



THE ARAB POTASH COMPANY PLC

Tender Terms and Conditions

For IFB Number 202401478/AT

☉ Raising of 33kV Intake OHLs at Road Intersections

Hereunder, are the terms and conditions of contract and the bidding instructions issued to tenderers who bid against tenders raised by The Arab Potash Company "Hereinafter called the company". Tenderers must follow these instructions, terms and conditions and bid in strict accordance with them.

1. Bids must be submitted in **Three closed, sealed and separate envelopes**; the first contains the commercial bid; the second contains the technical bid, the third contains the following: -
 - The bid Bond
 - The Declaration of Abidance with Tender Terms and Conditions.
 - The Declarations of the other and Prohibited Payments.
 - The Declaration of Abidance with the conflict of interest.
 - Certificate of registration (for local & foreign tenderers).

The tenderer must write in an indelible ink on each of the envelopes whether it contains commercial; technical bids, bank guarantee or prohibited, other payments and abidance with conflict of interest envelope along with the tender number and tender name.

The envelopes are as follows:

a) Technical Bid Envelope:

That indicates the technical specifications of the subject matter; confirmed by descriptive literature, samples, bulletins, and catalogues that refer specifically to the goods offered by the original manufacturers and shall be void of prices. The technical bid shall be submitted in two copies. The technical bid must indicate also the offer validity which must be 90 days from the date of the invitation for bid closing date. The technical bid must be stamped and signed (otherwise, the bid will be rejected).

b) Commercial Bid Envelope:

Commercial bid must be submitted on the form prepared specifically for the purpose titled "**COMMERCIAL BIDDING SHEET**"; showing the following details:

1. Price: for the required materials as per INCO terms 2010:
CPT APC Safi Site.
2. Prices must remain fixed and valid for 90 days from the date of the invitation for bid closing date and shall be clearly stated in the technical and commercial bids (failure to comply with this term will nullify it as non-responsive.
3. The payment currency shall be the Jordanian Dinar or US\$ Dollar or Euro, noting that US Dollar and Euro exchange rate will be calculated at the currencies exchange rate issued by the Central Bank of Jordan at the closing date.
4. The prices include the revenue stamps which, in case of award and within 7 days therefrom, shall be paid by the bidder to the Ministry of Finance at 6 dinars as per 1000 dinars of the price.

5. Handwriting pricing is not acceptable (Typing only).

c) The Bid bond, Abidance, and the Declarations Certificates Envelope:

Shall be submitted duly filled and signed as appropriately required.

The declaration of the other payments, the prohibited payments and conflict of interest shall be duly filled stamped and signed by the authorized signatory.

d) The bidder or his authorized signatory must sign and stamp the "Terms and Conditions of" **IFB Number 202401478/AT** as an evidence of being obligated by these conditions (otherwise, the offer will be rejected).

e) The Bidder shall state the full name of his company's owners, the shareholders and their proportions. **"This is mandatory requirement to consider the bid"**.

f) If the submitted trade license, registration certificate & classification found to be inconsistent with the required services &/or material requested in the tender, then the offer will be declined for non-specialization.

2. All the envelopes shall be additionally enclosed into one envelope that shall bear the company address, the title and address of the Tenderer, the invitation for bid title and number and the tender closing date.

THE COMPANY ADDRESS IS:

ARAB POTASH CO. PLC.

P.O. BOX 1470,

AL-JAHIZ STREET,

SHMEISANI,

AMMAN 11118,

JORDAN.

Note: Bids Submission Place is APC Safi Plant Site.

3. The closing date for this bid shall be as stated in the announcement.

Bid submission shall be in the same place, address and time as per the invitation of our IFB.

4. Acceptable Forms of Bonds:

Bank guarantee duly approved, drawn on or confirmed by a bank in Jordan to the company benefit.

All bonds shall not be restricted by any condition, irrevocable, and payable at first demand without any judicial proceedings or notarial warnings.

5. Bid Bond:

The tenderer shall enclose, with his bid, a bid bond as a financial assurance in the value stated in the tender announcement.

The bid bond is to be submitted in a separate envelope which shall remain valid for ((120)) days from the tender closing date and any extension thereafter until the tender award and the acquisition of the performance bond from the successful tenderer. The bid bond shall be extendable on mutual agreement between both the company and the tenderer.

The bid bond must accompany each submitted bid whether main or alternative.

6. The company reserves the right to confiscate the bid bond, if the tenderer chooses to withdraw his bid after the bid opening date, and before validity expiry date and/or failure of the tenderer to submit the performance bond within ten ((10)) days from the purchase order issuance date.

7. Performance Bond:

The tenderer awarded the tender and within (10 days) shall bear the obligation towards the company for submitting an autorenwable performance bond, to the company benefit, of a value not less than ((10%)) of the award price valid until issuance of take over certificate and issuance of the maintenance bond and shall be extendable.

8. The company reserves the right to disregard any bid in which the company "Declaration of Abidance by terms and conditions and technical specification", "Technical Specifications Bidding Sheets" and/or "Commercial Bidding Sheets" are not duly filled in detail, properly stamped and signed by the tenderer. Technical specifications must be stamped and signed by the original manufacturer.

9. Unless the company decides otherwise; bids which are not duly signed by the original manufacturer, and/or received after the closing date and/or substantially incomplete are not acceptable and that will be decided upon by the company and upon its own discretion.

10. The company reserves the right, upon its discretion, to disregard any bid which is not amply clear, having more than one interpretation, and/or any of the bid items specifications is not quoted completely as detailed in the company tender documents. Also, the same applies if the delivery terms or periods are not fully stated.

11. The company has the right to award partially any of the materials.

12. Fax, phone and E-mail bids are not acceptable.

13. The company is not bound to place a purchase order for all the items tendered against or any part thereof and, prima facie, is not bound to place an order. Also, the company is not bound to offer justifications and the tenderers shall not acquire any rights to claim any losses.

14. The company is not bound to place an order on the least price basis.

15. The company reserves the right to cancel any invitation for bid, to reject, in all or in part, the tenderers' bids submitted to the company in response to any invitation for bid raised by the company without offering justifications and the tenderers shall not acquire any right to claim any losses, whatsoever, as a result of bidding in response to the company invitation for bid.
16. Tenderers bear the responsibility of thoroughly scrutinizing the invitation for bid, the specification attached thereto, the terms and regulations of bidding and the proofing of the prices and quantities lists. Also, the tenderers bear the consequences of failing to do the above correctly.
17. The bid shall show the unit price and the total price, which shall be regarded as including packaging costs, unless noted otherwise.
18. In case an error exists in the total price, the unit price shall prevail.
19. In case the invitation for bid does not show the delivery time, the tenderer shall quote the delivery time; otherwise, the delivery time shall be taken as prompt delivery. The obligatory delivery period shall be the period elapsed between the date of purchase order until the delivery of the goods at the named place of destination which, if exceeded, delay penalty shall apply as stipulated in clause (31) of these conditions.
20. The tenderer shall state the goods country of origin, the manufacturer, the trade name, and the type where applicable.
21. The tenderer must indicate if he has an official / legal agent in Jordan or if he is an agent for a foreign principal and must enclose a copy of the empowerment to act as such. Alternatively, the tenderer must indicate if he is not an agent nor a principal.
22. The tenderer shall submit along with his bid the punctual specifications of the offered goods, the relevant catalogues and any data, information and/or statistics that will define the offered goods appropriately.
23. If the invitation for bid quotes a manufacturer name, a trade name and/or specifications of a certain make of the goods requested in the invitation for bid, these shall not bound the tenderer to such restrictions, except that these restrictions are binding in regard of same merits, characteristics and suitability for the purpose which form the basis for equivalence between different makes that will serve the same as the nominated goods.
24. The company, upon its discretion, reserves the right to increase and/or decrease the quantities indicated in the invitation for bid in accordance with the company needs by 25% on the same price and conditions.
25. The company reserves the right to disregard any bid of a tenderer who, in the past, has not properly fulfilled his contractual obligations towards the company due to negligence, incompetence,

claimed fraudly representation of and/or working on behalf of any organization for sales without authorization.

26. The tenderer shall guarantee that the goods quoted are brand new, genuine, free from manufacturing defects, and/or material defect, and of the latest model and/or type unless otherwise noted in the invitation for bid.
27. In case the tenderer fails to submit the performance bond and the revenue stamps receipt to the company in the proper time; the company reserves the right to cancel the contract and forfeit the bid bond without resorting to judicial proceedings and/or notarial warnings.
28. In case the tenderer fails to fulfill his contractual obligations towards the company, or any part thereof, after formal order acknowledgement; the company reserves the right to cancel the contract with the said tenderer, forfeit the performance bond and to purchase the materials and/or services forming the subject of the contract from any alternative source and the price difference shall be charged on the said tenderer account and expense without resorting to judicial proceedings and/or notarial warnings.
29. The inspection and testing of materials and samples are carried out as may be deemed necessary by the company.
30. Packing shall be of an excellent commercial standard, details of which shall be shown in the tenderer's technical bid.
31. If the products are not delivered at the time for delivery APC entitled to liquidated damages from the date on which delivery should have taken place. Unless otherwise stated in General and/or Special Terms and conditions. The liquidated damages shall be payable at a rate of (0.7%) of the purchase price for each completed week of delay. The liquidated damages shall not exceed (7.5 %) of the purchase price. After which the stipulation of clause No. (28) of the tender terms and conditions shall apply.
32. The tenderer shall submit a maintenance guarantee at first demand and irrevocable bank guarantee, duly approved, drawn on/or confirmed by a bank in Jordan to the company benefit of ((5%)) of the contract price valid for (12) months from issuance of the taking over certificate.
33. For purchase orders with a value of over (100,000 JOD) the company shall nominate a third party, engineer and/or any of the bodies having the suitable technical capabilities to inspect the goods within the works of the manufacturer or before shipping the goods to verify the compliance of the goods to the company tender specifications and upon the inspector findings, the goods may be either accepted or rejected. Notwithstanding the above, the final acceptance or rejection of the goods, or any part thereof, depends solely upon the goods receipt inspection report in the company plants site.

