking Current (kA) | | | |
| Rated Breaking Time (cycle) | | | |
| Interlocking Mechanism | | | |

Sub-schedule VI-2-2-14
6kv Independent Motor Starter Panel
S08BLP01 to 05

Manufacturer

Place of Manufacturer (Country of Origin)

Type of Switchgear

Bus Bar Rate Current (A)

Short Time Current Rating (kA)

Control Circuit Voltage (V)

Overall Length (mm)

Overall Depth (mm)

Overall Height (mm)

Protection Degrees (IP)

Total Weight (kg)

Calorific Value (kW)

Dimensions of Largest Single

Transportable Cubicle (mm)

Motor Starter

Manufacturer

Type of Starter

Type and Capacity of Contactor

Type and Capacity of Power Fuse

Type and Capacity of Static Capacitor

Corrected Power Factor

Sub-schedule VI-2-2-15

| Low Voltage Metal-clad Switchgear | | |
|---|---------------------|------------------|
| | S24 LVP01/02 | S24 LVP03 |
| General | | |
| Manufacturer | | |
| Place of Manufacturer (Country of Origin) | | |
| Type of Switchgear | | |
| Bus Bar Rate Current (A) | | |
| Control Voltage (V) | | |
| Overall Length (mm) | | |
| Overall Depth (mm) | | |
| Overall Height (mm) | | |
| Protection Degrees (IP) | | |
| Total Weight (kg) | | |
| No. of Cubicles | | |
| Dimensions of Largest Single Transportable Cubicle (mm) | | |
| Circuit Breaker | | |
| Manufacturer | | |
| Type of Breaker | | |
| Rated Voltage (V) | | |
| Rated Current (A) | | |
| Rated Breaking Current (kA) | | |
| Type of Operating Mechanism | | |
| Interlocking Mechanism | | |

Sub-schedule VI-2-2-16

Motor Control Centers
S02MCC01

Manufacturer

Place of Manufacturer (Country of Origin)

Bus Bar Rate Current (A)

Short Time Current Rating (kA)

Control Circuit Voltage (V)

Overall Length (mm)

Overall Depth (mm)

Overall Height (mm)

Protection Degrees (IP)

Total Weight (kg)

Dimensions of Largest Single

Transportable Cubicle (mm)

Sub-schedule VI-2-2-17

Local Operation Panel

Manufacturer

Place of Manufacturer (Country of Origin)

Type of Control Switch

Sub-schedule VI-2-2-18**Ultrasonic Type Flow meter**

Manufacturer
 Place of Manufacturer (Country of Origin)
 Nominal Accuracy
 Necessary Straight Line
 (Ratio to the Diameter)
 Measurement Range
 (Flow Rate)
 Descriptive Literature References

Sub-schedule VI-2-2-19**Electromagnetic Type Flow meter**

Manufacturer
 Place of Manufacturer (Country of Origin)
 Nominal Accuracy
 Necessary Straight Line
 (Ratio to the Diameter)
 Measurement Range
 (Flow Rate)
 Descriptive Literature References

Sub-schedule VI-2-2-20**Submersible Hydrostatic Type Level Meter**

Manufacturer
 Place of Manufacturer (Country of Origin)
 Nominal Accuracy
 Measurement Range
 Descriptive Literature References

Sub-schedule VI-2-2-21**Flange Type (Hydrostatic Type) Level Meter**

Manufacturer
 Place of Manufacturer (Country of Origin)
 Nominal Accuracy
 Measurement Range
 Descriptive Literature References

Sub-schedule VI-2-2-22**PLC Panel****S02 PLC01**

Manufacturer

Place of Manufacturer (Country of Origin)

Power Supply

Maximum I/O Capacities

Transmission Protocol

Transmission Speed

Type of Transmission Line

Length (mm)

Width (mm)

Height (mm)

Protection Degrees (IP)

Weight (kg)

Sub-schedule VI-2-2-23**Central Monitoring System****S24MON01**

Manufacturer

Place of Manufacturer (Country of Origin)

Power Supply

Maximum I/O Capacities

OS

Program Language

Type of Monitoring Computer

Type of Server Computer

Type of Printer

Overall Length (mm)

Overall Width (mm)

Overall Height (mm)

