

THE ARAB POTASH COMPANY PLC

Tender Terms and Conditions

IFB No. 202100624/GS
Implementation of an Energy Data Management
System EDMS.



THE ARAB POTASH COMPANY PLC Tel. No. +962-6-5200520 Fax No. 962-3-2305125

THE ARAB POTASH COMPANY PLC Tel. No. +962-6-5200520 - Fax No. 962-3-2305125 Tender Terms and Conditions for IFB No. 202100624/GS Implementation of an Energy Data Management System EDMS.

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.
- 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 and other payments 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.



THE ARAB POTASH COMPANY PLC Tel. No. +962-6-5200520 Fax No. 962-3-2305125

- 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 commercial bids opening date.
- 4. The prices include the revenue stamps which, in case of award and within 10 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 and the prohibited payments 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 202100624/GS" 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.



THE ARAB POTASH COMPANY PLC Tel. No. +962-6-5200520 Fax No. 962-3-2305125

3. The closing date for this bid is:

Bid submission shall be in the same place, address and time as per the invitation of our IFB The closing date for this bid is as stated in the Tender announcement.

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 shall bear the obligation towards the company for submitting an autorenewal the performance bond, to the company benefit, of a value not less than ((10%)) of the award price valid for (12) months 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.



THE ARAB POTASH COMPANY PLC Tel. No. +962-6-5200520 Fax No. 962-3-2305125

- 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 (30) of these conditions.
- 20. The tenderer shall state the goods country of origin, the manufacturer, the trade name, and the type where applicable.



THE ARAB POTASH COMPANY PLC Tel. No. +962-6-5200520 Fax No. 962-3-2305125

- 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 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.
- 26. 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.
- 27. 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.
- 28. The inspection and testing of materials and samples are carried out as may be deemed necessary by the company.
- 29. Packaging shall be of an excellent commercial standard, details of which shall be shown in the tenderer's technical bid.
- 30. 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



THE ARAB POTASH COMPANY PLC Tel. No. +962-6-5200520 Fax No. 962-3-2305125

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. (27) of the tender terms and conditions shall apply.

- 31. Maintenance guarantee: The tenderer shall submit a maintenance guarantee in the form of a 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 the guarantee period offered by the tenderer for his goods or to the period indicated in the tender documents until the final acceptance certificate is issued by the company.
- 32. 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.
- 33. 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.
- 34. 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 (27) of these terms and conditions and any other statutory remedies.
- 35. 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.
- 36. The Governing law for all bids, bidding procedures, and the subsequent accruing awards shall strictly follow the current Jordanian laws.
- 37. 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.

38. Time for Completion:

6 months starting from the Purchase Order issuance date. However, bidders may quote differently.



THE ARAB POTASH COMPANY PLC Tel. No. +962-6-5200520 Fax No. 962-3-2305125

39. Method of Payment:

39.1 Open account on monthly progress payment against report of actual executed works.

39.2 For Local Supply:

Payment in Jordanian Dinar upon receipt and technical acceptance at APC.

40. Other Payments:

40.1 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.

- 40.2 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.
- 40.3 In the event of any violation or breach of the provisions of paragraph (40.2) 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 (40.5) below, that the aggregate of all amount to which (The Company) is entitled under paragraphs (40.3) shall not exceed the amount which is two times the amount of all Third Party Payments.



THE ARAB POTASH COMPANY PLC Tel. No. +962-6-5200520 Fax No. 962-3-2305125

- 40.4 Contractor agrees that provisions substantially similar (but in no event less restrictive) to paragraphs (40.2) and (40.3) 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.
- 40.5 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.
- 40.6 This clause shall survive the termination of this Contract.

41. Prohibited Payments

41.1 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.

- 41.2 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.
- 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: -



THE ARAB POTASH COMPANY PLC Tel. No. +962-6-5200520 Fax No. 962-3-2305125

- (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 (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 Prohibited 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 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 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.
- 41.6 This clause shall survive the termination of this Contract.
- 42. 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.
- 43. 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.
- 44. Foreign construction contractors must obtain the approval of the cabinet (Government of Jordan) before awarding.
- 45. The company reserves the right to disregard any bid which does not strictly follow the aforementioned terms and conditions.
- 46. Correspondence shall be in writing stating the tender name and number and directed to:



THE ARAB POTASH COMPANY PLC Tel. No. +962-6-5200520 Fax No. 962-3-2305125

Procurement Director, Arab Potash Company PLC. P.O. Box 1470, Amman 11118 – Jordan.