34. This document shall be signed by the tenderer as a declaration of acceptance of the terms contained herein and must be submitted within the commercial bid as a fundamental condition of the bid acceptance for evaluation by the company.
35. Any materials not strictly complying with the tender specifications and/or the contract terms and other obligations shall be rejected, for which the contractor shall bear all costs accruing there from and in addition to clause (28) of these terms and conditions and any other statutory remedies.
36. In case the contractor supplied any materials or goods in excess to those contracted for in the purchase order or bills of quantities without the written consent of the company, then the contractor shall bear all costs for its retrieval and/or its disposal, including but not limited to, all costs, expenses, duties and taxes levied by the government and shall abide with governmental procedures pertinent to the matter at his own cost.
37. The Governing law for all bids, bidding procedures, and the subsequent accruing awards shall strictly follow the current Jordanian laws.
38. In case of award APC reserves the right to terminate the contract at any time by giving 30 days' written notice to the other party.
39. **Delivery Time:**
All works shall be completed within (9) months from the date of the purchase order at APC Safi Site.
40. **Method of Payment:**
Progress payment against actual executed works.
41. **Other Payments:**
- 41.1 **Definition:**
Other payments are all payments direct or indirect commissions, consulting fees, agents fees, finder's fees or other payments or inducements or the giving of anything of value paid or promised to be paid by the contractor (collectively "third payments") to third parties other than the company "Others", by the contractor or on his behalf or any of his sub – contractors and his or their employees, agents or representatives, in connection with the solicitation, bidding, negotiation, award or performance of this contract.
- 41.2 Contractor has fully disclosed in the declaration for other payments attached to these Conditions any and all direct or indirect commissions, consulting fees, agent fees, finder's fees or other payments, or inducements or the giving of anything of value (collectively, "Third Payments"), to third parties other than The Company (a "Third Payments") including without limitation a detailed description of the basis therefore, its sub-Contractors and its or their employees, agents

or representatives, in connection with the solicitation, bidding, negotiation, award or performance of this Contract, and hereby covenants and agrees promptly to disclose to (The Company) in writing the existence of any Third Party Payments including without limitation, a detailed description of the basis therefore, upon the earliest to occur of Contractor making or being obligated to make any such third Party Payments.

41.3 In the event of any violation or breach of the provisions of paragraph (41.2) of this clause. (The Company) at its sole option and discretion shall take all or any of the following actions: -

- (i) Terminate the Contract while reserving all its rights and/or,
- (ii) Deduct from all or any payments due to Contractor under this Contract an amount equal to two times the amount of any Third Party Payments, and/or,
- (iii) Demand that Contractor pay forthwith to "The Company" demand Contractor hereby irrevocably agrees to honor, an amount equal to two times the amount of any Third Party Payment, it being the intention, subject to paragraph (41.5) below, that the aggregate of all amount to which (The Company) is entitled under paragraphs (41.3) shall not exceed the amount which is two times the amount of all Third Party Payments.

41.4 Contractor agrees that provisions substantially similar (but in no event less restrictive) to paragraphs (41.2) and (41.3) above shall be incorporated by Contractor in all Contracts with Contractors sub-Contractors, suppliers or Contractors or arising out of or relating to this Contract, and shall also expressly provide that same may, at (The Company's) sole discretion, be enforced directly by (The Company). Contractor further agrees promptly to supply to (The Company) true and complete copies of such Contracts together with evidence of their inclusion in such Contracts forthwith upon the entering into by Contractor of such Contracts.

41.5 Nothing in this section shall expressly or implicitly make lawful or permissible any Third Party Payments that are otherwise prohibited under applicable law or regulations. These rights and remedies of (The Company) under this clause are in addition to and not in derogation of any other rights (The Company) may have under applicable laws or regulations.

41.6 This clause shall survive the termination of this Contract.

42. Prohibited Payments

42.1 Definition:

Prohibited payments are all payments direct or indirect commissions, consulting fees, agents fees, finders fees or other payments or inducements or the giving of anything of value paid or promised to be paid, by the Contractor or on his behalf or any of his sub-contractors, agents or representatives, to the "Company Person" in connection with the solicitation, bidding, negotiation, award or performance of this contract.

- 42.2 Contractor hereby represents and warrants to "The Company" in the attached declaration for prohibited payments to these Conditions that no direct or indirect commissions, consulting fees, agents fees, finders fees or other payments, and no inducements or the giving of anything of value, have been made or promised to be made, directly or indirectly, by or on behalf of Contractor, its sub-Contractors and its or their employers, agents or representatives, to "The Company" (collectively, "Prohibited Payments"), including without limitation any official, employee, agent or representative (whether or not acting in an official capacity) of "The Company" (The Company person), in connection with the solicitation, bidding, negotiation, award or performance of this Contract; and hereby covenants and agrees that no Prohibited Payments shall be made or promised to be made directly or indirectly, by or on behalf of Contractor, its sub-Contractors and its or their employees, agents or representatives, to any (The Company Person) in connection with the amendment, modification, renewal, extension or performance of this Contract.
- 42.3 In the event of any violation or breach of the provisions of paragraph (42.2) of this clause. (The Company) at its sole option and discretion shall take all or any of the following actions:-
- (i) Terminate the Contract while reserving all its rights and/or,
 - (ii) Deduct from all or any payments due to Contractor under this Contract an amount equal to two times the amount of any Prohibited Payments, and/or,
 - (iii) Demand that Contractor pay forthwith to "The Company" demand Contractor hereby irrevocably agrees to honor, an amount equal to two times the amount of any Prohibited Payments, it being the intention, subject to paragraph (42.5) below, that the aggregate of all amount to which (The Company) is entitled under paragraphs (42.3) shall not exceed the amount which is two times the amount of all Prohibited Payments.
- 42.4 Contractor agrees that provisions substantially similar (but in no event less restrictive) to paragraphs (42.2) and (42.3) above shall be incorporated by Contractor in all Contracts with Contractors sub-Contractors, suppliers or Contractors arising out of or relating to this Contract, and shall also expressly provide that same may, at (The Company's) sole discretion, be enforced directly by (The Company). Contractor further agrees promptly to supply to (The Company) true and complete copies of such Contracts together with evidence of their inclusion in such Contracts forthwith upon the entering into by Contractor of such Contracts.
- 42.5 The rights and remedies of (The Company) under this clause are in addition to and not in derogation of any other rights (The Company) may have under applicable laws or regulations.
- 42.6 This clause shall survive the termination of this Contract.
43. Attach declaration form of abidance by tender terms, conditions & technical specifications shall be filled, signed & stamped "Page No. 10".
44. Attach declaration form of other payments & prohibited payments, shall be filled, signed & stamped "Pages No. 11 & 12".

45. Attach declaration form for the conflict of interest shall be filled, signed & stamped "Pages No. 13, 14 & 15".
46. Arab Potash Company will not issue, any letter of commitment to banks to transfer dues in relation to the subject matter tender and / or Purchase Order.
45. The equipment &/or vehicle purchased must include a name plate showing our purchase order number in addition to other important information. Also, the warrantee card should be attached to the equipment / vehicle for easy reference and claims.
46. Foreign construction contractors must obtain the approval of the cabinet (Government of Jordan) before awarding.
47. The company reserves the right to disregard any bid which does not strictly follow the aforementioned terms and conditions.
48. APC reserves the exclusive right to engage in negotiations with bidder(s) who have successfully passed the APC evaluation, utilizing various negotiation methods, including but not limited to email correspondence, face-to-face meetings, or the employment of the APC I-Supplier Sourcing module for Electronic Reverse Auction."
49. **Correspondence shall be in writing stating the tender name and number and directed to:**
Procurement Director,
Arab Potash Company PLC.
P.O. Box 1470,
Amman 11118 – Jordan.
Tel. No. : +962-6-5200520
E-mail : procurement@arabpotash.com
Hamdi.m@arabpotash.com

Declaration of Abidance by Tender Terms & Conditions and Technical Specifications

I, We. The undersigned,

Declare that we have read the terms and conditions for **202401478/AT Raising of 33kV Intake OHLs at Road Intersections.**

"And we confirm that we are in compliance with these terms and conditions; this declaration is properly signed and sealed evidencing our full abidance by all tender terms and conditions.

Moreover, we the undersigned abide with payment terms, the delivery terms exactly as stipulated in the documents **CPT APC Safi Site** and we have read the technical specifications for this **IFB Number 202401478/AT.**

and confirm to be in full compliance with these technical specifications.

N.B.: -

(Tenderer is required to fill an additional form to show any possible minor technical deviations).

We understand that failing to abide with the tender conditions will nullify our offer.

Tenderer Name:

Name of authorized signatory:

Signature:

Official Stamp: -

Tenderer is required to submit the declaration in the envelope which contains the bid bond along with the list of minor derivations.

Declaration for Other Payments

I, We. The undersigned,

.....
...

Declare that we have read and comprehended the provisions under clause (41) of **IFB Number 202401478/AT** "Terms and Conditions" related to this Contract and in compliance with this clause; we enclose a declaration properly signed and sealed disclosing any and all direct or indirect commissions, consulting fees, agent fees, finders fees or other payments, or inducements or the giving of anything of value (collectively, "Third Party payments") to third parties other than any of The Company's Person(s) (a "Third Party"), including without limitation a detailed description of the basis therefore, made or to be made, directly or indirectly, by or on behalf of Contractor, its subcontractors and its or their employees, agents or representatives, in connection with the solicitation, bidding, negotiation, award or performance of this Contract; and hereby covenants and agrees promptly to disclose to The company all Payments including without limitation, a detailed description of the basis therefore, upon the earliest to occur of Contractor making, or being obligated to make, any such Third Party Payments.

Contractor's Name

Name of authorized signatory.....

Signature.....

Seal.....

Tender Name & Number.....

- Contractor is required to submit a declaration for other payments in a separate sealed envelope whether such payments has been paid or not and the offers of all Contractors that do not include such declaration will be rejected.

Declaration for Prohibited Payments

I, We the undersigned,
.....

Declare that we have read and comprehended the provisions under clause (42) of **IFB Number 202401478/AT** "Terms and Conditions" related to this Contract and in compliance with this clause; we enclose a declaration properly signed and sealed representing and warranting to (The Company) that no direct or indirect commissions, consulting fees, agent fees, finders fees or other payments, and no inducements or the giving of anything of value, have been made or promised to be made, directly or indirectly, by or on behalf of Contractor, its subcontractors and its or their employees, agents or representatives, to (The Company) (collectively, "Prohibited Payments") including without limitation any official, employee, agent or representative (whether or not acting in an official capacity) of (The Company) ("The Company Person"), in connection with the solicitation, bidding, negotiation, award or performance of this Contract; and hereby covenants and agrees that no Prohibited Payments shall be made or promised to be made, directly or indirectly, by or on behalf of Contractor, its subcontractors and its or their employees, agents or representatives, to any "The Company Person" in connection with the amendment, modification, renewal, extension or performance of this Contract.