ANNEXES

Annex A to Conditions of Particular Application
FIDIC Model Terms of Appointment for a Dispute Adjudication Board
(see Clause 67 of the Conditions of Particular Application)

Version 1: Terms of appointment for a board of three members

These terms of appointment of a board member are made between:

- (1) [name of Employer] of [address of Employer] (hereinafter called the “Employer”)
- (2) [name of Contractor] of [address of Contractor] (hereinafter called the “Contractor”)
- (3) [name of Board Member] of [address of Board Member] (hereinafter called the “Board Member”)

Whereas

- A. The Employer and the Contractor (hereinafter jointly referred to as the “Parties”) have on day of ____ (insert year) entered into a Contract (hereinafter called the “Contract”) for the execution of [name of Project] (hereinafter called the “Project”).
- B. By Sub-clause 67.1 of the Conditions of Contract (hereinafter called the “Conditions”) provision is made for the constitution of a Dispute Adjudication Board (hereinafter called the “Board”) which shall comprise three suitably qualified persons.
- C. The Board Member has agreed to serve as [one of the members of] [chairman of] the Board on the terms set out herein.

Now it is hereby agreed as follows:

1. The Board Member:
 - (a) hereby accepts this appointment to the Board which is a personal appointment and agrees to be bound by these Terms of Appointment and Sub-Clauses 67.1 and 67.2 of the Conditions as if they were set out herein; and
 - (b) shall be entitled notwithstanding such acceptance to resign this appointment on giving reasonable notice to the Parties.
2. These Terms of Appointment when executed by the Parties and the Board Member shall take effect when the Parties and the last of the three members of the Board have executed terms of appointment.
3. The Board Member shall be and remain impartial and independent of the Parties and shall be under a continuing duty to disclose in writing to each of them and to the other members of the Board any fact or circumstance which might be such as to call into question his impartiality or independence.

Without prejudice to the generality of the foregoing, the Board Member:

- (a) shall have no interest financial or otherwise in either of the Parties or the Engineer as described in the Contract, or financial interest in the Contract except for payment for services on the Board;

- (b) shall not previously have been employed as a consultant or otherwise by either of the Parties or the Engineer except in those circumstances which have been disclosed in writing to the Parties prior to this appointment;
 - (c) shall have disclosed in writing to the Parties and to the other members of the Board, prior to this appointment and to his best knowledge and recollection, any professional or personal relationships with any director, officer or employee of the Parties or the Engineer, and any prior involvement in the Project;
 - (d) shall not while a Board Member be employed as a consultant or otherwise by either of the Parties or the Engineer without the prior written consent of the Parties and the other members of the Board;
 - (e) shall not give advice to either of the Parties or to the Engineer concerning the conduct of the project other than in accordance with the Procedural Rules in Annex B to Conditions of Particular Application (the “Rules”); and
 - (f) shall not while a Board Member enter into discussions or make any agreement with either of the Parties or the Engineer regarding employment by any of them whether as a consultant or otherwise after ceasing to be a Board Member.
4. The Board Member warrants that he is experienced in the type of work involved in the Project and the interpretation of contract documents and is, as well, fluent in the language of the Contract. The Board Member shall:
- (a) ensure his availability for all site visits and hearings as are necessary and shall observe the provisions of the Rules;
 - (b) become conversant with the Contract and the progress of the Project by studying all documents received which shall be maintained in a current working file;
 - (c) treat the details of the Contract and all activities and hearings of the Board as private and confidential and shall not publish or disclose the same without the prior written consent of the Parties;
 - (d) not assign, delegate or subcontract any of the tasks under these Terms of Appointment or the Rules;
 - (e) be available to give advice and opinions in conjunction with other members of the Board on any matter relevant to the Project not being a dispute when requested so to do by the Parties.
5. Neither the Employer, the Contractor nor the Engineer shall seek advice from or consultation with the Board member regarding the Project otherwise than in the normal course of the Board’s activities under the Contract and the Rules. The only exception to this prohibition shall be

where the Parties jointly agree to do so and the other Board Members also agree. The Employer shall be responsible for ensuring the compliance by the Engineer with this Clause.

