



Invitation for Expression of Interest (EOI)



Democratic Socialist Republic of Sri Lanka.

Ministry of Industry and Entrepreneurship Development

Procurement Entity-Paranthan Chemicals Company Limited.

Expression Of Interest (EOI) for Selection of a Project Consultancy Firm for the Proposed Caustic Soda/Liquid Chlorine Project to be Established at Paranthan In Kilinochchi District -Sri Lanka.

FILE NO. PCCL/CPCM/CFSP/CSF /CHLO/2025/01

1. The Chairman Ministry Consultants Procurement Committee, on behalf of the Paranthan Chemicals Company Limited invites eligible Consultant firms (Local/Foreign) to indicate their interest in providing the services described herein. Interested Consultants must provide information indicating that they are qualified to perform the services (brochures, description of similar assignments, experience in similar conditions, availability of appropriate skills among staff, etc.). Consultants may associate to enhance their qualifications.
2. A consultant firm will be shortlisted under QCBS method, in accordance with the procedures set out in the Guidelines 3.6 for selection and employment of consultants, (2007) Published by National Procurement Commission.
3. Proposal must be delivered to the address below at or before 12th November at 1400 hrs. Late proposals will be rejected. Proposals will be publicly opened in the presence of consultants designated representatives and anyone who chooses to attend at the address below on 12th November 2025 at 1400 hrs.
4. A pre consultation meeting will be held on 23rd October 2025 at 1030 hrs., at Paranthan Chemicals Head Office. Site visit will be arranged, if required.
5. Interested Consultants may obtain further information at the address below.

The Chairman,
Paranthan Chemicals company Limited,
L-4, No.446,
Galle Road,
Rathmalana-Sri Lanka.
T.P + 94112437830/ + 94773043368/ + 94704120503
E-Mail-chairman@pccl.lk

6. Further, the Consultants may refer to the terms of reference (TOR) By the Paranthan Chemicals Website (<https://pccl.lk/> , <https://promise.lk/> , <https://www.industry.gov.lk/>)
7. Expression of interest must be delivered to the following address on or before 12th November 2025 at 1400 hrs.

The Chairman Ministry Consultant Procurement Committee
Ministry of Industry and Entrepreneurship Development.
No 73/1, Galle Road,
Colombo-03-Sri Lanka.
0112433 725/071821 7194.
Email-adsec_policy@industry.gov.lk
Website-<https://www.industry.gov.lk/>

**The Chairman
Ministry Consultant Procurement Committee
Ministry of Industry and Entrepreneurship Development.**

Expression of Interest (EOI)
for
Selection of a project Consultancy firm (local /Foreign)
for the Proposed Caustic soda /Liquid chlorine Project to
be Established at Paranthan in
Kilinochchi District-Sri Lanka

File No:- PCCL/CPCM/CFSP/CSF/CHLO/2025/01



Ministry of Industry and Entrepreneurship Development

Paranthan Chemicals Company Limited

Expression of Interest (EOI) For Project consultancy firm selection for the proposed Caustic soda/liquid chlorine project to be established at paranthan in Kilinochchi district-Sri Lanka.

1. Application
Date;

To
The chairman,
Ministry Consultants Procurement Committee,
Ministry of industry and entrepreneurship Development.
No573,
Galle Road,
Colombo-03
Sri Lanka.

Sub; Expression of Interest (EOI) For Project consultancy firm selection for the proposed Caustic soda/liquid chlorine project to be established at paranthan in Kilinochchi district-Sri Lanka.-2025.

Dear sir,
This is in response to your public notice published in (.....) on (.....).

Inviting “expression of Interest (EOI) For Project consultancy firm selection for the proposed Caustic soda/liquid chlorine project to be established at paranthan in Kilinochchi district-Sri Lanka.”, we hereby submit our expression of interest. We have attached necessary information according to the standard form. The information furnished by us in this expression of interest is correct of our knowledge. Based on this information, we understand you would be able to evaluate our EOI in order to shortlist for the above-mentioned assignment. we, however ,understand that paranthan chemicals company limited reserves the right to decide whether or not to shortlist our firm without disclosing the reason whatsoever.

Sincerely yours,

On behalf of the firm;
.....

Signature.....

Name of the signatory.

Designation.

Company seal

1.Information of the Firm

2.1 Name and address									
Name of the firm:									
Address:									
Telephone & Fax Nos:	<table><tr><td>Telephone Nos.</td><td>Fax Nos.</td></tr><tr><td>1.</td><td>1</td></tr><tr><td>2.</td><td>2</td></tr><tr><td>3.</td><td></td></tr></table>	Telephone Nos.	Fax Nos.	1.	1	2.	2	3.	
Telephone Nos.	Fax Nos.								
1.	1								
2.	2								
3.									
Email:									
2.2 Date of establishment:									
2.3 VAT registration: (If available) VAT No:									
2.4 Contact person:									
Name:									
Designation:									
Telephone No: Email:									
2.5 Information on relevant completed Assignment	Relevant Experience of the Firm during the Last 10 Years Refer Table 1								
2.6 Core Area of expertise of the firm									
2.7 Proposed lead person for the assignment:	Ref: Table 2								
2.8 officials of the firm nominated for this assignment									
2.8.1. nominated Professional staff with technical background for this assignment	Ref: Table 2								
2.8.2. nominated Administrative / Support staff for this assignment	Ref: Table 2								
2.9 Hired officials nominated for this assignment	Ref;Table 2								

2.10 Required Supporting documents:

2.10.1 Profile of the firm

2.10.2 Legal documents

- Provide copy of the registration of company,
- VAT registration certificates of the firm.

2.11 Experience of the Firm (Please attach the completion certificate as evidence of the stated assignments)

2.11.1 Relevant experience of the firm during the Last 10 years (Ref: table 1)

Please attach the completion certificate as evidence of the stated experience as per table 1

2.11.2 Relevant Experience of the officials/hired officials for this assignment during the last 10 years

Please attach the completion certificate as evidence of the stated experience

Table -3 - I: Relevant Experience of the Professional staff nominated for this assignment during the last 10 years

Table -3 - II: Relevant Experience of the Administrative/Support staff nominated for this assignment during the last 10 years

Table -3 - III: Relevant Experience of the Hired officials nominated for this assignment for this assignment during the last 10 years

2.11.3 Financial Data of Firm

Please attach the copies of Audited Financial statement listed in table 4

Table -1: Relevant Experience of the Firm during the Last 10 Years

No	Name of the assignment	Name of the client	Address of the client	Duration of the assignment			Total Cost of the assignment (Rs)	Status (completed/In progress / Expected)
				From (Date)	To (Date)	Total months		
Completed assignment								
In progress assignment								
Expect assignment								

Ref: Table 2**Officials of the firm/Hired officials nominated for this assignment**

Professional staff with technical background / Administrative / support staff & Hired officials nominated for this assignment

Position		
Personnel information	Name	Date of birth
	<u>Contact Details</u>	
	Address :	
	Telephone Nos :	
	Fax Nos.:	
	E – mail Address :	
Qualifications	Professional qualifications	
	Educational Qualification <i>Indicate /university and other specialized education of staff member, giving names of institutions, degrees obtained, and dates of obtainment</i>	
	Other Relevant Qualifications	
Area of expertise	Describe area of expertise to this assignment	
Experiences	Relevant Experience of the Firm during the Last 10 Years Ref; Table 1	
	Relevant Experience of the officials/hired officials for this assignment during the last 10 years (Professional staff/ Administrative / support staff & hired officials nominated for this assignment) Ref; Table 3 – I/II/III	
Language Proficiency	<i>(For each language indicate proficiency: good, fair, or poor in speaking, reading, and writing):</i>	
Present employment	Name of employer	
(If applicable)	Address of employer	
	Telephone	Contact (manager / personnel officer)

	Fax	E-mail
	Job title	Years with present employer

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.