Fax No. : +962-3-2305125/131

Tel. No.: +962-6-5200520

E-mail: procurement@arabpotash.com



THE ARAB POTASH COMPANY PLC Tel. No. +962-6-5200520 Fax No. 962-3-2305125

Declaration of Abidance by Tender Terms & Conditions and Technical Specifications

I, We. The undersigned,

Declare that we have read the terms and conditions for IFB No. 202100624/GS

"Energy Data management system EDMS. 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 202100624/GS.

Official Stamp: -

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:
Signatura

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



THE ARAB POTASH COMPANY PLC Tel. No. +962-6-5200520 Fax No. 962-3-2305125

Declaration for Other Payments

I, We. The undersigned,
•••
Declare that we have read and comprehended the provisions under clause (40) of IFB Number 202100624/GS. "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.



THE ARAB POTASH COMPANY PLC Tel. No. +962-6-5200520 Fax No. 962-3-2305125

Declaration for Prohibited Payments

		•••••••••••••••••••••••••••••••••••••••	
this clause; we enclose Company) that no direct payments, and no induct made, directly or indirect agents or representative limitation any official, e of (The Company) ("The award or performance of shall be made or promisubcontractors and its of	4/GS. "Terms and Conditions" related a declaration properly signed and sector indirect commissions, consulting ements or the giving of anything of etly, by or on behalf of Contractor, its s, to (The Company) (collectively, employee, agent or representative (whe Company Person"), in connection of this Contract; and hereby covenantised to be made, directly or indirect their employees, agents or representative in their employees, agents or representative.	the provisions under clause (41) ted to this Contract and in compliance we ealed representing and warranting to (ing fees, agent fees, finders fees or of value, have been made or promised to subcontractors and its or their employ "Prohibited Payments") including with whether or not acting in an official capacitation, bidding, negotiated and agrees that no Prohibited Payments are agreed to the payments and payments are agreed to the payments and payments are agreed to the payments and payments are agreed to the payments are agreed to the payments and payments are agreed to the payments are agreed to the payments are agreed to the payments and payments are agreed to the payments and payments are agreed to the payments are agreed to the p	with The ther o be ees, hout city) ion, ents , its
Contractor's Name	••••••		
Name of authorized sign	natory		
Signature	•••••••••••••••••••••••••••••••••••••••		
Seal			
Tender Name & Numbe	r		
	has been paid or not and the offers of	payments in a separate sealed envelop of all Contractors that do not include su	



Contents

General Introduction2
Site Survey2
Data acquisition and export2
Monitoring2
Controlling2
Energy accounting
Standards
Meter management4
Automated reporting4
Data Analytics and Visualization4
Planning and forecasting4
Project Deliverables5
Training5
Confidentiality5
APC current energy consumption equipment and meters:
APC Thermal systems:
Hardware Scope of supply14
Bidder Qualifications
Vendor Offer



General Introduction

Arab Potash Company (hereinafter referred to as COMPANY) is willing to implement centralized digital energy data management platform that shall run independently as a stand-alone system and shall be scalable.

The goal is to make all the energy and media-related data available in one system as an energy management system that accepts data from a system landscape that is spreads over APC area from Safi and Agaba sites.

Furthermore, users should be able to define new performance indicators without programming skills and be able to output them in the form of reports or dashboards. It should be easy to adapt the visualization of the data to a specific user group.

Site Survey

The bidder is responsible to collect all the required data from sites and investigate the condition of the existing systems to calculate the proper and secured connectivity plan for data acquisition.

Proposed solution shall be built on the existing virtualized infrastructure (vSphere) spread over APC process areas at Safi and Agaba.

Data acquisition and export

The existing system landscape requires data transfer from existing process control systems such as (PCS7, TIA Portal, WinCC, 800xA DCS and SICAM) therefore this process shall be done via secured/certified OPC software.

Below specifications are <u>guidance</u> for bidders to select the best practice application for APC application and environment.

A distributed data acquisition must be supported, where an appropriate preprocessing of data must be possible in the decentral acquisition component. To achieve proper data quality and to prevent data loss, an appropriate Buffer concept must be established in case of a communication failure. Secure communication between the decentral acquisition component and the central system must be possible.

