

REQUEST FOR PROPOSAL (RFP)

FOR SERVICES

Project Title:	Managing Coastal Aquifers in Selected Pacific SIDS (MCA Project)
Nature of the services	Development of a numerical groundwater model to assist with groundwater management in Laura, Majuro Atoll, Republic of Marshall Islands
Location:	Remote work with possibility to present final results to stakeholders in Majuro, RMI
Date of issue:	16/09/2022
Closing Date:	14/10/2022
SPC Reference:	22-4471

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Part 1: INTRODUCTION

1.1 About the Pacific Community (SPC)

The Pacific Community (SPC) is the principal scientific and technical organisation of the Pacific region, established by treaty in 1947 with the signing of the Agreement Establishing the South Pacific Commission (the Canberra Agreement).

SPC has our headquarters in Noumea, New Caledonia and has regional offices in Fiji, the Federated States of Micronesia and Vanuatu, as well as an office in France. SPC works across the Pacific and has staff in nearly all of our Pacific Island Country and Territory members.

SPC works for the well-being of Pacific people through the effective and innovative application of science and knowledge and is guided by a deep understanding of Pacific Island contexts and cultures. Our unique organisation covers more than 20 sectors and is renowned for knowledge and innovation in such areas as fisheries science, public health surveillance, geoscience and conservation of plant genetic resources for food security.

For more information about SPC and the work that we do, please visit our website: <https://www.spc.int/>.

1.2 SPC's procurement activities

SPC's procurement activities are guided by the principles of high ethical standards, value for money, open competition and social and environmental responsibility and are carried out under our Procurement Policy.

SPC's *Procurement Policy* provides the framework for ensuring that SPC obtains the best value for its purchases, in terms of both cost and quality; demonstrates financial probity and accountability to its members and development partners; manages and prevents the potential for conflicts of interest; reduces its environmental impact and manages any other risks.

At SPC, all procurement follows the same main steps: planning; statement of needs; requisition; solicitation; evaluation; award; receipt; and payment. Different procedures apply depending on the value of the goods, services and works to be procured.

For further information or enquiries about SPC's procurement activities, please visit the procurement pages on our website: <https://www.spc.int/procurement> or email: procurement@spc.int.

1.3 SPC's Request for Proposal (RFP) Process

At SPC, procurement valued at more than EUR 45,000 must be advertised through a Request for Proposal (RFP) with any bids received evaluated by SPC's Procurement Committee to determine the offer that provides the best value for money.

This RFP sets out SPC's requirements and it asks you, as a bidder, to respond in writing in a prescribed format with pricing and other required information. The RFP contains detailed instructions and templates to enable you to submit a compliant bid. It sets out the overall timetable; it confirms the evaluation criteria that SPC will use to evaluate quotations; it explains the administrative arrangements for the receipt of the bids; and it sets out how bidders can request further information.

Your participation confirms your acceptance of SPC's conditions of participation in the RFP process.

Part 2: INSTRUCTIONS TO BIDDERS

2.1 Background

SPC invites you to submit a bid to deliver the services as specified in [Part 3](#).

SPC has advertised this RFP on its website and may send it directly to potential vendors. The same specifications, submission and other solicitation requirements will be provided to all vendors.

SPC has compiled these instructions to guide prospective bidders and to ensure that all bidders are given equal and fair consideration.

Please read the instructions carefully before submitting your bid. For your bid to be considered, you must provide all the prescribed information by the closing date and in the format specified.

2.2 Submission instructions

Your submission must be clear, concise and complete and should only include information that is necessary to respond effectively to this RFP. Please note that you may be marked down or excluded from the procurement exercise if your submission contains any ambiguities or lacks clarity.

Your proposal must include the following documents (annexes of [Part 5](#) of the RFP):

- a) Bidder's Letter of Application (Annex 1);
- b) Conflict of Interest Declaration (Annex 2);
- c) Information about the bidder and Due diligence (Annex 3);
- d) Technical proposal submission form (Annex4);
- e) Financial proposal submission form (Annex 5).

Your proposal must be submitted in **two separate emails**.

You must submit your **Technical proposal** (Annexes 1 to 4 and all their supporting documents) in English as an attachment to one email. No financial information may appear in the technical proposal.

You must submit your **Financial proposal** (Annex 5) in a separate email. All prices in the proposal must be presented in USD. Your Financial proposal is to be password protected. SPC will request the password in the event that it is required.

Both emails are to be sent to procurement@spc.int with the subject line of your email as: **Submission 22-4471**.

Your proposal must be received no later than **14/10/2022** by **17:00 GMT +12**. Only one bid per bidder is permitted.

SPC will send a formal acknowledgement to each proposal received before the deadline.

SPC reserves the right to exclude from consideration any proposal not received by the deadline, with incomplete information or in incorrect form.

2.3 Clarifications

You may submit questions or seek clarifications on any issue relating to this RFP. The questions are to be submitted in writing to procurement@spc.int with the subject line: **Clarification 22-4471**. The deadline for submission of clarifications is **5/10/2022** by **17:00 GMT +12**.

Details will be kept of any communications between SPC and bidders. This assists SPC to ensure transparency

of the procurement process. While SPC prefers written communication in the RFP process, at any point where there is phone call or other conversation, SPC will keep a record or a file note of the exchange with prospective bidders.