[Signature of staff member/authorized representative of the firm]

[Signature of authorized representative of the client]

Full name of authorized representative: -----

Date

Table -3 - I : Relevant Experience of the Professional staff nominated for this assignment during the last 10 years

S. No	Name of the staff	Relevant experience						
		Name of assignment	Client	Position assigned	Task assigned	Duration		
						From	To	Total month

Table -3 – II : Relevant Experience of the Administrative/Support staff nominated for this assignment during the last 10 years

S. No	Name of the staff	Relevant experience						
		Name of assignment	Client	Position assigned	Task assigned	Duration		
						From	To	Total month

Table -3 - III: Relevant Experience of the Hired officials nominated for this assignment for this assignment during the last 10 years

S. No	Name of the staff	Relevant experience						
		Name of assignment	Client	Position assigned	Task assigned	Duration		
						From	To	Total month

Table -4: Financial Competence of Firm

	Financial Data for Previous 3 Years [Rs.Million)		
	2021/2022	2022/2023	2023/2024
1. Total Assets			
2. Current Assets			
3. Total Liabilities			
4. Current Liabilities			
5. Profit Before Taxes			
6. Profits After Taxes			

TERMS OF REFERENCE

CONSULTANCY FIRM SELECTION FOR THE PROPOSED CAUSTIC SODA/CHLORINE PROJECT AT PARANTHAN IN KILINOCHCHI DISTRICT

SRI LANKA – PCCL/CPCM/CFSP/CSF, CHLO/2025/01



PARANTHAN CHEMICALS COMPANY LIMITED

**MINISTRY OF INDUSTRY AND ENTREPRENEURSHIP DEVELOPMENT
SEPTEMBER – 2025**

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1. PROJECT INFORMATION

1.2 Introduction

The Government of the Democratic Socialist Republic of Sri Lanka (hereinafter referred to as the “GOSL”) is planning to re-establish the Caustic Soda/Chlorine (Chlor-alkali) Plant at Paranthan, Kilinochchi District (hereinafter referred to as the “Project”).

The objective of the Project is to revitalize the domestic production capacity for Caustic Soda (NaOH), Chlorine (Cl₂), Hydrochloric Acid (HCl), and associated by-products by constructing a modern, environmentally compliant chemical processing facility. This will contribute to import substitution, enhance industrial self-sufficiency, and support economic development in the Northern Province.

Paranthan Chemicals Company Limited (hereinafter referred to as “PCCL”), a fully state-owned enterprise under the Ministry of Industry and Entrepreneurship Development, is the Client and executing agency. PCCL now invites proposals from qualified consulting firms to provide professional and technical services necessary for the successful planning, design, procurement, supervision, and commissioning of the new Chlor-alkali facility.

Detailed requirements for the consulting services are described in the Terms of Reference (TOR).

1.3 Location of the Project

The Project Area is Paranthan, Kilinochchi, Sri Lanka.

1.4 Project Implementation arrangement

Paranthan Chemicals Company Limited (PCCL) is the organization (hereinafter referred to as the “Executing Agency”) is the executing agency in the Project.

1.5 Background

Paranthan Chemicals Company Limited is a 100% State-owned, profit-making Company performing its activities under the purview of the Ministry of Industry and Entrepreneurship Development. The Company operates under the provisions of the Companies Act No 7 of 2007.

PCCLs main production factory was at Paranthan in Kilinochchi District, which was operated successfully from 1956 to 1985. Our (PCCLs) production facility was destroyed in 1985 due to the war, and we are currently in the process of re-establishing it at Paranthan itself. The company was completed the preliminary feasibility study into re- establishment of Caustic Soda & Chlorine factory and PCCL was forecasted to install Poly Aluminum Chloride (PAC) and Hydrochloric Acid (HCl) manufacturing facilities as Product – Market development to comply with the local market demand in Sri Lanka.

Among the initial Factories set up in the 1950 decade, Paranthan Chemicals Factory was established in 1954 as the Government Chemicals Factory at Paranthan in Kilinochchi District in the Northern Province. This factory had been brought under the name of Paranthan Chemicals Corporation in 1957 by the State Industrial Corporation Act no 49 of 1957.

This Factory manufactured Caustic Soda, Liquid Chlorine as main products and Hydrochloric Acid, Zinc Chloride and Table salt as by-products, using local raw materials. At present, the Company imports liquid Chlorine in 900 Kg cylinders and refills 68 Kg cylinders at the refilling unit of the Company and Supply to certain sites of the Water Supply and Drainage Board and some small-scale industrialists whose requirements are fulfilled by the Company.

Due to the terrorist activities started in 1983, the operations of the Paranthan Factory could not be carried out from the year 1985 onwards and because of that the company had to import Caustic Soda and Chlorine for the various applications in manufacturing soap, paper, and textiles & for purifying water. Presently, country's requirements for chemicals are met by imports. A large sum of foreign exchange must be incurred for this purpose. This has resulted in non-utilization of local raw materials and skilled labor, mostly due to inactivation of the Chemical Factory.

2. SCOPE OF THE PROJECT

The total scope of the Caustic Soda/Chlorine Project at Paranthan is described in three phases.

Construction works are to be implemented with the Public Private Partnership (PPP) model. The Project includes consultancy services such as Detailed Design, Tender Assistance & Construction supervision of the works, Detailed Design, (including drawings), Bill of Quantity (BOQ) Preparation, Specification including all Tender Assistance of the works.

2.1 Pre-Construction Phase:

2.1.1 Detailed feasibility study of the site and the project/Site Assessment

- A. Collecting data on environmental, social and economic context, anthropometrics and regulations.
 - Conduct thorough topographical, geotechnical, and hydrological surveys to understand the physical and environmental characteristics of the site.
 - Evaluate accessibility, flood risk, and natural resource availability.
- B. Detailed study on process, safety measures and environmental impact.
 - Assess the quality, consistency, and logistics of raw salt supply, including source sampling, testing, transport feasibility, and storage requirements.
 - Detailed brief based on the client requirements and requirements related to the process.

C. Initial cost calculations

2.1.2 Preparation of Conceptual design

- A. Consultants need to prepare Conceptual master plan for the site incorporating all requirements and future expansions of the project
 - Develop comprehensive master plan of the facility, including process layout, zoning for process units, utilities, road access, loading/unloading zones, and safety buffers.
 - Initial Structural, MEP concept needs to be presented
 - Preliminary cost estimate

2.1.3 Preparation of Drawings for relevant Statutory approvals

- A. Preparation of drawings, Specifications
- B. Provide necessary details/ documents for the Statutory approvals

2.1.4 Preparation of Detailed drawings for Tendering and commencement of construction

- A. All the architectural detailed drawings, Detailed master plans, functional / process layouts, Landscape details (soft and hard) and specifications.
 - Prepare architectural designs for administrative buildings, control rooms, laboratories, warehousing, chemical storage tanks, process buildings, buildings for utilities and firefighting units.
- B. All the structural Detailed drawings, MEP drawings with electrical, plumbing, fire fitting, fire protection, HVAC, ELV, Waste management, wastewater management and specifications etc.
 - Prepare Structural designs for administrative buildings, control rooms, laboratories, warehousing, chemical storage tanks, process buildings, buildings for utilities and firefighting units.
 - Design Mechanical, Electrical, and Plumbing (MEP) systems incorporating HVAC, fire suppression, earthing, power distribution, lighting, water supply, process water supply, wastewater drainage etc.
- C. Specialized consultants - Specialized details, checking the diagrams and improving the process, reducing environmental pollution, improving energy efficiency of the process.
 - Specify and integrate process equipment, automation systems, and instrumentation aligned with PFDs and P&IDs to ensure functional and safe operation.
- D. Preparation of Engineering estimate, tender documents, bid evaluation report and contract agreement.