Monitoring

Monitoring functionality is required for timely viewing/validation of energy, fuel, and water consumption values. The evaluation and visualization (monitoring) is necessary not only for current values, but also for historical values from the database and targeted values and set points.

Multiple data points are to be displayed simultaneously in a dashboard, whereby daily, monthly, and annual values are presented in a single overview, for example. Possible display formats are bar, pie, line charts, numeric values, values in tabular form, differential values for reference data points, displays as gauges or status displays of values, for example, using simple traffic lights or status indicators.

Controlling

The system should support the calculation of indicators as well as the comparison of these indicators to the values from the previous month or year, for example. Furthermore, it should be possible to balance the energy flows to identify production-related indicators, perform target/actual analysis of energy consumption or costs for various time periods, in both tabular and graphic format. In addition, an analysis of indicators is required. Indicators such as efficiency ratios are to be calculated and graphical evaluations such as annual duration curves, distributions of hours, weekly and daily curves of given time periods are to be output.



The system should allow the calculation or mapping of efficiency levels or plant-specific characteristics. It should be possible to use specific evaluations, such as regression analyses, to assess consumption values in relation to production values. The indicators identified in the system should be compared with benchmarks and targets, thus allowing the comparison of sites or plants. This requires the system to provide a way for normalizing characteristics,

Appropriate functions must be available to determine the energy consumption for each material or Plant.

The system should provide an option to determine the energy and media consumption (electricity, gas, water, steam, etc.) of a batch throughout the entire manufacturing process. In addition, individual production lines are to be evaluated in terms of their energy efficiency by analyzing different batches that have been produced from the same material. For this, it is necessary to monitor batches, including the associated material from which is has been produced, over several plants. It is therefore necessary for materials and batches to be clearly assigned to each other.

The system shall be capable to monitor the energy resources prices (either online, or manually entered values) and give recommendations for the most cost effective mode of operation keeping the same functional requirements, i.e. switching between gas and fuels for burners and turbines.

Energy accounting

Energy consumption data and energy costs should be listed according to source. The system should be able to reflect the company's internal billing structure and considering any loss factors. This requires inclusion of tariffs such as commodity and capacity charges, high tariff / low tariff or taxes and levies as well as the pro-rata allocation of energy consumption to individual departments, plants, cost units or products or batches.

It should be possible to check incoming invoices against the recorded contract.

The system must support a high degree of flexibility for defining cost centers. It must be possible to record changes and for the user to perform changes without any programming knowledge. The apportionment key can be prescribed either for a fixed period or be calculated based on acquired information. The allocation is performed as a percentage or absolute.

Standards

The Proposed Solution shall be certified as part of an Energy Data Management System according to the sections of the following ISO standards:

a. ISO 50001

- i. Energy review
- ii. Energy baseline
- iii. Energy performance indicators
- iv. Monitoring, measurement, and analysis
- v. Input to management review

b. ISO 50002

- i. Data collection
- ii. Measurement plan
- iii. Analysis
- iv. Energy audit reporting

c. ISO 50006

- i. Obtain relevant energy performance information from the energy review
- ii. Identify energy performance indicators

The Proposed solution shall be certified to comply with cybersecurity standard ISA/IEC62443.



Meter management

In addition to performance and consumption data or flows and volumes, rising meter levels must also be recorded and stored. The energy management system must provide appropriate configuration options for configuring a meter constant as well as the metering range up to overflow.

The system must be able to handle multiple overflows within a calculation interval. It must be possible to subsequently configure a replaced meter. It must be possible in this scenario to considering that a new meter may have a different meter constant.

Automated reporting

Calculated indicators should be published in report form, whereby pre-defined periods such as days, months, years, but also freely selectable periods must made available. Reports should be freely defined, to allow indicators to be published and the necessary intervals to be defined individually. It must be possible for people without programming or database knowledge to create or modify reports.

It should be possible to automatically calculate reports in different cycles (by shift, day, month, etc.). In addition, it should be possible to automatically send reports to a printer or e-mail addresses or store them in a directory. It should be possible to print or deliver the reports in either MS Excel or PDF format.