Contractor's Name

Name of authorized signatory.....

Signature.....

Seal.....

Tender Name & Number

- Contractor is required to submit a declaration for prohibited payments in a separate sealed envelope whether such payments has been paid or not and the offers of all Contractors that do not include such declaration will be rejected.

نموذج إقرار وكشف عن تضارب مصالح

تحظر أنظمة وسياسات شركة البوتاس العربية ومدونة السلوك الوظيفي على موظفيها وأفراد عائلاتهم والأقارب لغايات الدرجة الثانية في أية تعاملات لهم مع المقاولين الذين تتعاقد مع شركة البوتاس العربية لإنجاز أعمال أو مشاريع أو تقديم خدمات سواء أكانت تعاملات تؤدي إلى مصلحة مالية بها أو غير ذلك ، وتحظر كافة أشكال "تعارض المصالح" الفعلية أو المحتملة وهو موقف تؤثر فيه الاعتبارات المالية أو الشخصية الأخرى أو يبدو أنها تؤثر على الحكم في تنفيذ أعمال العطاء.

يجب على المناقص الذي يرغب في التقدم للدخول في العطاء المطروح من شركة البوتاس العربية رقم **IFB No. 202401478/AT** استكمال تعبئة بيانات هذا النموذج وتوقيعه وختمه حسب الأصول من المفوض بالتوقيع وإرفاقه ضمن وثائق العطاء الأخرى حسب تعليمات وشروط الدخول بالعطاء. ويهدف هذا النموذج إلى تحديد وجود تضارب مصالح مباشر أو غير مباشر أو محتمل مع مصالح أي من موظفي و/أو أفراد عائلة و/أو أقارب موظفي الشركة من عدمه.

يرجى تحديد المربع المناسب لكل سؤال واستكمال المرفق إذا تمت الإشارة إليه:

1. هل أنت بصفة شخصية أو الشركة المتقدم بإسمها للمناقصة أو أحد الشركاء فيها أو أحد أفراد عائلتك المباشرين من الدرجة الأولى (الأصول والفروع أب أم ابن ابنه الزوج الزوجه) أو الأقارب والنسب من الدرجة الثانية (الجد والجده والأخوة والأخوات والأحفاد) أو لأحد الشركاء معك تعاملات أو مصلحة مالية أو تجارية أو علاقة شخصية أو علاقة عمل مع أي من موظفي شركة البوتاس العربية أو أحد أفراد عائلتهم أو أحد أقاربهم من الدرجة الثانية أو مع أي شخص متعاقد بصفة شخصية مع شركة البوتاس العربية:

☐ نعم (إذا كانت الإجابة بنعم يرجى استكمال المرفق)
☐ لا

2. هل أنت بصفة شخصية أو الشركة المتقدم بإسمها للمناقصة أو أحد الشركاء فيها أو أحد أفراد عائلتك المباشرين من الدرجة الأولى (الأصول والفروع أب أم ابن ابنه الزوج الزوجه) أو الأقارب والنسب من الدرجة الثانية (الجد والجده والأخوة والأخوات والأحفاد) أو لأحد الشركاء معك تعاملات أو مصلحة مالية أو تجارية أو علاقة شخصية أو علاقة عمل مع أي من متقاعدي شركة البوتاس العربية أو أحد أفراد عائلتهم أو أحد أقاربهم من الدرجة الثانية:

☐ نعم (إذا كانت الإجابة بنعم يرجى استكمال المرفق)
☐ لا

3. هل أنت بصفة شخصية أو الشركة المتقدم بإسمها للمناقصة أو أحد الشركاء فيها أو أحد أفراد عائلتك المباشرين من الدرجة الأولى (الأصول والفروع أب أم ابن ابنه الزوج الزوجه) أو الأقارب والنسب من الدرجة الثانية (الجد والجده والأخوة والأخوات والأحفاد) أو لأحد الشركاء معك تعاملات أو مصلحة مالية أو تجارية أو علاقة شخصية أو علاقة عمل مع أي من أعضاء مجلس إدارة شركة البوتاس العربية أو أحد أفراد عائلتهم أو أحد أقاربهم من الدرجة الثانية:

☐ نعم (إذا كانت الإجابة بنعم يرجى استكمال المرفق)
☐ لا

4. هل أنت بصفة شخصية أو الشركة المتقدم بإسمها للمناقصة أو أحد الشركاء فيها أو أحد أفراد عائلتك المباشرين من الدرجة الأولى (الأصول والفروع أب أم ابن ابنه الزوج الزوجه) أو الأقارب والنسب من الدرجة الثانية (الجد والجده والأخوة والأخوات والأحفاد) أو لأحد الشركاء معك تعاملات أو مصلحة مالية أو تجارية أو علاقة شخصية أو علاقة عمل مع أي من موظفي وأعضاء مجالس و/أو هيئة مديرين الشركات التابعة والمملوكة لشركة البوتاس العربية أو أحد أفراد عائلتهم أو أحد أقاربهم من الدرجة الثانية أو مع أي شخص متعاقد بصفة شخصية مع هذه الشركات:

☐ نعم (إذا كانت الإجابة بنعم يرجى استكمال المرفق)
☐ لا

تحذير: قد يؤدي العلم بخطأ البيانات أو وجود بيانات مخادعة تم إدراجها ضمن النموذج أعلاه إلى رفض عرض المناقص أو إنهاء الاحالة مع شركة البوتاس العربية في تطبيق شروط وأحكام وثائق العطاء وتحصيل قيمة الكفالات المقدمة.

شهادة وإقرار

لقد قرأت نموذج الإقرار والكشف عن تعارض المصالح وأفهم بنوده. ولقد قمت بالإجابة والإفصاح الصحيح عن جميع المعلومات المطلوبة من خلال هذا الكشف، إن وجدت، في بيان المرفق. وأوافق على الإمتثال لأية شروط أو قيود تفرضها شركة البوتاس العربية للحد من تضاربات المصالح الحقيقية و/أو المحتملة أو التخلص منها. وأتحمّل نتيجة الإجابة غير الصحيحة وأقر بصحة ما ورد في النموذج ومرفق الإفصاح، وأتعهد بالإفصاح لاحقاً عن أي حالات تشكل تضارب مصالح حقيقي أو محتمل وسأقوم بتحديث نموذج الكشف هذا على الفور عند تغير الملابسات المرتبطة به. وأدرك أن نموذج الكشف هذا ليس مستنداً سرياً.

وأشهد وأقر بأنني لم أحصل على أية معلومات تتعلق بالعطاء أو محاولة الحصول عليها من أي شخص يعمل في شركة البوتاس العربية بطرق غير مشروعة لتحقيق منفعة شخصية أو مالية.

وفي حال حددت أو وجدت شركة البوتاس العربية أي حالة من حالات تعارض المصالح سواء حقيقي أو محتمل لها حق إنهاء العطاء أو المناقصة فوراً دون الحاجة لإعذار أو قرار قضائي مسبق مع الالتزام بأي تعويضات مالية تترتب بحقي بهذا الخصوص من ضمانات وثائق المناقصة.

التاريخ

توقيع المناقص والختم

إسم المناقص

تحذير: قد يؤدي العلم بخطأ البيانات أو وجود بيانات مخادعة تم إدراجها ضمن النموذج أعلاه إلى رفض عرض المناقص أو إنهاء الاحالة مع شركة البوتاس العربية في تطبيق شروط وأحكام وثائق العطاء وتحصيل قيمة الكفالات المقدمة.

مرفق نموذج إقرار وكشف عن تضارب المصالح

إذا قمت بالإجابة بنعم على أي من الأسئلة الواردة بالصفحة السابقة، فالرجاء استكمال القسم/الأقسام الواردة أدناه.
وإذا قمت بالإجابة بلا على جميع الأسئلة، فيمكنك تجاهل هذا المرفق. قم بتقديم هذا المرفق مع النموذج المكتمل
موقع ومختوم مع وثائق العطاء.

معلومات حول تضارب المصالح

• اسم أو أسماء الأشخاص الكامل وصفتهم الوظيفة الذين تم الاجابة بنعم في النموذج بوجود تضارب مصالح :

1

2

3

4

5

6

7

• حالة القرابة والعلاقة التي تربطك مع الشخص أو الأشخاص أعلاه سواء مصلحة مالية أو تجارية أو شخصية مع ذكرها:

.....

.....

• بيان طبيعة تضارب المصالح معهم (حقيقي أو محتمل أو فعلي أو مباشر أو غير مباشر)

.....

• بيان وصف منصب الشخص أو الأشخاص أعلاه / وإن كان يتيح لهم المشاركة بأي قرار في العطاء سواء في التقييم أو التنفيذ أو حصولك على معلومات داخلية منهم عن أعمال شركة البوتاس العربية

.....

.....

التاريخ

توقيع المناقص والختم

إسم المناقص

تحذير: قد يؤدي العلم بخطأ البيانات أو وجود بيانات مخادعة تم إدراجها ضمن النموذج أعلاه إلى رفض عرض المناقص أو إنهاء الاحالة مع شركة البوتاس العربية في تطبيق شروط وأحكام وثائق العطاء وتحصيل قيمة الكفالات المقدمة.



البوتاس العربية
Arab Potash

Arab Potash Company

Raising of 33kV intake OHLs at road
intersections-IFB#202401478/AT.

1. ABOUT APC

Arab Potash Company (APC) is the Eighth Largest Potash Producer Worldwide by Volume of production and the Sole Producer of Potash in the Arab World. It also has one of the best track records among Jordanian corporations in the areas of work safety, good governance, sustainable community development, and environmental conservation.

A. COMPANY ACTIVITIES

The Arab Potash Company (APC) was established on July 7th, 1956, and in 1958 the Government of the Hashemite Kingdom of Jordan granted APC an exclusive concession for the exploitation of Dead Sea salts and minerals. Upon termination of the concession, 100 years from the date it was granted, ownership of all plants and installations will be transferred to the government of the Hashemite Kingdom of Jordan at no cost to the latter. The operational objectives of the Company include the extraction of salts and minerals from the Dead Sea and establishing industries that use these salts and minerals. The activities of APC and its subsidiaries concentrate on the production of potash, potassium nitrate and other downstream industries and to market them both domestically and internationally.