- E. Ensure all designs meet national/international construction codes, chemical industry safety standards, and international best practices using modern membrane cell technology.

2.1.5 Documentation:

- A. Detailed feasibility report including relevant details about the site and the process.
- B. Submission of detailed brief for the PCCL approvals -Client requirements, process needs, occupancy and special requirements to be specified.
- C. Submission of Conceptual design needs to be presented and submitted as a report including Master plan, building Layouts, Landscape proposals, MEP conceptual layouts, Process layouts and 3D visualizing images to understand the overall arrangements of the proposal.
- D. Preliminary cost estimate needs to be submitted.
- E. Drawings and specifications, EIA reports, Safety reports to get clearance from the relevant statutory bodies.
- F. Assist PCCL to get all the required permissions and approvals.
- G. Submit all statutory documentation including Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA), Environmental Management Plan (EMP), and health and safety plans required for regulatory approvals.
- H. Ensure to submit following documents: -
 - Architectural detailed drawings and specifications with detailed Master plan
 - Detailed structural drawings and specifications and structural calculations
 - Detailed MEP, HVAC, and ELV drawings with required specifications
 - Specialized details with detailed process layouts, waste management systems
 - Engineering estimates with accurate quantities, specifications,
 - Tender Documents and drawings based on appropriate procurement system
 - Complete tender documentation including technical specifications, employer requirements, contract data, design drawings, P&ID diagrams and scope of work.
 - Prepare accurate and itemized Bills of Quantities (BOQs) and cost estimates for each major work package.
- I. Contract agreement
 - Include the requirements for conducting structured classroom and hands-on training programs for PCCL operational and maintenance staff on plant systems, Standard Operating Procedures (SOPs), and emergency protocols.

2.2 Construction Phase:

2.2.1 Project Management:

- A. Assist PCCL and work as "the Engineer" to the project
- B. Monitoring and advising on smooth cash flow and workflow at the site
- C. Conducting Monthly progress meeting to maintain smooth construction process at the site
- D. Provide regular progress reports detailing physical achievements, budget utilization, and HSE compliance
- E. Provide continuous on-site technical and managerial supervision throughout construction.
- F. Maintain a centralized project schedule, monitor progress against key milestones, and ensure timely resolution of issues.
- G. Coordinate site logistics and facilitate communication among contractors, vendors, utility providers, and the PCCL project team.
- H. Review and recommend all the bonds provided by the contractor/ sub-contractors to maintain contractual responsibilities at the site.
- I. Provide continuous on-site technical and managerial supervision throughout construction.

2.2.2 Quality Assurance:

- A. Implement and enforce a Quality Assurance and Quality Control (QA/QC) system in accordance with international construction and chemical plant safety standards.
- B. Weekly Technical meetings.
- C. Conduct periodic inspections (Architect, Engineers, HVAC, M&E consultants), testing of materials, equipment installation, and system integration checks.
- D. Review and approve shop drawings, material submittals, and construction methodologies.
- E. Document all findings through inspection reports, compliance logs, and non-conformance reports, and verify rectifications.
- F. Document all findings through inspection reports, compliance logs, and non-conformance reports, and verify rectifications.

PCCL Caustic Soda/ Chlorine Project at Paranthan – Terms of Reference

- G. Provide regular progress reports detailing physical achievements, budget utilization, and HSE compliance.
- H. Consultants need to keep a proper record of financial progress and physical progress of the project and need to certify interim Payment certificates after checking the quality and quantity of the work done.

2.2.3 Documentation

- A. Progress review meeting minutes
 - Monthly Progress Reports - Evaluate contractors' actual progress at the site MS programs or appropriate site progress monitoring software's Cross record on weather conditions and site staff/ labor strength.
- B. Weekly Technical meeting minutes evaluate testing reports Record all the Material and shop drawing approvals, Sample boards.
- C. Record all the Site instructions, Log notes.
- D. Certification of interim payment certificates

2.3 Post-Construction Phase:

2.3.1 Pre and Post Commissioning:

- A. Supervise pre-commissioning activities including cleaning, flushing, hydro testing, calibration, dry runs, and energization of systems.
- B. Oversee testing and commissioning protocols including mechanical and chemical trials, emergency system testing, and process optimization.
- C. Ensure all utilities, control systems, instrumentation, and safety equipment are tested and certified operational.
- D. Develop a structured capacity building plan to ensure PCCL staff can independently operate and maintain the facility.

2.3.2 Handover Documents and Preparation of Defects List

- A. Consultants need to inspect the site with the Client and the contractor to prepare the defects list.
- B. Check all the Guaranties and warranties submitted by the contractor.
- C. Check and confirm as built drawings submitted by the contractor-Architectural, MEP any other specified services.

- D. Preparation of handover documents with defect list.

2.3.3 Certification of Final Payments

- A. Certification of final payment to the contractor after evaluating quality and the quantities of the work.

2.3.4 Defects Liability period

- A. Periodic supervision of the project and conducting progress meetings in post construction period to check the defect rectification process and make a smooth completion of the project.
- B. Issuing Project completion certificate.

2.3.5 Consultant needs to evaluate and approve the following documents submitted by the contractor.

- A. Compile and submit a full set of as-built drawings reflecting field conditions, deviations, and final installed layouts across all disciplines.
- B. Deliver comprehensive Operation & Maintenance (O&M) manuals, spare parts lists, troubleshooting guides, preventive maintenance schedules, and vendor warranties.

2.3.6 Documentation:

The consultants shall prepare and submit the following.

- A. Testing and commissioning reports
- B. User manuals
- C. Structured building capacity plan
- D. Certificate of Completion of the project
- E. Handover Certificates with Defects list
- F. Progress review meeting minutes -in Defects Notification Period
- G. Issuing Final Payment certificate
- H. Final Project Completion Report including project chronology, technical performance assessment, lessons learned, deviation report and recommendations for sustainable operation and future expansion.

The firm shall provide consultancy services for the full lifecycle of the project and selection methods categorized into above three phases.

2.4 Other Relevant Information

2.4.1 Technical Information

The following technical studies and data are available for reference and will be shared at the bid invitation. These documents contain background data, feasibility assessments, and site-specific investigations relevant to the Caustic Soda/Chlorine Plant Project at Paranthan:

- Feasibility Study Report for the Re-establishment of the Paranthan Caustic Soda/Chlorine Plant (2022).
- Hydrology and contour surveys of the site at Paranthan.