6. The Board Member will be paid as follows:

- (a) a retainer fee of [] (insert amount and currency) per calendar month, which shall be considered as payment in full for:
 - i. being available on 28 days' notice, for all site visits and hearings;
 - ii. becoming and remaining conversant with all Project developments and maintaining relevant files;
 - iii. all office and overhead expenses such as secretarial services, photocopying and office supplies incurred in connection with his duties;
 - iv. all services performed hereunder except those referred to in Sub-Clauses (b) and (c) below.

Beginning with the month following that in which the Taking-Over Certificate referred to in Sub-Clause 48.1 of the Conditions (or if there is more than one, the one last issued) has been issued, the Board Member shall receive [only one half of the monthly retainer fee]. [Beginning with the next month after expiry of the Defects Liability Period as defined in the Conditions the Board Member shall no longer receive a monthly retainer fee];

- (b) a daily fee of [] (insert amount and currency) which shall be considered as payment in full or:
 - i. each day or part of a day up to a maximum of two days travel time in each direction for the journey between the Board Member's home and the site or other location of a Board meeting;
 - ii. each working day on site visits, hearings or preparing decisions; and
 - iii. each day spent reading the Parties' submissions in preparation for a hearing.
- (c) Cost of telephone calls, courier charges, faxes and telexes incurred in connection with his duties; all reasonable and necessary travel expenses including [less than] first class air fare, subsistence and other direct travel expenses. These costs shall be reimbursed in the same currency as that in which fees are payable. Receipts shall be required for all expenses in excess of [] (insert a number) percent of the daily fee referred to in Sub-Clause (b) above.
- (d) any taxes properly levied in the country of the site on payments made to the Board Member (unless a national or permanent resident of the country of the site) pursuant to this Clause 6. Such reimbursement will be in the same currency as that in which the fees are payable.

The retainer and daily fees shall remain fixed for the [initial] period of tenure of the Board Member [of twelve months]. [Thereafter they shall be adjusted by agreement between the Parties and the Board Member at each anniversary of the execution of these Terms of Appointment].

Payments to the Board Member shall be shared equally by the Employer and the Contractor. The Board member shall submit invoices for payment of all monthly retainer quarterly in advance. Invoices for daily fees and expenses shall be submitted following the conclusion of a site visit or hearing. All invoices shall be accompanied by a brief description of activities performed during the relevant period and shall be addressed to the Contractor.

The Contractor shall pay Board Members' invoices within 56 calendar days after receipt of such invoices and shall invoice the Employer (through the monthly statements to be submitted in accordance with Sub-Clause 60.1 of the Conditions) for one-half of the amounts of such invoices. The Employer shall pay such Contractor's invoices within the time period specified in the contract for other payments to the Contractor by the Employer.

Failure of either the Employer or the Contractor to make payment in accordance with these Terms of Appointment shall constitute an event of default under the Contract, entitling the non-defaulting party to take the measures set forth, respectively, in Clause 63 or Clause 69.

Notwithstanding such event of default, and without waiver of rights therefrom, in the event that either the Employer or the Contractor fails to make payment in accordance with these Terms of Appointment, the other party may whatever amount may be required to maintain the operation of the Board. The party making such payment, in addition to all other rights arising from such default, shall be entitled to reimbursement of all sums paid in excess of one-half of the amount required to maintain operation of the Board, plus all costs of obtaining such sums and interest thereon.

In the event of non-discharge of Board Members' invoices in accordance with previous paragraphs the Board Member may either suspend his services until the invoices are discharged or resign his appointment.

7. The Parties may jointly terminate the Board member's appointment hereunder by reasonable notice in writing. Such termination shall be without prejudice to any accrued rights of either of the Parties or the Board Member.
8. The Parties may undertake to each and to the Board Member that the Board Member shall in no circumstances:
 - (a) be appointed as an arbitrator in any arbitration between the Parties in connection with the Contract unless the Parties agree otherwise in writing;
 - (b) be called as a witness to give evidence concerning any dispute before an arbitrator appointed under the Conditions unless he accepts such assignment in writing addressed to both Parties; or
 - (c) be liable for any claims for anything done or omitted in the discharge of such Board Member's functions unless the act or omission is shown to have been in bad faith.

The Parties hereby jointly and severally indemnify the Board Member against all or any such claims.