B. OUR VISION

“Be the Most Trusted Partner in The Global Upstream and Downstream Dead Sea Minerals Industries.”

Our Mission

“Create Value for Our Shareholders, Customers, Employees & Other Stakeholders Through Transforming Dead Sea Minerals into A Wide Spread of High Quality, Innovate & Sustainable Products.”

C. GEOGRAPHIC LOCATION

Amman: Headquarter.

Ghour Al-Safi Plant: The site of Arab Potash Company is located 110 kilometers south of Amman and 220 kilometers north of Aqaba. The site is basically a Solar Evaporation Ponds System of an area of 112 km² and processing plants. The plants produce four grades of potash: standard, fine, granular and red potash through.

Aqaba Site: is located across the southern beach of red sea in the Industrial area of Aqaba city, with an area of 250,000 m² and its 23 km away from Aqaba city center and 220 km from Ghour Site Plant, Aqaba site has a crucial part in the logistics, transportation, storing, and marketing of Potash products, with a storage capacity of 285,000 M ton.

2. ABBREVIATIONS & DEFINITIONS

APC: Arab Potash Company.

OHL: Over Head Line.

IEC: International Electro-Technical Commission

BS: British Standard.

MVA: Mega Volt Ampere.

AAAC: All Aluminum Alloy Conductor.

ISO: International Organization for Standardization

Conductor: Material, usually in the form of a wire or cable, suitable for carrying electric current.

Insulated: Separated from other conducting surfaces by a dielectric (including air space) that offers high resistance to the passage of current.

Insulator: Insulating material in a form designed to support a conductor physically and to separate it electrically from another conductor or object.

Sag: The distance measured vertically from a conductor to the straight line joining its two points of support, measured at the midpoint of the span, unless otherwise indicated.

Final Sag: The sag of a conductor under specified conditions of loading and temperature applied after it has been subjected, for an appreciable period, to the loading prescribed for the loading district in which it is situated, or equivalent loading, and the loading removed. Final sag includes the effect of inelastic deformation (creep).

Initial Unloaded Sag: The sag of a conductor before the application of an external load.

Voltage: The effective (root mean square) potential difference between any two conductors or between a conductor and ground. Voltages are expressed in nominal values, unless otherwise indicated. Nominal voltage of a system or circuit is the value assigned to a system or circuit of a given voltage class for the purpose of convenient designation. The system's operating voltage may vary above or below this value.

3. INTRODUCTION:

APC intends to raise the existing 33kV OHL crossings that intersect with the main road of the Intake station, as detailed in this document and site visit.

The Contractor shall be required to design, manufacture, supply, deliver, install and test the installation in accordance with this specification.

4. APPLICABLE STANDARDS:

The installation and equipment shall be in accordance with British Standards (BS) or International Electro-Technical Commission (IEC) standards. If the equipment being offered deviates from these Standards or Codes the proposal shall define in detail these differences; a copy of the relevant standard in the English language, shall be included with the bid.

Over headline equipment shall comply with BS 3288-1:2014 or equal and approved.

5. SCOPE OF WORK

The scope of this project is to raise the existing 33kV OHL at different intersections of the intake station main road as detailed in this document, it shall include the design, manufacture, supply, install, test and commission of 33kV OHL components as follows:

- Wooden Poles.
- Steel Cross Arms.
- Fittings (Bolts, Shackles, Ball eyes, Clamps, GUY-GRIP, etc...)
- Insulators.
- Surge Arresters, if any.
- Earthing system (Straps, Flat Conductors, Earthing Electrodes, Connectors, etc...)
- Stay Wires.
- Stay Insulators.
- Stay Rods.
- Pre-Cast Concrete Foundations.

Final and exact components shall be surveyed and quantified by vendors during the tendering stage. It's the vendor's responsibility to identify the exact lengths and required component quantities, i.e. Wooden Poles and Cross Arms, Conductors, Post & Tension Insulators, Fittings, Earthing, Stay Wires, etc....

Appendix C lists and describes the locations where the work shall be carried out.

Scope of work shall also include the demolition of the old poles, conductors, insulators, etc... and send it to APC scrape area.

6. DESIGN CRITERIA

A. SYSTEM CHARACTERISTICS

The following characteristics shall be considered:

Nominal System Voltage

(rms phase to phase)	:	33kV, +/- 10%
Maximum System Voltage	:	36 kV
Frequency	:	50 Hz
Earthing	:	Resistance earthed neutral
Electrical load estimate	:	20 MVA
Short circuit Level at 33 kV	:	25 kA for 3 second

For site and climatic conditions, refer to Section Appendix A.

Minimum Line Clearances to follow the standards, But not less than:

- 6.1 m for vertical clearances.
- 10.0 m at road crossings (lowest point) and raising height shall not be less than 2 meters from current clearance.

B. FACTORS OF SAFETY

Safety Factors: 2.5

Conductor	Minimum Factor of Safety
Maximum working tension based on ultimate strength	2.5
At average day temperature, still air final tension based on ultimate strength	5.0

Minimum Line Clearance

Normal to ground	5.5 m
Accessible building, roofs, or structures	4.5 m
Roads	6.1 m
Other electrical power lines	2.0 m
Crossing telephone lines	3.0 m

Minimum Electrical Clearance

Line to earth metal Tension pole jumpers main swing 25 degrees	460 mm
--	--------

To supporting steelwork (still air) 550 mm

Design Spans

Nominal Conductor size	100 mm ²	150 mm ²
All supports, Basic	100 m	100 m
All supports, maximum	150 m	150 m
All supports, maximum wind	110 m	110 m
All supports, maximum weight at minimum temperature	200 m	200 m
sag template, Basic	100 m	100 m

7. TECHNICAL SPECIFICATIONS

A. GENERAL REQUIREMENTS:

- Review and check the tender documents and/or the execution process of the works upon its receipt and shall promptly notify the Employer of any error, omission, obstacles, fault or any other defect affecting the construction activities, which he discovers when reviewing the Contract documents and/or during construction, the proper recommendations in regards shall be approved by the Employer before the execution of works. Failure to comply with this clause will make the Contractor fully responsible for any error, omission, fault or another defect that could have been reasonably discovered in the design or specifications of the works.
- Take delivery inside Employer stores/storage yards of all process equipment and material supplied by APC suppliers/manufacturers. Safeguarding and security after taking delivery will be in the contractor's scope. To note that the Employer will be responsible for procurement, transport/insurance only for the equipment supplied by the employer, while the Contractor is responsible for loading /unloading up to his stores/storage yards on site of all process equipment supplied .
- Prepare material submittals for the Employer's approval in advance.
- Provide all tools and construction materials and equipment and workforce necessary to perform the works.
- Produce the as-built drawings for the project.
- Prepare 3 printed copies and 3 CDs of all close-out documents such as O&M manuals, as-built drawings/documents, etc... as per specification requirements.
- Test and commission all systems and components.
- Follow the Employer's, and manufacturer's instructions.
- Responsible for the procurement of all required material as described and specified in the tender documents that shall include all required accessories to complete the work.

- Additional work: APC has the right to amend the work and/or request new works which may not be included the contractor's scope and are not covered in the contract documents, but it is consistent therewith and is reasonably inferable therefrom as being necessary to produce the intended results, in this case, such additional works will be rated according to the contractor's pricing rates that are stated in the BOQs for the similar entry work units.
- Provide all necessary laborers, workforce, supervision, material, equipment, utilities, supplies, procurement, receiving of material, material storage safeguarding, fabrication, welding, consumables, temporary structures and facilities, lifting / handling/ transporting, installation works and arrangements, special tools, services, design, testing, certification and all other items required to complete the work under the contract documents

B. DELIVERY, STORAGE, AND HANDLING

- Comply with ANSI O5.1 for handling and storing wood poles for more than two weeks. Do not use pointed handling tools capable of producing indentations greater than 1 inch (25 mm).

C. PROJECT CONDITIONS

- Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated.
- Notify Engineer not less than two days in advance of proposed utility interruptions.
- Do not proceed with utility interruptions without Engineer's written permission.

D. COORDINATION

- Coordinate with Employer before making final connections.
- Coordinate below with service entrance provisions of facilities served by lines specified in this Section.

E. EXTRA MATERIALS

- Extra materials may not be allowed for publicly funded projects.
- Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
- Special Tools: At least two sets of special-purpose tools required for maintenance complete with tool box.
- Insulators: One for every 10 of each type, but not less than three of each type.

F. EXECUTION**GENERAL INSTALLATION REQUIREMENTS**

- Verify dimensions by field measurement, and identify locations of poles, guy anchors, and other features. Also identify locations of connection to new and existing supply lines and to primary and secondary services. Notify Engineer of discrepancies and field conditions that are not indicated and that will affect installation.

RIGHT-OF-WAY CLEARANCE

- Clear right of way to maintain minimum clearances required by applicable standards. If no minimum requirements are mandated, maintain a minimum of 15 feet (4.5 m) on both sides horizontally and below medium-voltage conductors to any structure. Clearance to road shall read minimum 6.1 m.

CONDUCTOR INSTALLATION, GENERAL

- Handle and string conductors to prevent cuts, scratches, kinks, flattening, or deformation. Remove damaged sections and splice conductors.
- Coordinate two subparagraphs below with Drawings.
- String new conductors to "initial" sag table values recommended by manufacturer for type and size of conductor and ruling span.
- Delete subparagraph below if Project does not renovate existing lines.
- Connections, Splices, and Terminations: Use kits listed for the specific type of connection and combination of materials used in the connection, or recommended for the specific use by manufacturer of material on which applied.