2.4.2 Relevant Laws and Regulations

PCCL and the Ministry of Industry and Entrepreneurship Development will facilitate the provision of legal and regulatory documents to the consultant, including but not limited to:

- a. Labor laws applicable to industrial construction and operations in Sri Lanka.
- b. Environmental Protection and Conservation Acts, including those under the Central Environmental Authority (CEA).
- c. Occupational Health and Safety Regulations.
- d. Construction Industry Development Authority (CIDA) regulations.
- e. Local Government and provincial council regulations applicable to construction, transport, water, chemical handling, and effluent discharge.
- f. Relevant industrial standards for chemical plants as enforced under Sri Lankan legislation.

3. OBJECTIVE OF THE CONSULTING SERVICES

The objective of the consulting services is to engage a qualified and experienced consultancy firm to provide comprehensive technical support to Paranthan Chemicals Company Limited (PCCL) for the successful implementation of the Caustic Soda/Chlorine Plant Re-establishment Project at Paranthan. The consultant shall carry out the full range of activities necessary to support the design, procurement, construction supervision, commissioning, and capacity development under this project, in accordance with international standards and the guidelines.

The specific objectives are as follows:

- A. To review, validate, and update the existing feasibility study and technical data to reflect current site conditions and project requirements.
- B. To prepare detailed engineering designs, drawings, specifications, and tender documents in accordance with applicable regulations and industry best practices.
- C. To ensure environmental, health, and safety compliance through the preparation of required assessments (e.g., IEE/EIA) and integration of mitigation measures in the project scope.
- D. To support the bidding and procurement processes, selection of the bidding method, slicing, including preparation of bidding documents, pre-qualification evaluation, bid analysis, and contract negotiation assistance.
- E. To supervise construction works ensuring adherence to technical specifications, timelines, and quality standards.
- F. To manage and support the commissioning of all facilities and ensure operational readiness of the plant, including testing, start-up, and performance verification.
- G. To deliver training and capacity building programs for PCCL staff, enabling sustainable operations and maintenance of the new facilities.
- H. To prepare and submit comprehensive project documentation including as-built drawings, operation manuals, and final project completion reports.
- I. Make the efficient design to meet the expectation of 30MT NaOH, 27 MT of Chlorine and etc.

4. SCOPE OF THE CONSULTING SERVICES

4.1 Detail Design for project

The Consultant shall:

- A. Review and verify raw material availability, pre-feasibility study, environmental guidelines and government regulations & legal requirements.
- B. Prepare detailed work plan, progress reports and implementation schedule for the Project to ensure effective monitoring and timely project outputs and regularly update the same.
- C. Develop the conceptual design of the process. The major concept and design parameters for the project facilities shall be determined by the basic design, and they shall be approved by the PCCL.
- D. Preparation of the detailed designs:
 - I. The detailed design shall be prepared to meet the requirements of PCCL and discuss with PCCL and shall be approved by PCCL. The consultants' staff shall make presentations to the relevant PCCL staff on detailed design prior to finalization, on agreed intervals during the designs.
 - II. Conduct and endorse the detailed designs, drawings and calculations where the consultant shall ensure and be responsible for the satisfactory structural and functional requirements of the process.

- III.** All the design shall be in conformity with Sri Lankan standard, and in case the other international standards shall be approved by PCCL. The detail design will, as a minimum, include all kinds of detail design drawings, P&ID diagrams, necessary calculations to determine and justify the engineering details of the Project, associated bidding and contract documentation to include detailed specifications, bill of quantities (BOQ), other necessary details and formats to complete the bid/contract implementation schedule of the Project. Consultant will analyze the existing transmission and distribution systems within the project area to make necessary recommendations to improve the system. Detailed specifications will contain those in relation to i) quality control of plant materials and workmanship, ii) safety, and iii) environmental protection (iv) social safeguard. Carry out cost estimation including Engineers' Estimate. The justification shall be provided with rate breakdowns for other appropriate rates.

4.2 Raw material quality and quantity:

- A. Water as raw material is expected to be obtained from the National Water Supply & Drainage Board (NWSDB). The consultant shall ensure whether the quality of the water is sufficient for the process. If it is not, propose a suitable preprocessing requirement.
- B. Consultant shall conduct the cost effectiveness of the proposed method for obtaining water and compare it with other alternatives. (For example, ground water after processing)
- C. Consultant shall ensure the quality and purity of industrial salt and any other chemicals.
- D. Consultant shall calculate the requirement of all raw materials and review the availability.

4.3 Energy requirements:

- A. The consultant shall calculate the energy requirements.
- B. The consultant shall come up with the possibility of any other alternative method for fulfilling energy requirements other than the grid.

4.4 Consultant shall be supported and submitted followings-

- A. Any other important technical improvements and future expansions.
- B. Carry out a master plan where the new building constructions proposed considering architectural design together with maximum utilization of available land & future improvements.
- C. Discuss above Master plan proposals with PCCL officials, before the commencement of the design works to gather the requirements of the user &

before finalizing the master plan to confirm all the requirements are established.

- D. Structural and Architectural design details drawings of proposed buildings together with structural calculation.

4.5 Tender Assistance including Prequalification, Preparation of BOQ and Specifications for Project.

4.5.1 Assistance in Pre-Qualification (PQ)

The Consultant shall:

- A. Define technical and financial requirements, capacity and/or experience for PQ criteria taking into consideration technical features of the Project.
- B. Prepare PQ documents in accordance with the standard prequalification requirements.
- C. Assist PCCL in PQ announcement, addendum/corrigendum, and clarifications to the applicants' queries.
- D. Evaluate PQ applications in accordance with the criteria set forth in PQ documents.
- E. Prepare a PQ evaluation report for approval of the PCCL.

4.5.2 Assistance in Bidding Procedures

The Consultant shall:

- A) Prepare bidding documents in accordance with the latest version of standard government bidding documents and Procurement of Works together with all relevant design drawings, P&ID diagrams, BOQs, specifications and other relevant documents.
- B) Prepare bidding documents which includes i) the clauses stating that the Contractor is to comply with the requirement of the Environmental Management Plan (EMP) and the specification clearly stipulating the safety requirements in accordance with the laws and regulations in the country of the Borrower, relevant international standards (including guidelines of international organization), if any, ii) the requirement to furnish a safety plan to meet the safety requirements, iii) the requirement for the personnel for key positions to include an accident prevention officer, and iv) the requirement to submit method statements of safety to PCCL and the consultant at the construction stage.
- C) Assist PCCL in issuing bid invitations, conducting pre-bid meetings, issuing addendum/corrigendum, and clarifications to bidders' queries.
- D) Support in evaluating bids in accordance with the criteria set forth in the bidding documents.
- E) Assist PCCL in contract negotiation by preparing agenda and facilitating negotiations including preparation of minutes of negotiation meeting.
- F) Prepare a draft and final contract agreement.