Data Analytics and Visualization

It must also be possible to publish all reports, trends, or dashboards in the intranet without any additional configuration work. Likewise, it must be possible to open uploaded documents via web access. The user must be able to do analyses on basis of existing data. Furthermore, the user should be able to comment certain values (peaks) directly. This information must be available for other users.

An appropriate authorization design should restrict the viewing permission and functionality of the user groups. Each User should be able to create Quick Links to information which he requires often.

Encrypted communication (https) between the web server and the web client must be supported to ensure data security.

The Bidder shall furnish a set of specialized power analytics and reporting tools (accordance to ISO 50001:2018 Section 9.1) designed to help Power Management Service Professionals evaluate the configuration and performance of the EDMS system, diagnose specific problems in the electrical power system and suggest recommended actions to take based on the probable causes.

Planning and forecasting

The system must have adequate forecasting models to cover the requirements for short, medium, and long-term forecasts (day, month, year).

Various factors should provide the basis for the values to be forecast. The system should allow forecasting based on the known relationship between production and consumption.

If the energy consumption follows a recurring pattern, for example typical days with a weekly load profile or production according to shifts, it must also be possible to provide a forecast based on this, whereby holidays and other production-free days must also be taken into account.

It should also be possible to make a forecast based on production plans, whereby the varying power consumption of certain products or materials must be taken into consideration. The corresponding material-specific parameters should be calculated using a batch/material analysis.



Project Deliverables

Below expected project deliverables but not limited to:

- Maximize facility uptime and reliability.
- Examine and mitigate power quality related issues.
- Find new ways to extend equipment performance and life span.
- Tracking energy consumption, uncover savings opportunities and accurately allocate costs.
- Enable compliance with power quality and energy standards such as IEC/IEEE and ISO50001.
- Appropriate key performance indicators and data presentation options that can be used to derive corresponding energy efficiency measures which result in cost savings...

Product Manufacturer's representative shall supervise project planning, execution, and commissioning.

Training

The offer shall include onsite training for APC staff that include but not limited to the following:

- Operation
- Problems and trouble shooting
- Software installation and administration (software management)
- international certificates for this solution for 4 engineers.

Confidentiality

The contractor and his employees are bound by a duty of reserve concerning the information which comes to their knowledge during performance of this contract. This information cannot under any circumstances be communicated to third parties without the written consent of the contracting authority. The contractor may, nevertheless, give this contract as a reference, provided that it indicates its status correctly (e.g., 'in performance') and that the contracting authority has not withdrawn this consent due to poor contract performance.



APC current energy consumption equipment and meters:

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Offsite			690V	3	ABB EMAX
Offsite			400V	3	ABB EMAX
Offsite	INTAKE		11KV	15	Siemens NXPlus 7SJ63
Offsite			33KV	5	Siemens NXPlus 7SJ63
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HLP				1	(Coupler)



HLP				21	SIEMENS-SIPROTEC RELAY 7SJ624
HLP				1	SIEMENS-SINAMICS PERFECT HARMONY GH180
HLP				1	SIEMENS-SIPROTEC RELAY 7SJ624 (Main incomer)
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HLP				1	SIEMENS-SINAMICS PERFECT HARMONY GH180
HLP				1	SIEMENS-SIPROTEC RELAY 7SJ624 (Main incomer)
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HLP		MCC-9	400V	47	SIEMENS-SIMOCODE PRO-V
HLP				5	VACON VFD
HLP			690V	1	SIEMENS-SIPROTEC RELAY 7SJ624 (Main incomer)
НГБ		MCC-10		1	SIEMENS-SIPROTEC RELAY 7SJ642 (Coupler)
HLP				3	VACON VFD
НГЬ		MCC-10.1	690V	1	SIEMENS-SIPROTEC RELAY 7SJ624 (Main incomer)
HLP				3	VACON VFD
HLP		MCC- MD01	400V	3	SIEMENS-SIMOCODE PRO-V
HLP			3.3 kV	1	SIEMENS-SIPROTEC RELAY 7SJ624 (Main incomer)
HLP		MCC-D1		1	SIEMENS-SIPROTEC RELAY 7SJ642 (Coupler)
HLP				16	SIEMENS-SIPROTEC RELAY 7SJ624
HLP		MCC-D2	3.3 kV	1	SIEMENS-SIPROTEC RELAY 7SJ624 (Main incomer)
HLP				16	SIEMENS-SIPROTEC RELAY 7SJ624
HLP	SWR-2			1	SIEMENS-SIPROTEC RELAY 7SJ624 (Main incomer)
HLP		MCC-F1	3.3 kV	1	SIEMENS-SIPROTEC RELAY 7SJ642 (Coupler)
HLP				15	SIEMENS-SIPROTEC RELAY 7SJ624
HLP		MCC-F2	3.3 kV	1	SIEMENS-SIPROTEC RELAY 7SJ624 (Main incomer)
HLP				13	SIEMENS-SIPROTEC RELAY 7SJ624
HLP		MCC-5	400V	1	SIEMENS-SIPROTEC RELAY 7SJ624 (Main incomer)