POLES & CROSS-ARMS

- Coordinate first paragraph below with Drawings.
- Pole Orientation: Align curve of curved wood poles with straight-line runs of three or more poles. Align gained surfaces perpendicular to runs.
- Elevation of Line above Grade: Install poles with top elevation as uniform as possible and according to the following:
- On level ground, set poles so tops of consecutive poles vary not more than 60 inches (1500 mm) in elevation.
- Shorten wood poles by cutting off the top and make cuts to shed water and apply preservative.
- Set poles according to the following:
- Make pole holes vertical, uniform in diameter, and large enough to permit effective use of tamping bars all around. Bore or excavate holes with an average diameter at grade less than twice the diameter of the pole at the same grade.
- Use minimum depths indicated, except at locations where hole is partly or entirely in rock and if hole is not vertical or has a diameter at grade larger than two times the pole diameter at the same level; in these conditions, increase the depth of the hole by the following increments before setting the pole:
- For poles on slopes, indicated hole depth is from finished grade at lowest side of hole.
- Set poles in alignment and plumb except at dead ends, angles, and points of extra strain; rake poles against conductor strain 1 inch (25 mm) minimum, 2 inches (51 mm) maximum, (after conductors are installed at required tension) for each 10 feet (3 m) of pole length. Rake poles so they will not lean or bend in direction of strain when loaded.
- Backfill holes in 6-inch (150-mm) maximum lifts, and thoroughly tamp each layer before starting the next.
- Place surplus earth around pole in a conical shape, and tamp thoroughly to provide drainage away from pole.

- Set poles so alternate cross arm gains face in alternate directions, except at terminals and dead ends; place gains on last two poles on side facing terminal or dead end.
- Retain subparagraph below where applicable for projects in Seismic Zones 3 and 4.
- Field-treat factory-treated poles and cross-arms as follows:
- Poles Treated More Than One Year before Installation: Treat portion from 24 inches (600 mm) above ground line to butt.
- Field-Bored Holes and Field-Cut Gains and Pole Tops: Treat cut portions.
- Unused Holes: Treat and plug with treated-wood-dowel drive pins.
- Engage the services of a technician certified according to Part 1 of this Section to apply treatment. Comply with requirements in A WPA standards that govern original factory treatment for field-applied treatment chemicals and application.
- Cross-arm Installation: Set line cross-arms at right angle to line for straight runs and for angles 45 degrees and more. Bisect angles less than 45 degrees.
- Buck Arms: Install at corners and junction poles, unless otherwise indicated.
- Double Cross-arms: Install at dead ends, corners, angles, and line crossings.
- Equipment Arms: Locate below lines and set parallel or at right angles to them, whichever provides best climbing space.
- Gains: Install factory-cut or metal pole gains only. Do not cut gains in field without specific written approval.
- The length of the cross arms shall be selected to meet the phasing distance of 1.3.m minimum,

HARDWARE & ACCESSORIES INSTALLATION

- Install washers against wood and under nuts, including eye nuts and locknuts.
- Install nuts and locknuts wrench-tight on threaded connections.
- Install guys to resist unbalanced loads, including those developed at angles, corners, and dead ends. Install two or more guys if a single guy will not provide adequate strength. Install separate guys if unbalanced loads are separated by 36 inches (900 mm) or more.
- Protect guy strands from damage. Replace damaged guy strands. Install guy insulators where required to comply with IEEE C2 clearance requirements and elsewhere, where indicated.
- Select guy anchors having adequate strength and holding area to suit anchor load and soil conditions at location of that anchor.
- Soil Anchors: Align anchors in soil with guy. Set with anchor rod pointing at guy attachment on pole and rod projecting 6 to 9 inches (150 to 230 mm) from ground.
- Install guy markers at anchor end of guys. Clamp to guy strand or anchor at top and bottom of marker.

FIELD QUALITY CONTROL

- **Testing:** Perform the following inspections and tests:
 - Furnish instruments and equipment required for tests that comply with NETA ATS.
 - **Guy Anchors:** Test one of each type and capacity installed plus additional units specifically indicated for testing. Apply rated pull-out force in the same pull direction applied by the guy at the test location.
 - **Acceptable Test Results:** Denoted by movement of less than 3/8 inch (10 mm) by the holding component of the anchor in the earth or other medium in which it is installed.
 - Replace or reinstall, at Engineer's option, each anchor of same type and capacity that fails this test.
 - **Ground Resistance:** Comply with Section "Grounding and Bonding for Electrical Works." Measure resistance of each separate grounding electrode, including pole grounds. Also measure resistance of separate grounding electrode systems before bonding together.
 - Provide grounding rod system at each pole location.
 - Perform tests and obtain acceptable results before energizing any portion of electrical power distribution system.
 - **Results and Follow-up:** If ground resistance for a single ground electrode or pole ground, tested individually, exceeds 25 ohms, add a ground electrode not less than 5 feet (1.5 m) away and interconnect with 70mm² minimum bare copper conductor buried at least 12 inches (300 mm) below furnished grade.
 - **Aerial Conductor Sag and Tension:** Observe procedures used by Contractor to verify that initial stringing sags and tensions comply with IEEE C2 and conductor manufacturer's Product Data and written recommendations.
- **Repair or Replace Malfunctioning Units:** Retest as specified above after repairs or replacements are made.

CLEANING

After completing equipment installation, inspect equipment. Remove spots, dirt, and debris. Repair damaged finish to match original finish.

G. ELECTRICAL WORKS

- The Contractor shall use personnel specialized, skilled and certified in the installation of electrical equipment.
- Standards: In addition to local standards and unless otherwise specified, equipment and materials are to be manufactured and installed in compliance with the relevant recommendations of the following or other equal and approved standards (IEC, ISO, IEEE, BS and EN).
- The contractor shall provide all accessories necessary to complete the installations, of the types specified or recommended for the purpose by the manufacturer of the equipment or accessories.
- The contractor shall perform all work in accordance with the applicable electrical codes. Provide, except as otherwise specified, all labor, materials, equipment, tools, incidentals, and supervision required to place into service the various complete electrical systems including receiving, unloading, storing, protection and testing as required.
- Right of Way: Given to installed raceways and piping systems. In general, all cabling, power conductor routing shall be located above any piping, unless specifically approved otherwise.
- Metal Items for use outdoors or in damp locations shall be Hot-dip galvanized steel, or stainless steel, as per requirement.
- All fixing hardware shall be of non-corroding material or stainless steel otherwise.
- Brackets, supports, rails, and tracks for supporting electrical installations shall be hot-dip galvanized steel, fixed with expansion bolts of approved size and material. Plastic inserts and lead anchors are not acceptable unless approved for specific light duty installations.
- All insulating materials are to be suitably finished so as to prevent deterioration of their qualities under the specified working conditions. In general, electrical insulation shall be of thermal class H (BS EN. 60085) unless specified otherwise.
- Each cable shall be run in one continuous length; straight through joints will not be permitted.

H. CIVIL WORKS AND CONCRETE SPECIFICATIONS

- This specification covers the minimum requirements for the civil works and the concrete foundations that must be applied to meet the needs of this project.
- The contractor shall verify, study and check all the dimensions, materials, work details, installation and arrangement according to site and installations conditions, and shall be responsible for all necessary allowances for work as necessary to make the work completed and ready for the intended use.
- Before commencing the works, the Contractor surveyor shall carry out all the required survey works.
- Contractor shall carry out all necessary soil tests before submitting the final foundation design.
- The Contractor responsibility is to determine the reference elevation and coordination based on the top level of foundation, elevation, and location, in case of existing foundation replacement then Contractor shall refer to local references for elevation and foundation location in order not to deviate from the existing piping if such cases occur then the correction shall be the Contractor's responsibility and at his own cost
- Prior earth and excavation works, the contractor shall survey and detect all existing underground utilities (drainage, electrical cables, pipes...), in collaboration with the APC team, the contractor shall report the same to the APC and propose new locating via shop and fabrication drawings submitted to the APC engineer's review and approval.
- Concrete shall have a minimum crushing strength on the cube at 28 days: $FCU=400\text{kg/cm}^2$ min. concrete shall be cured for 7 days with potable water.
- Concrete foundation shall be protected from all sides by the insulating sheets, for more details refer to Appendix-B.
- The Contractor shall use high-grade steel reinforcement rebars for foundations (with $F_y=420\text{ MPa}$)

I. SOURCE QUALITY CONTROL

- Factory Inspections: Engage a recognized independent timber inspection agency to inspect poles and cross-arms before and after corrosion-resistant treatment and report results of inspection.

J. HEIGHT WARNING GANTRY

- Provide height warning gantries before and after overhead transmission lines crossing roads, in order to warn drivers about admissible height limits. Location of gantries to be determined in coordination with the applicable stopping distances.
- Warning Gantries shall consist of elevated poles with adequate protection to environmental conditions, located at both sides with sling wires and height warning sign. Reflectors are to be provided in accordance with regulations. Height to be determined in accordance with required safety distances from 33 kV overhead transmission lines.

K. TECHNICAL TERMS AND CONDITIONS**SPECIAL TERMS**

- The Work method statement shall be submitted with the offer.
- The risk assessments shall be submitted with the offer.
- These terms, BOQ, and specifications complete one another. If there any contradiction between them, then determining the specification is the authority of the APC Supervisor engineer, and his decision is considered final without any monetary obligation on APC.
- The contractor must attach BOQ which includes prices for each item of the agreement with his offer.
- Preserving the materials from damage, sabotaging, and theft is the contractor's responsibility.
- The contractor must comply with Arab Potash company's instructions regarding occupational Health and safety, as well as, security instructions in the worksite.
- All excavation and backfilling works are in the contractor's scope.

GENERAL CONDITIONS

- Safety protective equipment required for the work shall be arranged by the contractor (i.e. Helmets, Safety glasses, Safety Harness, Safety Shoes, Gloves ...)
- The contractor shall follow all rules and regulations about safety procedures in APC.
- The contractor shall follow all rules and regulations about COVID-19.
- The contractor shall provide a daily report that shows the activities and completion percentage.
- The contractor shall provide the required manpower.
- The contractor shall provide list of project staff's CVs and experiences, including Project Manager/ Site Manager and Engineers, Supervisors and laborers.
- The contractor shall provide LTI history records.
- The contractor to leave the area around the work area clean and free of debris daily.
- Working hours are from 8 AM to 4 PM, Friday and Saturday are holidays.
- All tools and machines required for the work (i.e. welding machine, grinders, chain blocks, ...) are in the contractor's scope.
- All consumables (i.e. welding rods, cutting discs, ...) are in the contractor's scope.
- All required handling machinery (i.e. crane, forklift ...) are in the contractor's scope.