4.5.3 Supervision of the project

The Consultant shall perform his duties during the contract implementation period of the contracts to be executed by the Client and the Contractor. The consultant shall make sure government rules and regulations to be applied to the Civil, M&E and Instrumentation works of the Project. In this context, the Consultant shall:

- I. Act as the Engineer to execute project supervision and contract administration services in accordance with the power and authority to be delegated by the Client/Engineer and as specified in the contract document.
- II. Provide assistance to the Client concerning variations and claims which are to be ordered/issued at the initiative of the Client. Advise the Client on resolution of any dispute with the Contractor.
- III. Assist the Client and provide instructions, approvals and notices as appropriate.
- IV. Provide recommendation to the Client for acceptance of the Contractor's performance security, advance payment security and required insurances, advise the Client/ Engineer on all contractual matters in the contract implementation.
- V. Assessment of work for adequacy of all inputs such as materials, labor and equipment provided by the Contractor.
- VI. Check and approve the Contractor's method of work, including site organization, program of performance, quality assurance system, safety plan, method statements, and environmental monitoring plan so that the requirements set forth in the applicable laws and regulations, the specifications or other parts of the contract are to be duly respected.
- VII. Regularly monitor physical and financial progress, and take appropriate action to expedite progress if necessary, so that the time for completion set forth in the contract will be duly respected by the Contractor.
- VIII. The consultants shall not make any design change at site unless any unforeseen situation and if unforeseen matter arises the consultant shall guide the Client to overcome the situation.
- IX. Direct and guide the supervising Engineering staff of the contractor to ensure adequate rate of progress and quality in the field.
- X. Inspect all construction materials and equipment delivered to site, check and verify with the quality inspection reports and test reports.
- XI. Develop checklist & other formats for the Consultant's supervisory staff.
- XII. Review and approve the bar schedules submitted by the contractors.
- XIII. Conducting weekly progress review meeting, preparation of minutes of such meeting and reporting. This shall include critical review and advice on timely execution of Contractors' detail work programs, detailed material and plant procurement program machinery and manpower inputs etc., and identification and

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- advising on removal of hindrances and obstacles to smooth execution of the programs.
- XIV. Explain and/or adjust ambiguities and/or discrepancies in the Contract Documents and issue any necessary clarifications or instructions. Issue further drawings and give instructions to the Contractor for any work which may not be sufficiently detailed in the contract documents, if any.
 - XV. Make sure that the contractor gives all deviations in the drawings in the form of as-built diagrams.
 - XVI. Review and approve the Contractor's working drawings, shop drawings and drawings for temporary works. Also review and approve, if any, design prepared by the Contractor for any part of the permanent work.
 - XVII. Liaise with the appropriate authorities to ensure that all the affected utility services are promptly relocated.
 - XVIII. Carry out field inspections on the Contractor's setting out of the works in relation to original points, lines and levels of reference specified in the contract.
 - XIX. Organize, as necessary, management meetings with the Contractor to review the arrangements for future work. Prepare and deliver minutes of such meetings to the Engineer and the Contractor.
 - XX. Supervise the works so that all the contractual requirements are met by the Contractor, including those in relation to i) quality of the works, ii) safety and iii) protection of the environment and (iv) social safeguard. Keep records on all activities performed in relation to the suspension work for the use of the Engineer/Client.
 - XXI. Confirm that an accident prevention officer proposed by the Contractor is duly assigned at the project site. Request the Contractor to take appropriate remedies if any questions are recognized regarding the safety measures.
 - XXII. Supervise field tests, sampling and laboratory test to be carried out by the Contractor.
 - XXIII. Inspect the implementation methods, materials, equipment to be used, workmanship at the site, and attend shop inspection and manufacturing tests in accordance with the specifications.
 - XXIV. Survey and measure the work output performed by the Contractor verify statements submitted by the Contractor and issue payment certificates such as interim payment certificates and final payment certificate as specified in the contract.
 - XXV. Coordinate the work among different contractors employed for the Project.
 - XXVI. Modify the designs, technical specifications and drawings, relevant calculations and cost estimates as may be necessary in accordance with the actual site condition, and issue variation orders with the consent of the Engineer (including necessary actions in relation to the works performed by other contractors working for other projects, if any).

- XXVII. Carry out timely reporting to the Engineer's representative for any inconsistency in executing the work and suggesting appropriate corrective measures to be applied.
- XXVIII. Inspect, verify and fairly determine, claims including time extensions issued by the parties to the contract (i.e. the Client and Contractor) in accordance with the contracts.
- XXIX. Perform the inspection of the works, including Test on Completion, tests after completion and prepare required documentation and issue certificates such as the Taking-Over Certificate and Performance Certificate as specified in the contract.
- XXX. Supervise commissioning and carry out tests during the commissioning, if applicable and keep all records in relation to such tests.
- XXXI. Check and certify as-built drawings for the parts of the works designed by the Contractor, if any.
- XXXII. Prepare an operation and maintenance manual for the parts of the works constructed in accordance with the design provided by the Client. Check and certify an operation and maintenance manual for the parts of the works designed by the Contractor, if any.
- XXXIII. Ensure the contractor shall conduct training program for O&M staff during Chlor-alkali plant commissioning.
- XXXIV. Ensure the preparation of an asset registry during the project implementation.
- XXXV. Assist Client in coordinating with the external agencies to have smooth implementation of project such as Road Authorities, Local Authorities, Utility Agencies such as Ceylon Electricity Board and Sri Lanka Telecom Ltd., Sri Lanka Police Department, etc.
- XXXVI. Assist to obtain approval from other organizations such as RDA, PRDA, Pradeshiya Sabas, etc.,
- XXXVII. Assist the Engineer in preparation of cash flow statements & disbursement schedules
- XXXVIII. Pay attention to the potential claims that may arise during project implementation. In case any claim is expected to arise, make detailed records of the situation as material to judge whether the claim is reasonable or not. Those records must be with the signs of both the Consultant and the Contractor for the records to be verified under the agreement of both parties.

4.5.4 Safety Measures

- I. Confirm the conceptual design and detailed design are following the Inherently Safer Design (ISD) Principles.
- II. All the hazardous or toxic inventories (including the work in progress / process) should be minimized.
- III. Ensure the storage and handling of the chemicals are under less hazardous conditions.
- IV. Confirm the process selected based on the less hazardous.

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- V. Conduct the full reports on HAZID (Hazard Identification), HAZOP (Hazard and Operability Study), LOPA (Layer of Protection Analysis) and Safety Integrity Level (SIL) and get all the documents approved by the client.
- VI. Conduct a Quantitative Risk Assessment (QRA) to model all possible outcomes from major accident scenarios (e.g., release of Chlorine, caustic spilling/spray) and ensure that risks are within acceptable limits.
- VII. Conduct a detailed Fire & Gas Detection (F&G) and Emergency Shutdown (ESD) Philosophy document.
- VIII. Ensure all the technical Design Specifications are complying with the safety precautions. Including Materials of Construction, Double Mechanical Seals & Containment, Chlorine Handling Systems (Scrubbing or any other) with 100% standby capacity during a release.
- IX. Ensure Vent and Relief System Design are designed under the requirements for dedicated, segregated vent headers for Chlorine and other hazardous gases, terminating at the scrubber.
- X. Ensure the Pressure Relief Devices (PRDs) must be discharged to a safe location (scrubber, not atmosphere)
- XI. Ensure the Design specifications have been conducted for forced ventilation in buildings and enclosed areas where Chlorine or other heavier-than-air gases could accumulate.
- XII. Confirm a comprehensive corrosion management philosophy has been adopted, including corrosion loops, corrosion monitoring points, and material selection guidelines.
- XIII. Establish and enforce a rigorous vendor qualification process, especially for safety-critical equipment (pressure vessels, safety valves, ESD systems, scrubbers, gas detectors)
- XIV. Involved in all major safety-critical equipment and provide approval for FATs for Factory Acceptance Tests (FAT).
- XV. be responsible for enforcing the Contractor's Site Safety Plan.
- XVI. Audit the Contractor's safety performance continuously and provide report on safety during procurement and construction.
- XVII. Make or assist in the development of Construction Safety Management plan for ensure Permit-to-Work systems (Hot Work, Confined Space Entry, Excavation), lifting procedures, and emergency response drills specific to site hazards.
- XVIII. Closely monitor and report on the Safety in Commissioning, Start-Up, and Handover to PCCL.
- XIX. Provide a formal Pre-Startup Safety Review (PSSR) before any hazardous chemicals are introduced.
- XX. Establish and hand over a robust MOC (Management of Change) procedure to ensure any changes after handover are reviewed for safety implications.
- XXI. Delivering a complete set of drafted and reviewed procedures for
 - a. Standard Operating Procedures (SOPs) for start-up, normal operation, shutdown, and emergency shutdown.
 - b. Safe Work Practices (e.g., Chlorine cylinder/tonner changing procedures).
 - c. Detailed Emergency Response Plans (ERP) and drills.
 - d. Lockout-Tagout (LOTO) procedures.
- XXII. Develop and execute a comprehensive training program for the investor's operations and maintenance team, including Process fundamentals and chemistry, Specific hazards of Chlorine and Caustic Soda, Operation of safety systems (ESD, scrubber),