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HLP				1	SIEMENS-SIPROT EC RELAY 7SJ642 (Coupler)
HLP				39	SIEMENS-SIMOCODE PRO-V
HLP				2	VACON VFD
HLP				1	ABB ACS-800 VFD
HLP				1	SIEMENS-SIPROTEC RELAY 7SJ624 (Main incomer)
HLP		MCC-6	400V	37	SIEMENS-SIMOCODE PRO-V
HLP				1	VACON VFD
HLP				1	SIEMENS-SIPROTEC RELAY 7SJ624 (Main incomer)
НГЬ		MCC-7	400V	1	SIEMENS-SIPROTEC RELAY 7SJ642 (Coupler)
HLP				2	VACON VFD
HLP				1	ABB ACS-800 VFD
HLP		MCC- MD02	400V	3	SIEMENS-SIMOCODE PRO-V
HLP				1	SIEMENS-SIPROTEC RELAY 7SJ624 (Main incomer)
HLP		MCC-12	400V	1	SIEMENS-SIPROTEC RELAY 7SJ642 (Coupler)
HLP				75	SIEMENS-SIMOCODE PRO-V
HLP		MCC-13	400V	1	GE-MULTILIN SR750
HLP		MCC-13.1	400V	27	SIEMENS-SIMOCODE PRO-V
HLP		MCC-13.2	400V	26	SIEMENS-SIMOCODE PRO-V
HLP	SWR-3		400V	1	SIEMENS-SIPROTEC RELAY 7SJ624 (Main incomer)
HLP		MCC-14		3	VACON VFD
HLP				52	SIEMENS-SIMOCODE PRO-V
HLP			400V	1	SIEMENS-SIPROTEC RELAY 7SJ624 (Main incomer)
HLP		MCC-15		1	SIEMENS-SIPROTEC RELAY 7SJ642 (Coupler)
HLP				5	VACON VFD
HLP				43	SIEMENS-SIMOCODE PRO-V
	Who the billion was			The law of	
CCP1				9	GE SR369
CCP1		MCC L	3.3 KV	2	GE PQMII
CCP1				9	GE SR369
CCP1		MCC M	3.3 KV	1	GE PQMII
CCP1				24	GE MM200
CCP1	SWR-1	MCC 15	400V	1	GE PQMII
CCP1	-			33	GE MM200
CCP1		MCC16	400V	1	GE PQMII
CCP1				21	GE MM200
CCP1		MCC 17	400V	1	GE PQMII
CCI 1				<u>T</u>	GL PQIVIII