- The contractor shall protect the equipment during handling, erection, and installation.
- The contractor shall repair all damages that occurred during handling, erection, and installation.
- The contractor shall build and dismantle the required scaffolds. The contractor shall provide skilled workers with certificates to build scaffolds.
- The contractor shall install the materials following the manufacturer's requirements and instructions.
- All work steps should be approved by the APC supervisor before the execution of the other activities.
- In case of conflict between the APC team and contractor, the priority for the APC team.
- The contractor shall provide a Gantt chart for the work schedule include the delivery time and execution time.
- Comply with APC regulations for electrical connections.
- Accommodations, food, transportation, housing are contractor responsibilities.
- The contractor should provide his workers with military permits, when required.
- All dismantled and replace parts to be scrapped in the APC scrape area.
- Anything needed to complete this job and not mentioned in this specification will be the contractor responsibility
- Transportation, material loading /unloading, handling
- Working area Housekeeping and removing waste material to scrape area and debris removal out of site.
- Storage of Materials: Equipment and materials are to be stored in an approved location, undercover, free from humidity, dust, debris, and vermin. Equipment sensitive to heat and humidity is to be kept in climatically conditioned areas until installed and handed over. Equipment not stored as required, will not be acceptable.
- Defective Equipment: The Employer reserves the right to operate operable defective equipment during the Defects Liability Period until it can be removed from service for repair or replacement.
- The Contractor shall observe and comply with any Safety Regulations enforced by the Employer.

L. COMPONENTS SPECIFICATIONS

LINE CONDUCTORS

- Medium-Voltage Line Conductors: Bare all-aluminum-alloy (AAAC), complying with ASTM B 398 (ASTM B 398M) and ASTM B 399 (ASTM B 399M) or BS 3242.
- Size of conductors shall be selected based on the characteristics of the load, mechanical considerations, etc. However, the size shall not be less than 150 mm², based on BS 3242.

POLES

- Wooden poles complying with BS 1990-1:1984. Wood poles shall be treated with coal tar creosote to BS 144:1997 and using pressure creosoting according to Roping Method as per BS 913 with 115 kg/cbm as minimum net retention of creosote.
- Poles shall be with a minimum height of 10 m. Poles shall be provided with a reinforced concrete foundation. Details of the concrete foundation shall be submitted for approval.
- Wood Species: Wood poles shall be Stout Class with Pinus Sylvestris quality of wood, preferably from Scandinavia.
- Pole Marking Location: 10 feet (3 m) from the pole butt to be located below the warning label fitted to each pole. Inscription in English and Arabic.
- Factory Operations: Machine trim poles by turning smooth, full length. Roof, gain, and bore poles before pressure treatment.
- Tee-off and tap-off poles shall be constructed using an arrangement of two wooden poles (H).
- Two poles with tension insulator strings and stay wire support shall be used where the overhead line changes direction.
- Drilling: Wood poles shall be supplied completely drilled and marked from the original manufacturer.

Wood poles shall be:

Type :	Stout Wooden Pole
Overall length:	12.25 m
Minimum top diameter:	220 mm
Minimum diameter:	320 mm at 1.5 m from the bottom end
Ultimate Load at 0.6m from the Top:	15 kN

CROSS-ARMS

- Wood units in paragraph below are adequate for most crossarm loading situations. Indicate steel-angle cross-arms if extra strength is required. Coordinate with Drawings.
- Description: Cross arm brackets and fastenings will be of galvanized steel channel and angles.
- Minimum galvanizing thickness shall be in accordance with the relevant BS standard but not less than (600g/m²)?
- Saddles shall be provided to give a flat surface for cross arms fixing on round section poles. All steel work will be of hot dip galvanized.

INSULATORS

- General Description: Insulators are to be specified as suitable for site conditions.
- Insulators' mechanical strength to withstand the static and dynamic load of the overhead transmission line.
- Insulators shall comply with BS 3288 and/or IEC 62217. Insulators shall be of the composite insulators type (Silicon Rubber) and passed the following tests:
- Power Frequency Withstand Voltage Wet: 95 kV for 1 minute.
- Lightning Impulse Withstand Voltage: 200 kV for 1 minute.
- Insulators shall be designed to minimize the build-up of dust deposits. Metal parts shall be galvanized malleable iron or steel. The insulators heads shall be suitable for wrap lock or conventional ties. Studs shall be provided to suit the cross arm. Metal parts shall be hot dip galvanized to BS EN 1461.
- Insulators shall have a minimum creepage distance of 38 mm/kV or not less than 1400mm.
- All insulators shall be selected to suit arid desert conditions.
- Insulators shall be tested according to IEC61109.
- The size of Composite insulator, minimum creepage distance and mechanical strength along with hardware fittings shall be as follows:

Sr. No.	Type of Composite insulator	Nominal System voltage kV (rms)	Highest System voltage kV(rms)	Visible discharge test voltage kV(rms)	Wet Power Frequency Withstand voltage kV(rms)	Impulse Withstand voltage kV(rms) Dry	Minimum Creepage Distance (mm) (Heavily polluted 38mm/kV)	Center to center distance between Tongue & Clevis (mm)	Min. failing load kN	Shed Diameter (mm) (min)
1	Long rod insulator (Tension)	33	36	27	135	250	1400	570	70	100
2	Post/ Pin Insulators	33	36	27	135	250	1400		12.5	

- The tolerances on all dimensions e.g. diameter, length and creepage distance shall be allowed as follows in line with-IEC 61109.

DISCONNECTORS

- Tee-off poles and sectional disconnects shall be equipped with min 500 A three phase disconnecter with a short-circuit rating of 25 kA for one second, and tension insulator strings.
- The disconnecter shall be of the ganged rocking type, suitable for vertical or horizontal mounting and provided with load-breaking heads.
- The disconnecter shall be complete with all supporting steelwork, operating rod with insulator inserts, 'D' section phase coupling shaft, unions, guides and rural type operating handle with earthing terminal and facility for padlocking in the open and closed position. The operating handle shall have clear "ON" and "OFF" indication, and shall be fitted with terminals suitable for connecting to an earth mat at the pole.
- The disconnecter shall be of European origin manufacturers.
- The Disconnecters shall comply with IEC 62271-102.
- Combined Disconnector and Fused Cutout.
- The disconnecter shall be of the three phase ganged rocker type as described in Section 10, and shall be directly connected to current limiting fuses. The fuse links shall be supported on composite insulators mounted on vertical steel channels. The fuses shall be of European origin manufacturers.
- Fuses shall comply with IEC 60282-1:2020.

SURGE ARRESTERS

- Surge Arresters shall comply with IEC 60099-5:2018.
- Surge Arresters shall be of the valve type employing non- linear resistors of Composite material.
- Each diverter shall have the following characteristics: Continuous Operating Voltage: 27 kV Rated Surge Current: 10 kA.
- Each surge Arresters shall be connected to the cross-arm by means of a 90 mm² earth wire and a solid copper compression lug and heat shrink sleeve at each end.
- Surge Arresters shall be European origin manufacturers.
- Set of Surge Arresters (3 per circuit) shall be installed at each disconnector switch to protect the load side.

HARDWARE

- Description: Ferrous items include, but are not limited to, conductor joints, spacers, clamps, bolts, nuts, washers, cross-arm gains and braces, insulator pins, anchor rods, anchors, eyebolts, staples, etc.
- Comply with one of the following standards:
ANSI C135.1, ANSI C135.2, ANSI C135.4, ANSI C135.14, ANSI C135.17, ANSI C135.22, ANSI C135.33.
- BS standard: BS4360 for steel work and BS 4190 for bolts.
- Anchor and Anchor-Rod Assemblies: Hot-dip galvanized steel.
- Anchors: Expanding type.
- Anchor Rods for Manual Installation: Threaded rod with integral twin thimble eye.

- Insulator Brackets: Hot-dip galvanized steel, style as indicated, designed to hold vertical-post- or -pin-type insulators, with two-bolt attachment to pole.
- Stay wires shall be stranded, galvanized steel, complete with grade 1150 to BS 183 or equal and approved. Stay wire fixation shall not obstruct the road traffic.
- The number of stays shall be according to the site conditions and design calculations and safety factors with the minimum number as follows:
Angle Structure: 2

Section Structure: 4

Terminal Structure: 4

HOT DIP GALVANIZING OF IRON AND STEEL ARTICLES OTHER THAN WIRE.

- The galvanizing coating shall be smooth, continuous and uniform. It shall be free from acid spots and shall not scale nor blister, nor be removable by handling or packing.
- There shall be no impurities in the zinc nor additives to the Spelter bath which could have a deleterious effect on the durability of the zinc coating.
- Before pickling, all welding, drilling, cutting, bending, etc. must be completed and all grease, paint, varnish, oil, welding slag, etc., completely removed. All protuberances, which would affect the life of galvanizing, shall also be removed.
- Parts should not be galvanized if their shapes are such that the pickling solution cannot be removed with certainty or if galvanizing would be unsatisfactory, or if their mechanical strength be seriously reduced.
- During pickling each article shall be completely immersed in one dip.

EARTHING

- All metal work shall be permanently and efficiently bonded to earth. For this purpose, each pole shall be earthed.
- Conductors: bare galvanized strips with a minimum cross sectional area of 120 mm² (30 x 4 mm)
- Ground Rods: stainless steel rods (20mm x 1500mm)
- Connectors: Exothermic-welded connections provided in kit form and selected according to manufacturer's written instructions for specific types and sizes of items joined.

8. DRAWINGS AND SUBMITTALS

- Product Data: For conductors, wooden poles, cross arms, insulators, Guy assemblies, etc.
- Qualification Data: For firms and persons specified in "Quality Assurance" Article.
- Material Inspection Reports: From a qualified independent inspection agency indicating compliance of wood poles and cross arms with requirements indicated.
- Submittals: The Contractor shall submit the following according to the Specification which shall include but not be limited to:
 1. System and equipment design calculation notes,

2. Detailed layouts (Shop drawings) showing the arrangement of the proposed equipment, including all needed equipment for proper operation of the system whether specifically mentioned herein or not.
 3. Procurement of materials,
 4. Manufacturing and manufacture supervision,
 5. List of recommended ware and spare parts for the period of warranty,
 6. List of recommended spare parts for five-year operation,
 7. List of recommended special tools (for lifting, support etc.).
- Material Certificates: Signed by manufacturers certifying that each of the following items complies with requirements:
 - Wood poles.
 - Cross arms.
 - Insulators.
 - Listing Documentation: Indicate that products comply with requirements specified in "Quality Assurance" Article.
 - Time-Current Coordination Curves: Illustrate optimum coordination of protective devices involved in the Work of this Section.
 - Field Test and Inspection Reports: Indicate test and inspection results and compare them with specified requirements.
 - Coordination Study: Submit a short circuit and protection coordination study, for the electrical distribution network based on IEC Standards, for full discrimination, to the Engineer for approval.