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Use of Personal Protective Equipment (PPE) - including Chlorine gas masks and Self-Contained Breathing Apparatus (SCBA)

- XXIII. Handover the documents below to the client.
- a. Safety Case / Risk Assessment Report (Including QRA and ALARP demonstration).
 - b. Hazard Study Reports (HAZID, HAZOP, LOPA, SIL).
 - c. As-Built P&IDs, Piping Isometrics, and Safety Layout Plans.
 - d. Proof of Testing for all safety-critical systems (ESD loop tests, SIL verification, scrubber performance tests).
 - e. Certification Dossiers for all equipment (pressure vessels, relief devices).
 - f. Finalized Operating, Maintenance, and Safety Procedures.
 - g. Training Materials and Records of personnel trained.
 - h. A formal "Handover Certificate" acknowledging that the plant has been built to specification and is safe to operate.
 - i. Emergency response actions.

4.5.5 Technology Transfer

The Consultant shall:

- I. Carry out the technology transfer as an important aspect in design and construction supervision works. The Consultant shall provide the opportunity to PCCL staff to be involved in the working team of the Consultant during the design, contract administration and supervision work for their capacity building. If requested by PCCL, the Consultant shall brief and demonstrate the survey and design procedure, the construction supervision and contract management process and procedures.
- II. Assist PCCL and its staff to build their capacity as a part of on-the-job training under the project.

5. Expected Time Schedule

The total duration of consulting services will be 24 months. The expected implementation schedule is shown in the table below.

Deliverable	Timeline	Remarks
Raw material testing, site assessment and Technical and Financial Feasibility Study	Month 1	
Finalizing the conceptual diagram based on the raw material test results, Structural and Layout Design (Load Distribution)	Month 1	Structural Engineer, MEP
IEE or EIA	3 Months	
Conceptual detailed design	3-4 Months	M&E balance, Instrument Sizing, Utility Requirements, P&ID, Equipment sizing
Environmental approvals, permit submissions	Month 1-4	Including EIA, HSE management plans
Preliminary and detailed designs BOQs, bidding documents	Month 2-4	All disciplines – architectural, structural, mechanical, etc.
Calling for expression of interest (EOI) for finance	6 Months	No consultancy is required during this period
Calling of the Bids	1-3 Months	In collaboration with PCCL
Bid evaluation and awarding		
Construction management & supervision	Month 3-24	Progress tracking, quality checks, issue logs
Commissioning plan and system testing protocols	By Month 24	Includes SOPs and safety protocols
Staff training modules and capacity-building sessions	Month 24-25	On-site and documentation-based
As-built drawings and O&M manuals	By Month 25	Updated according to field changes
Final report and project closure documentation	Month 25-26	With future expansion recommendations

*The schedule dates may varied subject to awarding of the contract.

6. Staffing (Expertise Required)

The team shall comprise Professional international or/and local consultants' person-months. And necessary Technical and Administrative support staff should be provided by the consultant.

7. Qualification of key Team Members

The qualifications of key Team Members of Professional are shown in the following table.

Designation	Qualification	Experience
Professional International/ Local Specialist		
Team Leader	Graduate in Chemical Engineer or Mechanical Engineer with Professional Qualification (Chartered Engineer) and have master's degree in engineering or management	<u>Total Experience</u> At least 15 years' experience after graduation <u>Related Experience</u> a) At least 15 years' experience in Chlor-Alkali projects included. i) Project Management ii) Contract Management of major projects with ICB contracts b) At least five years' experience as a Team Leader in similar Consultancy service Assignment having total contract amount 20 USD million with a minimum capacity of 30 MT/Day
Process Engineer (Chlor-alkali specialist)	Graduate Chemical Engineer with Professional Qualification Chartered Engineer) and have Master's Degree in Engineering or Similar Capacity	<u>Total Experience</u> At least 10 years' experience after graduation <u>Related Experience</u> a) At least 6 years' experience in designing similar conditions of plants and at least 3 years' experience in Operation and Maintenance of similar type of project b) Experience as a water treatment Expert/specialist in similar project.
Civil Engineer	Graduate Civil Engineer with Professional Qualification (Chartered Civil Engineer)	<u>Total Experience:</u> At least 10 years' experience after graduation <u>Related Experience</u> At least 6 years' experience in structural engineer capacity.
Mechanical Engineer	Graduate Mechanical Engineer with Professional Qualification (Chartered Mechanical Engineer and having master's degree or Postgraduate Degree in relevant fields	<u>Total Experience</u> At least 10 years' experience after graduation <u>Related Experience</u> a) At least 6 years' experience in design, operation and maintenance of similar capacity. b) Experience as a Mechanical Engineer in a similar capacity project
Electrical Engineer	Graduate Electrical Engineer with Professional Qualification (Chartered Electrical)	<u>Total Experience</u> At least 10 years' experience after graduation <u>Related Experience</u> a) At least 6 years' experience in design, operation

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	And have master's degree or Postgraduate Degree in relevant fields.	and maintenance of similar capacity. b) Experience as an Electrical Engineer in a similar capacity project
Instrumentation and automation engineering	Graduate Electrical, Electronic, Mechanical, Mechatronics or automation engineer with Professional Qualification (Chartered Engineer) and have master's degree or Postgraduate Degree in a field related to instrumentation and automation.	<u>Total Experience</u> At least 10 years' experience after graduation <u>Related Experience</u> c) At least 6 years' experience in design, operation and maintenance in instrumentation and automation industry. d) Experience as an instrumentation or/and automation engineer in a similar capacity.
Architect/ Building Equipment Engineer	Professionally qualified Chartered Architect/ Building Equipment Engineer	<u>Total Experience</u> At least 10 years' experience after graduation <u>Related Experience</u> Not less than 8 years' experience in architectural buildings and industrial/water or wastewater treatment plant plans, and familiar with green building techniques and local codes of practice on energy efficient buildings and at least five years' experience with a recognized consulting firm
Safety and Environmental Engineer	Professionally safety and environmental Engineer	<u>Total Experience</u> At least 20 years' experience after graduation <u>Related Experience</u> Not less than 10 years' experience in the environmental and safety area in the process industry.

Essential Qualified means, the Engineer who possess professional Membership of a recognized Professional Institution accredited by either Washington Accord or International Professional Engineering Agreement.