CCP1	1	I	1	1.0	GE MM200
CCP1		MCC18	400V	14	GE PQMII
CCP1				32	SIEMENS SEMOCODE PRO V
CCP1		MCC A	400V		SIEMENS SIPROTIC4 7SJ62
CCP1				1	
CCP1		MCC B	400V	25	SIEMENS SEMOCODE PRO V
				1	SIEMENS SIPROTIC4 7SJ62
CCP1	\dashv	MCC C	400V	28	SIEMENS SEMOCODE PRO V
CCP1		VFD	400V	16	VACON
CCP1		VID	4000		GE MM200
CCP1		MCC 19	400V	26 1	
CCP1			-		GE PQMII
CCP1		MCC20	400V	27	GE MM200
CCP1	SWR-2			1	GE PQMII
CCP1	SVV K-2	MCC 21	400V	13	GE MM200
-		_		1	GE PQMII
CCP1		MCC 22	400V	18	GE MM200
CCP1				1	GE PQMII
CCP1		VFD	400V	16	VACON
CCP1		MCC J	11 KV	13	GE SR750
CCP1				1	GE SR 745
CCP1	SWR-3	мсс к	11 KV	13	GE SR750
CCP1				1	GE SR 745
CCP1		COUPLER	11KV	1	GE SR750
CCP2		MCC 10	400 V	1	GE SR750
CCP2					651446
CCP2		MCC 5	400 V	25	GE MM6
				2	GE SR750
CCP2		MCC 6	400 V	30	GE MM6
CCP2				1	GE SR750
CCP2		MCC 7	400 V	5	POWELL MM6
CCP2	SWR-1			2	GE SR750
CCP2		MCC 8	400 V	8	POWELL MM6
CCP2				1	GE SR750
CCP2		VFD	400 V	31	VACON
CCP2		MCC 22	3.3KV	8	GE SR 369
CCP2		14100 22	3.31.4	1	GE SR750
CCP2		MCC 23	3.3KV	7	GE SR 369
CCP2		IVICC 23	J.JKV	2	GE SR750
CCP2		MCC 1	400 V	45	POWELL MM6
CCP2		IVICC 1	400 V	2	GE SR750
CCP2	SWR-2	A4CC 2	400.14	48	POWELL MM6
CCP2		MCC 2	400 V	1	GE SR750
CCP2		1466.5	400.14	54	POWELL MM6
CCP2		MCC 3	400 V	2	GE SR750



CCP2	1			42	POWELL MM6
CCP2		MCC 4	400 V	1	GE SR750
CCP2		VFD	400 V	35	VACON
CCP2				6	POWELL MM6
CCP2		MCC 20	3.3KV	1	GE SR750
CCP2		-		10	GE SR 369
CCP2		MCC 21	3.3KV	2	GE SR750
CCP2			-	52	POWELL MM6
CCP2	SWR-3	MCC 9	400 V	1	GE SR750
CCP2				105	SIEMENS SEMOCODE PRO V
CCP2	SWR-4	MCC 14	400 V	1	SIEMENS SIPROTIC 5 7SJ81
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Aqaba			400V	40	ABB UMC-22
Aqaba	Switch room B		400V	2	Socomec DIRIS-A41, Profibus Protocol
Aqaba			400V	12	ABB UMC-22
Aqaba	Switch room C		400V	1	Socomec DIRIS-A41, Profibus Protocol
Aqaba	Switch room C		6.6 KV	15	ABB REF 542+
Aqaba	Switch room C		11 KV	0	
Aqaba	Switch room C		33 KV	4	ABB REF 542+
Aqaba	Reclaimer 1 MCC ROOM		400	7	ABB UMC-22
Aqaba	Reclaimer 1 MCC ROOM		400 DC	3	ABB DCS800
Aqaba	Reclaimer 2 MCC ROOM		400	7	ABB UMC-22
Aqaba	Reclaimer 2 MCC ROOM		400 DC	3	ABB DCS800
Aqaba	Road intake MCC ROOM		400V	9	ABB UMC-22
Aqaba	Stacker 14 MCC ROOM		400	4	ABB UMC-22
Aqaba	Stacker 14 MCC ROOM		400 DC	3	ABB DCS800
Aqaba	Stacker 15 MCC ROOM		400	4	ABB UMC-22
Aqaba	Stacker 15 MCC ROOM		400 DC	3	ABB DCS800
Aqaba	Stacker 16 MCC ROOM		400	4	ABB UMC-22
Aqaba	Stacker 16 MCC ROOM		400 DC	3	ABB DCS800
E TRENE			SE HER		
PP	Intake 66KV GIS Switchgear		66KV	4	SIEMENS SIPROTEC 5 / 7SJ85-In the near future
PP			33KV	21	SIEMENS SIPROTEC 5 / 7SJ85