9. MANUFACTURERS

- Country of Origin: All components detailed hereunder including all accessories shall be completely manufactured in Western Europe, USA or UK only; no other countries will be accepted.
- Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

A. CONDUCTORS:

OTDS (UK)

AFC Cable Systems.

Alcan Cable Co.

BICC Cables Company.

General Wire & Cable Co.

Hendrix.

Nokia Cables USA Inc.

Okonite Co. (The).

B. CONNECTORS:

OTDS (UK)

AB Chance Co.; Hubbell Power Systems.

Connector Manufacturing Co.

Cooper Power Systems.

Hubbell Anderson.

Hubbell Fargo Manufacturing Co., Inc.

C. INSULATORS:

OTDS (UK)

BBprice (UK)

AB Chance Co.; Hubbell Power Systems.

K-Line Insulators USA.

Lapp Insulator Co.

MacLean Power Systems.

Newell Porcelain Co.

Porcelain Products Co.

D. POLE-LINE HARDWARE AND ACCESSORIES:

OTDS (UK)

BBprice (UK)

Birks

AB Chance Co.; Hubbell Power Systems.

Aluma-Form, Inc.

American Metal Products, Inc.

Cooper Power Systems.

Hughes Brothers, Inc.

Joslyn Hi-Voltage Corp.; High Voltage Equipment Division.

MacLean Power Systems.

Porcelain Products Co.

Thomas & Betts Corporation; Utility Division.

E. POLES, WOOD:

OTDS (UK)

Scantrepo (Finland)

Impregnor (Norway)

Bell Lumber & Pole Co.

Brown Wood Preserving Co.

J. H. Baxter & Co.

Koppers Industries, Inc.

McFarland Cascade.

Okonite Co. (The).

Taylor Lumber & Treating.

Western Red Cedar Association.

F. GROUNDING MATERIALS:

OTDS (UK)

Furse UK

Thomas and Bets(USA)

OBbetteyman -Germany

10. TESTING

- Tests at the Seller's works shall be carried out in accordance with the relevant British/IEC Standards.
- Each insulator shall be visually inspected by the Seller for pitting or surface imperfections prior to shipment to site. Any insulator with surface imperfections shall be rejected. The Seller shall affix a signed quality control test tag to each insulator, or item of equipment, after satisfactory testing and inspection.
- The Buyer will reject any component or item of equipment deemed to be at variance with this specification. The Contractor shall bear the full cost of repair or replacement of defective components or equipment.

11. WARRANTY

The Vendor shall guarantee that the equipment fulfills satisfactorily the performance requirements and the operational conditions as stated in this specification, and the equipment shall be warranted to be free from defect, fault in design, workmanship and material and it is of the sufficient size, capacity and of proper material. A certified statement form indicating the above shall be submitted before delivery of the equipment to site.

Under this warranty, If any part of the equipment fails under normal use during the first year of operation but not later than 18 months after shipment from the vendor works, or any defect in design, material, workmanship and/or any operation characteristics defect may develop during the warranty period, the Vendor agrees to make all necessary desirable alterations, repairs and/or replacements of defected equipment in accordance with the tender documents and to the satisfaction of the APC, and the equipment shall be restored to satisfactory service at no additional cost to the APC, the Vendor shall also furnish , at his own expense, an experienced service person to supervise repairs and/or eventual replacements , and shall pay transportation expenses to and from the APC plant site.

No reimbursement whatsoever may be claimed for modifications or repairs carried out by third parties before the written consent or approval of the APC. If the defect cannot be corrected, the Vendor agrees to replace the equipment without delay and at his own expense, or to take the equipment back and return the total purchase price.

During the period that the vendor is making any correction or repair, under all conditions and in all cases, the APC will retain the equipment and any part thereof under the APC's authority and control, the APC reserves the right to keep the equipment operating without any restriction or prejudice to any other rights of the APC. Moreover, this continued use of the equipment by the APC shall not relieve the Vendor of any responsibilities and shall not incur any cost on the APC in any form.

12. EVALUATION & SCORING

- Evaluation of tenders will consist of two stages: stage one involves “Technical evaluation”. Only Bidders whose technical offer is responsive and satisfactory will be considered for the second stage, which consists of the “Commercial evaluation”.
- Prior to the detailed evaluation of the tenders, APC will determine whether each tender; (i) has been properly signed; (ii) is accompanied by the required securities; (iii) is substantially responsive to the requirements of the Tender Documents; and (iv) provides any clarification and/or substantiation that the APC may require.
- A substantially responsive tender is one which conforms to all the terms, conditions and specifications of the Tender Documents, without material deviation or reservation.
- electromechanical / first grade.
- Scoring will be applied as following:
 - 40%: Financial evaluation
 - 60%: Technical evaluation

- Technical score will be based on the following criteria:

	Evaluation item	Score
1.	Compliance with APC technical specifications.	40%
2.	Contractor's years of experience in the same field: Number and value of similar projects. Only MV OHL projects will be considered.	15%
3.	Qualifications and experience of key personnel proposed in the field of the Works for the administration, management, engineers, skilled staff, and execution of the Contract.	10%
4.	Previous experience with APC.	10%
5.	Compliance with tender documents, offer presentation, and document completeness.	5%
6.	Evidence of the Quality Assurance/ Quality Control Plan /Safety plan adopted in similar works executed by the tenderer.	5%
7.	Proposed project overall duration.	5%
8.	Compliance with Safety with evidence of LTI's and a schedule of all employees/manpower from Social Security Insurance.	5%
9.	Major items of equipment proposed for use in carrying out the Works.	5%

Technical Scores under 70% will be ignored.

- Commercial Evaluation
- Only Tenders that passes the minimum score in the technical evaluation indicated above will proceed to the Commercial Evaluation phase.
- The evaluation will consider any deviations from the Tender documents regarding, without limitation payments, guarantees, and any other financial issues.
- The exclusions and deviations either stated or implied shall have a major consideration.
- The final evaluation will be based on 60% for the Technical Offer and 40% for the Commercial Offer according to the following matrix of evaluation:
- $(60\% \times \text{Technical Score}) + (40\% \times \text{Least Price / Bidder Offer}) = \text{Final Score}$

13. SCOPE OF SUPPLY AND PRICE BREAKDOWN

Price breakdown:

Bidders to give price breakdown of the complete project as follows:

SN#	Description	Unit	Qty.	Unit Price	Total Price
1	Raising and relocating of existing 33kV OHL crossings that intersect with the main road of the Intake station including soil compaction, ramping and Concrete Foundations, etc....as detailed in this document and Appendix-C and site visit.	LS	01		

Unpriced BOQ

Bidders shall fill the following table to show their understanding of the scope of work.

	Description	Unit	Qty
1	Wooden Poles as specified in this document.	Unit	
2	Crossarms assembly for H-Pole arrangement.	Unit	
3	Tension Insulators as specified in this document.	Unit	
4	Post Insulators as specified in this document.	Unit	
5	Shackle Assembly as specified in this document	Unit	
6	Ball Ended Eye Link as specified in this document	Unit	
7	Tension Clamp as specified in this document	Unit	
8	Parallel groove clamp as specified in this document	Unit	
9	Stay system as specified in this document	Unit	
10	Earthing Strip as specified in this document	Meter	
11	Earthing Rod as specified in this document	Unit	

Note: the unpriced BOQ will be for information only and will not be intended for pricing or invoicing

14. APPENDICES

A. APPENDIX-A: SITE LOCATION AND CONDITIONS.

B. APPENDIX-B: ELASTOMERIC SHEET WATERPROOFING.

C. APPENDIX-C: LOCATIONS OF CROSSINGS.

The following table lists all the points that need to be raised along 33kV OHL of the intake station:

	Section #	
1	Section One	First intersecting point from Intake Station. For the eastern 33kV OHL
2	Section Two	First intersecting point from Intake Station. For the western 33kV OHL
3	Section Three	Second intersecting point from Intake Station. For the eastern 33kV OHL
4	Section Four	Third intersecting point from Intake Station. For the eastern 33kV OHL
5	Section Five	Fourth intersecting point from Intake Station. For the eastern 33kV OHL
6	Section Six	Fifth intersecting point from Intake Station. For the eastern 33kV OHL
7	Section Seven	Second intersecting point from Intake Station. For the western 33kV OHL
8	Section Eight	Sixth intersecting point from Intake Station. For the eastern 33kV OHL
9	Section Nine	Third intersecting point from Intake Station. For the western 33kV OHL
10	Section Ten	Numeira site Fence intersecting point. For the eastern 33kV OHL
11	Section Eleven	Numeira site Fence intersecting point. For the western 33kV OHL
12	Section Twelve	Dike-8 H-Pole relocation and reinforcement

For more details, kindly refer to the attached report with detailed photos and site coordinates.

APPENDIX-A: SITE LOCATION AND CONDITIONS.

PROJECT LOCATION

The project is located on the shore of the Dead Sea approximately 110 km from Amman, capital of the Hashemite Kingdom of Jordan, and 220 km north of the Red Sea port of Aqaba.

SITE CONDITIONS

Elevation	420m below sea level
Temperature	
Maximum daily temperature (July)	50°C
Average daily temperature (July)	40°C
Minimum daily temperature (January):	5°C
Average daily temperature (January):	13°C
Design temperature range:	5°C – 50C°

Rain fall (Precipitation):	
Annual Total Precipitation:	50mm
Maximum One Day rainfall:	50mm
Maximum 15 minute rainfall:	25mm

Earthquake loads shall be computed according to IBC 2003 – Category “E”.

Wind (I.B.C 2003 refers to ASCE 7). :

Reference Wind Speed (based on 3 second peak gust)	37m/s
---	-------

Wind Direction	
Summer	North
Winter	South – South West

Relative Humidity	
Daily average during July	37%
Daily Average during January	58%
Note: Relative humidity can be as high as 85%	

APPENDIX-B: ELASTOMERIC SHEET WATERPROOFING.**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
1. EPDM rubber sheet waterproofing.