8. Scope of Works for Respective Personnel

Detailed information on the major tasks and duties each member of the detailed engineering design team and the construction supervision team shall perform is provided as follows:

Team Leader	a) Shall bear overall responsibility and shall represent the project Consultant's Team in all matters relating to the performance of services, coordinating with all other consultants' staff to deliver excellent product during the stipulated time schedule. b) Shall Oversee and Supervises the Consultant's services. c) Assume direct responsibility for day-to-day consulting services including day-to-day management of all consultants' staff and co-ordination among and with them. d) Formulate the best implementation approach including programmatic project schedule. e) Prepare PQ and bid evaluation report for PCCL f) Co-ordinate interfaces between Consultancies g) Assist PD to conduct pre-bid conferences, issuing addendum/corrigendum, and clarifications to bidders' queries. h) Assist in PQ, evaluation of bids. i) Assist PCCL in contract negotiation. j) Assist in preparing a draft and final contract agreement. k) Assist tender awards and signing the contract agreements l) Contract management and administration. m) Develop and implement quality assurance program. n) Recommend contract payments. o) Review, analyze and make recommendations to the Employer concerning variations and claims which are to be ordered/issued by PCCL p) Recommend issuing the commencement order to the Contractors. q) Evaluation of time extension claims and make recommendations r) Provide recommendation to PCCL for acceptance of the Contractor Performance Security, advance payment Security and required insurances. s) Explain and/or adjust ambiguities and/or discrepancies in the Contract Documents and recommend issuing any necessary clarifications or instructions. t) Review, verify and further detail the design of the works, recommend approving the Contractors' working drawings and if necessary, issue further drawings and/or give instructions to the Contractor. u) Review and recommend approving the proposals submitted by the contractors v) Making necessary design changes and amendments at site. w) Provide guidance for unforeseen matters x) Progress reporting y) Preparing necessary documentation to obtain approval from all concerned authorities such as local authorities, Provincial Road Authority, Road Development Authority, Ceylon Electricity
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	Board, Central Environmental Authority, Telecom, Police or any other related institutions for construction of other structures. z) Present progress of works at agreed time schedules and milestones; to communities, PCCL and other stakeholders including arranging of field trips if necessary aa) Prepare asset registry. bb) Prepare institutional arrangement for O&M cc) Prepare training programs for PCCL construction supervision and O&M staff and organize and conduct the training dd) Any other activities related to the project
Process Engineer (Chlor-Alkali Specialist)	(a) Leads process design of the caustic soda and chlorine production system, ensuring safe and optimized operation using membrane cell technology. (b) Designs and verify mass and energy balances, chemical reaction pathways, material selection, and system capacity. (c) Specifies all key process equipment: electrolyzers, brine purification units, HCl scrubbers, gas treatment systems, and caustic concentrators. (d) Coordinates with equipment vendors to ensure proper technology is adopted and customized to local conditions. (e) Develops shutdown/start-up sequences, operational logics, and P&IDs for integration into automation systems.
Civil/ Structural Engineer	(a) Analyzes geotechnical reports and defines foundation strategies for tanks, cell rooms, pipe racks, and utility buildings. (b) Designs civil infrastructure including control rooms, effluent ponds, chemical storage yards, boundary walls, internal roads, and drainage systems. (c) Ensures that civil designs incorporate load-bearing capacities for heavy industrial operations and chemical containment bunds. (d) Reviews contractor-submitted structural calculations and rebar shop drawings; verifies field implementation for compliance. (e) Ensures integration of civil components with mechanical, electrical, and process installations.
Mechanical Engineer	(a) Specifies and sizes process and utility piping networks, including for brine, water, caustic soda, hydrochloric acid, chlorine, and compressed air. (b) Designs pump systems, pressure vessels, heat exchangers, compressors and HVAC for the plant's operational zones. (c) Design systems for heat recovery (brine heaters, steam integration and evaluate energy efficiency improvements. (d) Prepare Process Flow diagrams to show the process path and the components used. (e) Prepare Bills of Quantities for mechanical work and costing. (f) Support on preparing tender documents for mechanical work. (g) Coordinates layout of equipment for maintainability and safety, including walkways, access points, and maintenance clearances. (h) Monitors mechanical installation works at site, checking alignment, vibration isolation, welding standards, and testing.

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	(i) Reviews operation and maintenance (O&M) manuals and spare parts lists submitted by suppliers. (j) Conduct any other related work related to Mechanical Engineer's task.
Electrical Engineer	(a) Designs of electrical load centers, substation layouts, HT/LT switchgear, transformers, and power factor correction systems. (b) Calculates electrical loads and protection settings; ensures power redundancy through generator or UPS systems. (c) Specifies cable routing, panel distribution, grounding systems, and lightning protection per IEC and SLS standards. (d) Prepare Bills of Quantities for electrical work and costing. (e) Support on preparing tender documents for electrical work. (f) Supervise the installation work of electrical equipment. (g) Verifies insulation resistance, cable terminations, panel wiring, and compliance with safety standards during inspection. (h) Supports commissioning of MCCs, control panels, and emergency shutoff circuits. (i) Attend test runs of electrical equipment. (j) Conduct any other related work related to Electrical Engineer's task.
Instrumentation & Automation Engineer	(a) Develops instrumentation layout drawings, loop diagrams, and specifications for control valves, pressure transmitters, flow meters, and level sensors. (b) Develop P & ID diagram on the Process Flow diagram prepared by the Mechanical Engineer to show the instruments, PLC and SCADA systems. (c) Prepare a document on control philosophy and safety of operations (d) Overseas DCS/HMI screen development, alarm matrix design, and integration of safety interlocks. (e) Conducts Factory Acceptance Tests (FAT) and Site Acceptance Tests (SAT) for automation systems and instrumentation. (f) Check the performance of an instrumentation and automation system (g) Trains operators on control interfaces, calibration procedures, and basic fault diagnosis. (h) Conduct any other related work related to Automation Engineer's task.
Architect / Building Equipment Engineer	(a) Review and approve shop drawings submitted by the Contractor (b) Inspect the Contractor's work (c) Assist interior decorations including interior lighting, selecting furniture for plant officers, color coding and painting of structure, exterior lighting, selection of floor tiles etc. (d) Prepare Bill of Quantities (e) Support on costing (f) Any other activities related to the project

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Safety and Environmental Engineer	a. Study on social impact and prepare necessary social development plans. b. Supervise the Consultant's service c. Assume direct responsibility for day-to-day consulting services d. Represents the Consultant's Team in all matters relating to the performance of services e. Update Environmental Management Plan (EMP) f. Prepare programs and strategies to improve/protect these catchments with short term/long term perspectives in consultation with other experts g. Any other activities related to the project
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9. Reporting

Within the scope of consulting services, the Consultant shall prepare and submit reports and documents to the Project Director/ Project Manager in charge of PCCL as shown in the table below. The Consultant shall provide an electronic copy of each of these reports.