	PP 33KV GIS		3	SIEMENS SIPROTEC 5 / 7UT85
	Switchgear		1	SIEMENS SIPROTEC 5 / 7SJ82
			32	ABB/ REF 542 Plus
PP	PP 11KV GIS	11KV	1	ABB/ REM 545
	Switchgear			ABB/ REU 615
			14	POWELL/ MM6
PP	PP 3.3KV MCC	3.3KV	3	GE/GE 750
			3	SIEMENS/ WL 11 800 S
			2	SIEMENS/SIPROTEC 7SJ62
PP	PP 0.4KV MCC	0.4KV	1	SIEMENS/SIPROTEC 7SJ64
		 	99	SIEMENS/SIMOCODE PRO V
			11	Eaton/ VX020A1-4A1B
PP	PP WTU MCC	0.4KV	8	EATON/ Motor Insight C441
	GT 11 KV AIS			EATON WOLD HISIGHT C441
PP	Switchgear	11KV	4	SIEMENS/SIPROTEC 4 7SJ63
		0.4877	1	SIEMENS/ WL 1 800 N
PP	GT LER	0.4KV	3	SIEMENS/ YASKAWA A100
		0.69KV	2	SIEMENS/ SINAMICS
PP	GT DIESEL PUMPS	0.4KV	2	SCHNEIDER/ Altivar 71
PP	HRSG MCC	0.4101	11	SCHNEIDER/ TESYS T
	TR3G IVICC	0.4KV	2	SIEMENS/SIRIUS 3RW52
Township	Township	33KV	1	SIEMENS/ SIPROTEC 4 7SJ63
	Electrocenter	11KV	4	SIEMENS/ SIPROTEC 4 7SJ63
Ghore Al-ssafi	Safi Pumping Station	0.467	1	ABB/ E1.2N EKIP LSIG
	MCC	0.4KV	7	ABB/ UMC 100.3DC
Ghore Al-	Mazra'ah Pumping	0.467	1	ABB/ E1.2N EKIP LSIG
Mazra'ah	Station MCC	0.4KV	8	ABB/ UMC 100.3DC
Ghore Haditheh	Ain Magarah Pumping Station MCC	0.4KV	4	ABB/UMC 100-FPB
Al-Sammar	Sammar Pumping	0.467	1	
Al-Sallillal	Station MCC	0.4KV	4	
Ain Youns	Ain Youns MCC	0.407	1	
Alli Touris	Alli Youris IVICC	0.4KV	4	
Ghore Haditheh	Hadithoh TA1 MCC	0.5000	1	
Onore nauthen	Haditheh TA1 MCC	0.69KV	1	
Ghore Haditheh	Haditheh TA2 MCC	0.5000	1	
	naditien TAZ IVICC	0.69KV	1	
DD.	Duran Hausa 1466	2	1	
PP	Pump House MCC	0.4KV	5	
Ghore Al-ssafi	Safi Boreholes	0.4KV	25	



APC Thermal systems:

Power Plant:

- Steam boilers.
- Dryers/Air heaters.
- Steam turbines.
- Gas Turbine.
- Cooling Towers.
- Air Compressors.
- Heat Recovery Steam Generator
- Gas Skid Burners/Boilers.

HLP:

• Dryer/Burner

CCP1

• Dryer/Burners

CCP2

Dryer/ Burners



Hardware Scope of supply

below items are hardware scope of supply only in this project.

A-

Item	QTY
VersaView®5200 Multi 4K 7-Displays 6200T-RE with External AC/DC Power Adaptor, 90W 6200V-MPS4 (Hardware only) or equivilant	3
Eizo HMI model EV2460	10
Quad Arm Freestanding Monitor Mount	3
Logitech MK850 Multi-Device Wireless compo peripherals	10
L-COM Premium Cat6a Cable, RJ45 / RJ45, 60.0 ft (Black / RED/ Blue/ Gray)	20
L-COM Premium Cat6a Cable, RJ45 / RJ45, 30.0 ft (Black / RED/ Blue/ Gray)	30
L-COM Premium Cat6a Cable, RJ45 / RJ45, 15.0 ft (Black / RED/ Blue/ Gray)	40
L-COM Premium Cat6a Cable, RJ45 / RJ45, 10.0 ft (Black / RED/ Blue/ Gray)	40
L-COM Premium Cat6a Cable, RJ45 / RJ45, 5.0 ft (Black / RED/ Blue/ Gray)	50
Nozomi Guardian Appliances NRC-5 for Remote Sites	3
Nozomi expansion card: NSG-4P-COP-SU Guardian Additional 4 ports module (4 copper Ethernet 1Gbps)	3

B-

Dell Service Tag	Description	Part	QTY
DZS9GM2	DELL R730	32 Gb RAM	4
DZRJGM2	DELL R730	32 Gb RAM	4
JM4J4J2	SC4020 SAN	4TB SSD	2
42V9S23	SC5020 SAN	4TB SSD	2
90NLZB3	PowerVault ME4024	4TB SSD	4