1.3 ACTION SUBMITTALS

- A. Product Data: for each type of product.
1. Include construction details, material descriptions, and tested physical and performance properties of waterproofing.
 2. Include manufacturer's written instructions for evaluating, preparing, and treating substrate.
- B. LEED Submittals:
1. Product Certificates for Credit MR 5: For products and materials required to comply with requirements for regional materials, certificates indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating distance to Project, cost for each regional material, and fraction by weight that is considered regional.
- C. Shop Drawings: Show locations and extent of waterproofing and details of substrate joints and cracks, sheet flashings, penetrations, inside and outside corners, tie-ins with adjoining waterproofing, and other termination conditions.
1. Include setting drawings showing layout, sizes, sections, profiles, and joint details of pedestal-supported concrete pavers.
- D. Samples: For each exposed product and for each color and texture specified, including following the following products:
1. 300mm-by-300-mm square of waterproofing
 2. 500 by 500 mm square of insulation

1.4 INFORMATIONAL SUBMITTAL

- A. Qualification Data: Installer Certificate signed by sheet waterproofing manufacturer certifying that Installer complies with specified requirements.
- B. Field quality control reports: Product Test Reports from a qualified independent testing agency acceptable to Engineer, indicating and interpreting test results of waterproofing for compliance with requirements, based on comprehensive testing of current waterproofing formulations.
- C. Sample Warranty: Before starting waterproofing, copy of waterproofing manufacturer's and Installer's warranty stating obligations, remedies, limitations, and exclusions

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by waterproofing manufacturer.
- B. Mockups: Build mockups to verify selections made under Sample submittals and to set quality standards for installation.
 - 1. Build for each typical waterproofing installation including accessories to demonstrate surface preparation, crack and joint treatment, corner treatment, and protection.
 - a. Size: 1.5 s.q.m at least
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Engineer specifically approves such deviations in writing.
 - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 FIELD CONDITIONS

- A. Environmental Limitations: Apply waterproofing within range of ambient and substrate temperatures recommended by waterproofing manufacturer. Do not apply waterproofing to a damp or wet substrate.
 - 1. Do not apply waterproofing in snow, rain, fog, or mist.
- B. Maintain adequate ventilation during preparation and application of waterproofing materials.

1.7 WARRANTY

- A. Manufacturer's Warranty: Provide written warranty, signed by waterproofing manufacturer and Installer, and countersigned by Contractor, agreeing to replace waterproofing material that does not comply with requirements or that does not remain watertight within specified warranty period. Warranty includes responsibility for removing and replacing construction and other work that conceals elastomeric sheet waterproofing.
 - 1. Warranty Period: 20 years from date of Substantial Completion.

- B. Special Installer's Warranty: Written waterproofing Installer's warranty, signed by Installer, covering Work of this Section, for warranty period of 20 years.
1. Warranty includes removing and reinstalling protection board, drainage panels, insulation, pedestals, and pavers on plaza decks.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Source Limitations for Waterproofing System: Obtain waterproofing materials, from single source from single manufacturer.
- B. Source Limitations for Plaza-Deck Paving: Obtain plaza-deck pavers from single source from single manufacturer.

2.2 SHEET WATERPROOFING

- A. EPDM Rubber Sheet: ASTM D 6134, Type I, 1.5-mm thick flexible sheet, unreinforced, formed from EPDM.

2.3 AUXILIARY MATERIALS

- A. General: Furnish auxiliary materials recommended by waterproofing manufacturer for intended use and compatible with sheet waterproofing.
- B. Concealed Sheet Flashing: Same material, construction, and thickness as sheet waterproofing or 1.5-mm thick, uncured EPDM as required by manufacturer.
- C. Exposed Sheet Flashing: 1.5-mm thick EPDM, cured or uncured, as required by manufacturer.
- D. Bonding Adhesives: Adhesive for bonding polymeric sheets and sheet flashings to substrates and projections.
- E. Splicing Cement and Cleaner: Single-component butyl splicing cement and solvent-based splice cleaner.
1. Butyl Gum Tape: 0.76-mm thick-by- 160-mm wide, uncured butyl with polyethylene release film.
- F. Lap Sealant: Single-component sealant.
- G. In-Seam Sealant: Single-component sealant.
- H. Water Cutoff Mastic: Butyl mastic sealant.
- I. Waterproofing and Sheet Flashing Accessories: Provide sealants, pourable sealers, cone and vent flashings, inside and outside corner flashings, termination reglets, and other accessories recommended by waterproofing manufacturer for intended use.

- J. Metal Termination Bars: Manufacturer's standard aluminum bars, approximately 25 mm wide, prepunched, with fasteners.
- K. Protection Course: Semi rigid sheets of asphalt-impregnated organic mat, mineral surface, with a nominal thickness of 3 mm.
- L. Protection Course: Fan folded, with a core of extruded-polystyrene board insulation, a nominal thickness of 6 mm, and a compressive strength of not less than 55 kPa.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with installer present, for compliance with requirements and other conditions affecting performance of waterproofing.
 - 1. Verify that concrete has cured and aged for minimum time period recommended in writing by waterproofing manufacturer.
 - 2. Verify that substrate is visibly dry within the moisture limits recommended in writing by manufacturer. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 SURFACE PREPARATION

- A. Clean, prepare, and treat substrate according to manufacturer's written instructions. Provide clean, dust-free, and dry substrate for waterproofing application.
- B. Mask off adjoining surfaces not receiving waterproofing to prevent spillage and overspray affecting other construction.
- C. Remove grease, oil, bitumen, form-release agents, paints, curing compounds, and other penetrating contaminants or film-forming coatings from concrete.
- D. Remove fins, ridges, mortar, and other projections and fill honeycomb, aggregate pockets, holes, and other voids.
- E. Prepare, fill, prime, and treat joints and cracks in substrate. Remove dust and dirt from joints and cracks according to ASTM D 4258.
- F. Prepare, treat, and seal vertical and horizontal surfaces at terminations and penetrations through waterproofing and at drains and protrusions.

3.3 FULLY ADHERED SHEET INSTALLATION

- A. Install fully adhered sheets over entire area to receive waterproofing according to manufacturer's written instructions and recommendations in ASTM D 5843.

- B. Accurately align sheets and maintain uniform side and end laps of minimum dimensions required. Stagger end laps.
- C. Apply bonding adhesive to substrates at required rate and allow to partially dry.
- D. Apply bonding adhesive to sheets and firmly adhere sheets to substrates. Do not apply bonding adhesive to splice area of sheet.
- E. Install fully adhered sheets and auxiliary materials to tie into existing waterproofing.
- F. Repair tears, voids, and lapped seams in waterproofing not complying with requirements. Slit and flatten fishmouths and blisters. Patch with sheet waterproofing extending beyond repaired areas in all directions.
- G. Horizontal Application: Apply sheets with side laps shingled with slope of deck where possible.
 - 1. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal sheet waterproofing in place with clamping ring.

3.4 PARTIALLY ADHERED SHEET INSTALLATION

- A. Install partially adhered sheets over entire area to receive waterproofing according to manufacturer's written instructions.
- B. Accurately align sheets and maintain uniform side and end laps of minimum dimensions required. Stagger end laps.
- C. Apply bonding adhesive to the following areas of substrates and to each sheet at required rate and allow to partially dry.
 - 1. Upper 25 percent of length of each sheet and 450 mm around perimeter of each sheet.
- D. Firmly adhere sheets to substrate. Do not apply bonding adhesive to splice area of sheet.
- E. Install partially adhered sheets and auxiliary materials to tie into existing waterproofing.
- F. Repair tears, voids, and lapped seams in waterproofing not complying with requirements. Slit and flatten fishmouths and blisters. Patch with sheet waterproofing extending beyond repaired areas in all directions.

3.5 COMPARTMENTED, LOOSELY LAID SHEET INSTALLATION

- A. Install compartmented, loosely laid sheets over entire area to receive waterproofing according to manufacturer's written instructions.
- B. Accurately align sheets and maintain uniform side and end laps of minimum dimensions required. Stagger end laps.
- C. Apply continuous beads of water cutoff mastic, of size recommended by waterproofing manufacturer, to substrates in a 1500-by-1500-mm grid pattern before installing sheet.
- D. Apply sheets with side laps shingled with slope of deck where possible.

- E. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal sheet waterproofing in place with clamping ring.
- F. Install compartmented, loosely laid sheets and auxiliary materials to tie into existing waterproofing.
- G. Repair tears, voids, and lapped seams in waterproofing not complying with requirements. Slit and flatten fishmouths and blisters. Patch with sheet waterproofing extending beyond repaired areas in all directions.

3.6 SEAM INSTALLATION

- A. Cement Splice: Clean splice areas, apply splicing cement and in-seam sealant, and firmly roll side and end laps of overlapping sheets according to manufacturer's written instructions to produce a splice not less than 150 mm wide and to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet terminations.
- B. Cement and Tape Splice: Clean splice areas, apply splicing cement and butyl gum tape, and firmly roll side and end laps of overlapping sheets according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet terminations.

3.7 SHEET FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to waterproofing manufacturer's written instructions.
- B. Form wall flashings using exposed sheet flashing.
- C. Extend deck sheet waterproofing to form wall flashings.
 - 1. Flash penetrations and field-formed inside and outside corners with uncured sheet flashing.
 - 2. Clean splice areas, apply splicing cement, and firmly roll side and end laps of overlapping sheets to ensure a watertight installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.
- D. Cover expansion joints and discontinuous deck-to-wall or deck-to-deck joints by extending deck sheet waterproofing over joints.
- E. Terminate and seal top of sheet flashings with mechanically anchored termination bars.

3.8 PROTECTION COURSE INSTALLATION

- A. Install protection course over waterproofing membrane according to manufacturer's written instructions and before beginning subsequent construction operations. Minimize exposure of membrane.

3.9 PROTECTION, REPAIR, AND CLEANING

- A. Do not permit foot or vehicular traffic on unprotected horizontal membrane.

- B. Protect waterproofing from damage and wear during remainder of construction period
- C. Protect installed waterproofing from damage due to UV light, harmful weather exposures, physical abuse, and other causes. Provide temporary coverings where installation may be subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.
- D. Correct deficiencies in or remove waterproofing that does not comply with requirements; repair substrates, reapply waterproofing, and repair sheet flashings.
- E. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.