Category	Type of Report	Timing	No. of Copies
Consultancy Services	Inception Report	Within 01 months after commencement of the services	05
	Monthly Progress Report	Every Month	04
	Quarterly Progress Report	Every Quarter	04
	Project Completion Report	At the end of Services	04
Detailed Design	Draft Detailed Design Report	Within 10 months after commencement of the services	05
	Tender Document	As per the Project Schedule for each Package	20
	Final Detailed Design Report	As per the Project Schedule for each Package	10
Tender Assistance	Pre-qualification Document Report	At appropriate timing	10
	Bidding Documents Each (Draft)	At appropriate timing	15
	Bidding Documents Each (Final)	At appropriate timing	20
	Pre-qualification Evaluation Report	At appropriate timing	10
	Tender Evaluation Report	At appropriate timing	10
	Price and commercial Evaluation Report	At appropriate timing	10
	Technical Evaluation Report	At appropriate timing	10
Construction Supervision	Construction Completion Report (and As-built Drawings, if any)	At the end of the project	04
	Project Completion Report (for submission to PCCL)	At the end of the service	05
Technology Transfer	O&M Manual	At appropriate timing before the handover of each part	10
	Training Execution and Evaluation Report	Within 01 month after completion of training	10

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Environment and Social Safeguard	Environmental and Social Safeguard Evaluation Report	At the end of the Project	04
Training	Training Plan	At appropriate timing in accordance with the Inception Report	05
	Training Execution and Evaluation Report	Within 01 month after completion of training	05
Other Report	Technical Report	As required or upon request	As required

9.1 Contents to be included in each report are as follows:

9.1.1 For Inception Report

- Inception Report: Presents the methodologies, schedule, organization, design criteria and standards etc. (including FS design review)

9.1.2 For Monthly and Quarterly Progress Report

- Monthly Progress Report: Describes briefly and concisely all activities and progress for the previous month by the 10th day of each month. Problems encountered or anticipated will be clearly stated, together with actions to be taken or recommendations on remedial measures for correction. Also indicates the work to be performed during the coming month.
- Quarterly Progress Report: Presents the progress status of the Project, including the progress of land acquisition, environmental impacts and implementation of environmental mitigation measures during the construction stage. Environmental Monitoring Form is to be filled with and attached to the Report. Progress and result of GAP shall be also included in the Report.
- Project Completion Report: Presents all the activities of the Project

9.1.3 For Detailed Design

- Draft Detailed Design Report: Presents detailed engineering design.
- Tender Document: Presents the pre-qualification documents, bidding documents with its evaluation criteria and detailed cost estimate.
- Final Design Report: presents final documents of detailed design and cost estimate and bid plan through the incorporation of comments on the Draft Design Report provided by the Consultant.

9.1.4 For Tender Assistance

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- Pre-qualification Evaluation Report: Presents the results of the evaluation with recommendation on the selection of the qualified applicants.
- Technical Evaluation Report: Presents the results of technical evaluation with recommendation on technically responsive bidders.
- Price and Commercial Evaluation Report: Presents the results of the tenders with recommendation on the successful bidder for award of contract.

9.1.5 For Construction Supervision

- Construction Completion Report: comprises outline of all facilities completed and construction records from the commencement through completion, together with key data and records.

9.1.6 For Technology Transfer

- O&M Manuals: Contains the assembling manuals submitted from the contractor.
- Training Execution and Evaluation Report on Consultant's Training Services: presents the evaluation of consultant training services.
- Evaluation Report on Contractors' Training Services: presents the evaluation of contractors training services.

9.1.7 For Environment and Social Safeguard

- Environmental and Social Safeguard Evaluation Report: To be submitted by the end of the consulting services, including the EMP, EMoP, Simplified RAP, and GAP prepared.

10. Obligations of the Implementing Agency

10.1 Obligations

A certain range of arrangements and services will be provided by PCCL the Consultant for smooth implementation of the Consulting Services. In this context, PCCL will:

10.2 Reports and data

Make available to the Consultant existing reports and data related to the Project as required.

10.3 Assistance and exemption (PCCL will provide support only for the documentation aspect of the following)

Use its best efforts to ensure that the assistance and exemption, as described in the Standard PCCL will support the consultant firm to obtain followings.

- work permit and such other documents.
- entry and exit visas, residence permits, exchange permits and such other documents clearance through customs.
- instructions and information to officials, agents and representatives of the PCCL
- exemption from requirement for registration to practice their profession; and

- privilege pursuant to the applicable law in Sri Lanka.

10.4 Organization of the Implementing Agency

The proposed Man Month Schedule for consultancy services Detailed Design, Tender Assistance and Construction Supervision and Detailed Design, Tender Assistance for Caustic Soda/ Chlorine Project at Paranthan as described in table 2.1.

The Consultant shall submit the proposed manning schedule with the proposal. The sample format is given in table 2.1, 2.2 and 2.3.

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Table 2.1: Proposed staff schedule for the Consulting Services for Caustic Soda/ Chlorine Project at Paranthan			
	Position	International Staff	Local Staff
1	Team Leader		
2	Process Engineer (Chlor-alkali Specialist)		
3	Civil Engineer		
4	Mechanical Engineer		
5	Electrical Engineer		
6	Instrumentation and automation engineering		
7	Architect/Building Equipment Engineer		
8	Safety and Environmental Engineer		
Total Remuneration Cost			

	SUPPORTING STAFF Please Indicate eg.1. Office Manager-02 Nos 2 CAD Operator -01 NOS	Nos Of Staff	Cost
1			
2			
3			
4			
Total Remuneration Cost + Supporting Staff Cost			

Table[PD1] 2.2: Proposed man month distribution for the Consulting Service for Detailed Drawings, BOQ, Specifications, Tender Documents, Engineers' Estimate, and Construction Supervision for Caustic Soda/ Chlorine Project at Paranthan																			
			Year																
			Months																
			Months	1	2	3	4	5	...	...	...	...	...	...	...	...	...	...	...
		Position																	
INTERNATIONAL STAFF/ LOCAL STAFF																			
A	1	Team Leader																	
A	2	Process Engineer (Chlor-alkali Specialist)																	
A	3	Civil Engineer																	
A	4	Mechanical Engineer																	
A	5	Electrical Engineer																	
A	6	Instrumentation and automation engineering																	
A	7	Architect/Building Equipment Engineer																	
A	8	Safety and Environmental Engineer																	

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		SUPPORTING STAFF																
B	1																	
B	2																	
B	3																	
B	4																	
B	5																	
B	6																	
B	7																	
B	8																	
B	9																	
		Total of -A																
		Total of -B																
		Total of A+ B																

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Table 2.3 : Proposed Allocation of Man Months for the consulting services of Consulting Service for Detailed Drawings, BOQ, Specifications, Tender Documents, Engineers’ Estimate, and Construction Supervision for Caustic Soda/Chlorine Project at Paranthan				
Designation	Total Man Months	Input in months as a %		
		Detail Design Stage (%)	Procurement Assistance Stage (%)	Construction Supervision Stage (%)
International Staff/Local Staff				
Team Leader				
Process Engineer				
Civil Engineer				
Structural Engineer				
Mechanical Engineer				
Electrical Engineer				
Instrumentation and Automation Engineer				
Environmental & Safety Engineer				
Architect/Building Equipment Engineer				
Supportive Staff				
Pls indicate .1.Office Manager- 2 CAD Operator etc.				

11.Client's input and Counterpart Personnel.

A certain range of arrangements and service will be provided by PCCL to the Consultant for smooth implementation of the Consulting Services. In this context PCCL will.

Report and data

Make available to the Consultant existing reports and data available with PCCL related to the Project as required.

Office Space

During the consultants shall have their own offices with necessary equipment and furniture. The Consultant's should be clearly stated in the proposal with cost for providing such facilities. Such equipment & furniture shall be handed over to the Client after completion of the project.