C- QTY:1 Dell Exsi Server

Option	Selection	SKU / Product Code	Quantity
Base	PowerEdge R750 Server	[210-AYCG] / G196CJL	1
Processor	Intel® Xeon® Gold 6348 2.6G, 28C/56T, 11.2GT/s, 42M Cache, Turbo, HT (235W) DDR4-3200	[338-CBCI] / GIR58MG	1 + Additional processors
Memory:	32GB RDIMM, 3200MT/s, Dual Rank, 16Gb BASE	[370-AGDS] / GFRC9EL	8
Hard Drive	480GB SSD SATA Mix Use 6Gbps 512 2.5in Hot-plug AG Drive, 3 DWPD,	[400-AZUT] / GB6HAM5	2
Power Supply	Dual, Hot-Plug, Fully Redundant Power Supply (1+1), 2400W, Mixed Mode	[450-AJEV] / GCZ2T8R	1
OCP 3.0 Network Adapters	Broadcom 5720 Quad Port 1GbE BASE- T Adapter, OCP NIC 3.0	[540-BCOB] / G9TO04Y	1
Additional Network Cards	Broadcom 57412 Dual Port 10GbE SFP+ Adapter, PCle Full Height	[540-BBUH] / G19WXVT	2
Internal SD Module	2x 32GB microSDHC/SDXC Card	[385-BBCF][385-BBOI][385- BBOI] / GJHF3Q7	1



Bidder Qualifications

- The following are the minimum qualifications required for any bidder. The experience shall be considered in the evaluation of the technical offer, references with project budget (APC have the right to contact the references without referring to the bidder), should be included in the offer.
- Bidder shall have enough experience and certified technical staff to perform the design, installation and support, both sufficient experience and formal qualifications are required, as well as bidders experience in designing of similar projects for the last 5 years with at least on that has been executed and is operational.
- Name experience, certificates, and CVs of the engineering staff that will supervise the installation and support should be included.
- The bidder must nominate in the offer a certified project manager who will lead the company project team during the implementation of the project and be the official contact person.
- The bidder should demonstrate and within his technical offer bank certificate confirming his financial capability to carry the contact and approve the cash flow required for the bank guarantees.
- The bidder should demonstrate that during the last three years the aggregate annual weighted average of turnover has been at least equal to the tender price.
- At least one of the Technical team members shall have as minimum one of the following internationally recognized certificates:
 - Certified Energy Manager (CEM).
 - Certified Energy Auditor (CEA).
 - Certified Measurement and Verification Professional (CMVP).
- As a part of the evaluation process, Bidder might be asked to conduct a presentation for the proposed solution and preferably with a DEMO or online viewer if applicable of existing projects of their execution/s.
- This project shall not be subcontracted.

Vendor Offer

Evaluation Criteria

The evaluation of proposals will be on two stages Technical and Commercial and will be carried out by a specialized committee, considering 70% for Technical proposal and 30% for the commercial proposal, according to the following formula (technical Scores under 70% will be ignored):

 $S = (St \times T \%) + (SF \times P \%)$

Where;

T: Technical weight

P: Commercial weight

St: Technical mark presented as 100 x Tc/Tm

SF: Commercial mark presented as 100 x Fm/F

Tc: Technical mark under consideration

Tm: The highest technical mark possible (Equals 100)

Fm: The lowest price offer

F: The price of the offer under consideration

Technical Evaluation:

1	Bid presentation and completeness.	5
2	Company Qualification / Previous projects	10
3	Project design and technical solution	40
4	Quality of Project Team members and CVs	10
5	Project Team Experience in EMS	20
7	Project Team Experience in Project Scope	10
8	Project timeline	5
	Total score	100%

Important: This form must be

Country of Shipment

Implementation of an Energy Data Management System EDMS.

IFB NO. 202100624/GS

Delivery period

Total Price CPT

Implementation of an Energy

Description

Qty

item

Manufacturer Name

Tenderer Name

Country of Origin

Commercial Bidding Sheet

البوتاس العربية Arab Potash

Arab Potash Co.Ltd.

signed by the tenderer as a

filled, duly stamped and

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