9. If the Board Member shall breach any of the provisions of Clause 3 he shall not be entitled to any fees or expenses hereunder and shall reimburse each of the Employer and the Contractor for any fees and expenses properly paid to him and to any other Board Member if as a consequence of such breach any proceedings or decisions of the Board are rendered void or ineffective.
10. These Terms of Appointment shall be governed by the law of Republic of Kazakhstan.
11. Any dispute or claim arising out of or in connection with these Terms of Appointment or the breach, termination or invalidity thereof, shall be finally settled under the Rules of Conciliation and Arbitration of the International Chamber of Commerce by a sole arbitrator appointed in accordance with said Rules.

| | | |
|--|--|--|
| Signed by _____ for and on behalf of the Employer in the presence of | Signed by _____ for and on behalf of the Contractor in the presence of | Signed by _____ for and on behalf of the Board Member in the presence of |
|--|--|--|

| | | |
|-----------------------|-----------------------|-----------------------|
| <u>Witness:</u> _____ | <u>Witness:</u> _____ | <u>Witness:</u> _____ |
| <u>Name:</u> _____ | <u>Name:</u> _____ | <u>Name:</u> _____ |
| <u>Address:</u> _____ | <u>Address:</u> _____ | <u>Address:</u> _____ |
| <u>Date:</u> _____ | <u>Date:</u> _____ | <u>Date:</u> _____ |

Annex B to Conditions of Particular Application
FIDIC Procedural Rules of the Dispute Adjudication Board
(see Clause 67 of the Conditions of Particular Application)

Version 1: Procedural rules of the Dispute Adjudication Board of three members

1. The Board shall visit the site at regular intervals [and/or at times of critical construction events] at the request of either the Employer or the Contractor, and in any event not less than [three] times in any twelve month period.
2. The timing of and agenda for each site visit shall be agreed jointly by the Board, the Employer and the Contractor, or in the absence of agreement, shall be decided by the Board.
3. The purpose of site visits is to enable the Board to become and remain acquainted with the progress of the Project and of any actual or potential problems or claims.

Site visits shall be attended by the Employer, the Contractor and the Engineer and shall be co-ordinated by the Employer in co-operation with the Contractor. The Employer shall ensure the provision of appropriate conference facilities and secretarial and copying services.

At the conclusion of each site visit and before leaving the site the Board shall prepare a report on its activities during the visit and shall send copies to those parties who attended.

4. The Employer and the Contractor shall furnish to each Board Member one copy of all documents which the Board may request, including Contract documents, progress reports, variation instructions, certificates and other documents pertinent to the performance of the Contract.
5. If any dispute is referred to the Board in accordance with Sub-Clause 67.2 of the Conditions, the Board shall proceed as described therein. The Board may in its discretion, among other things, conduct a hearing on the dispute in which event it will decide on the date and place for the hearing and may request that written documentation and arguments from the Employer and the Contractor be presented to it prior to or at the hearing. Subject to the time imparted to the Board to give notice of a decision and other relevant factors, the Board shall afford to each of the Employer and the Contractor reasonable opportunity to present its case in relation to a dispute referred to the Board for decision.

The Board shall act as a Board of impartial experts, not arbitrators, and shall have full authority to conduct any hearing as it thinks fit, not being bound by any rules or procedures other than those set out herein. [Without limiting the foregoing, the Board shall have power to adopt an inquisitorial procedure, to refuse admission to hearing or audience at hearings to any persons other than the Employer, the Contractor and the Engineer and to proceed in the absence of any party who the Board is satisfied received notice of the hearing].

The Board shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. After a hearing is concluded the Board shall convene in private to formulate its decision.

[If a member fails to attend a meeting or hearing, or to fulfill any required function, the other two members may nevertheless proceed and make decisions unless the absent member is the chairman and instructs the other two members not to proceed, or the Parties otherwise agree].

6. The Board shall give notice of its decision in writing to the Employer and the Contractor in accordance with Sub-Clause 67.2 of the Conditions or as otherwise agreed by the Employer and the Contractor in writing.

The Board shall endeavour to reach decisions unanimously, but if this is impossible decisions shall be by a majority and the minority member may prepare a written report for submission to the Employer, the Engineer and the Contractor.

7. All communications between either of the Parties and a Board Member and all hearings shall be in the [English] language. All such communications shall be copied to the other Party and to other members of the Board.