2.4 Evaluation

Validity

Each proposal will be assessed for compliance with the submission requirements by the Bids Opening Committee. At this stage, basic due diligence will also be undertaken.

To assist in the examination, evaluation and comparison of proposals, SPC may ask the bidder for clarification of its proposal or additional information. The request for clarification will be in writing.

Technical

All valid proposals will be assessed against the technical evaluation criteria set out in Part 4. The criteria are provided with weighted scores according to the relative importance of each. SPC will not change the evaluation criteria set out in the RFP at any stage of the procurement process. Any changes in the evaluation criteria will result in the RFP process being re-issued.

Bidders are expected to familiarise themselves with local conditions and take these into account in preparing their proposal. Where minimum qualifications are set as specific evaluation criteria, these could include educational qualification, professional accreditation or certification, licensing, experience and expertise.

Financial

Any bids that pass the minimum technical evaluation requirements will pass onto financial evaluation.

During the financial evaluation, if there is a discrepancy between the unit price and the total price, the lower price shall prevail. If there is a discrepancy between words and figures the amount in words will prevail.

The total cost of the proposal is to be inclusive of any taxes and is not subject to revision.

2.5 Contract award

SPC may award the contract once the Procurement Committee has determined that a bidder has met the prescribed requirements and the bidder's proposal has been determined to be the most responsive to the RFP documents, provide the best value for money and best serve the interests of SPC.

SPC's [General Terms and Conditions of Contract](#) will apply to any contracts awarded under this RFP, unless otherwise agreed. Any requested changes to the General Terms and Conditions of Contract must be foreshadowed in the submission.

The award of the contract will be made by contract signed and dated by both parties.

2.6 Key dates

Please see the proposed procurement timetable in the table below. This timetable is intended as a guide only and while SPC does not intend to depart from the timetable, it reserves the right to do so at any stage.

STAGE	DATE
RFP advertised	16/09/2022
Deadline for seeking clarification	5/10/2022
RFP Closing Date	14/10/2022
Award of Contract	31/11/2022

Commencement of Contract	5/12/2022
Conclusion of Contract	30/10/2023

2.7 Legal and compliance

Child and vulnerable adult protection: SPC is committed to the well-being of children and vulnerable adults. All SPC contractors are required to commit to the principles of SPC's Child and Vulnerable Adult Protection Policy ([XI.G Manual of Staff Policies](#)). Breach of this requirement can result in SPC terminating any contract with a successful bidder. Any allegations of potential misconduct in relation to this RFP involving children or vulnerable adults should be sent to complaints@spc.int.

Confidentiality: Unless otherwise agreed by SPC in advance or where the contents of the RFP are already in the public domain when **shared** with the bidder, bidders shall at all times treat the contents of the RFP and any related documents as confidential. SPC will also treat the information it receives from the bidders as confidential.

Conflict of interest: Bidders must take all necessary measures to prevent any situation of conflict of interest. You must notify SPC in writing as soon as possible of any situation that could constitute a conflict of interest during the RFP process. If you have any familial connection with SPC staff, this must be declared, and approval will then be sought for you to engage in the RFP process. Breach of this requirement can result in the exclusion of the bidder from the RFP process or in SPC terminating any contract with a successful bidder.

Cost of preparation of quotations: Under no circumstances will SPC be liable for any proposal submission costs, expenditure, work or effort that you may incur in relation to your provision of a proposal (including if the procurement process is terminated or amended by SPC).

Currency, validity, duties, taxes: Unless specifically otherwise requested, all proposals should be in USD and must be net of any direct or indirect taxes and duties and shall remain valid for 120 days from the closing date. The successful bidder is bound by their proposal for a further 60 days following notification they are the preferred bidder so that the contract may be awarded. No price variation due to escalation, inflation, fluctuation in exchange rates, or any other market factors shall be accepted at any time during this period.

Eligibility: Bidders are required to disclose to SPC whether they are subject to any sanction or temporary suspension imposed by any international organisation, or whether they are subject to bankruptcy proceedings. You may not be bankrupt or suspended, debarred, or otherwise identified as ineligible by any international organisation. Failure to disclose such information may result in debarment and termination of any contract issued to the bidder by SPC.

Fraud and corruption: SPC has zero tolerance for fraud and corruption. All contractors have an obligation to report potential fraud and corruption. Breach of this requirement can result in the exclusion of the bidder from the RFP process or in SPC terminating any contract with a successful bidder. Allegations of potential misconduct by an SPC staff member or contractor involving fraud or corruption can be sent to complaints@spc.int.

Good faith: The information in this RFP is provided by SPC in good faith. No representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability will be accepted by SPC in relation to the adequacy, accuracy, completeness or reasonableness of this RFP or any information provided by SPC in relation to this RFP.

Modifications: Any clarifications, corrections or modifications will be published on the SPC website prior to deadline. In the event a bidder has submitted a bid before the clarification, correction or modification, the bidder will be informed and may modify the bid. The modified bid will still need to be received before the deadline.

No offer of contract or invitation to contract: This RFP is not an offer to contract or an invitation by SPC to

enter into a contract with you.

Privacy: The bidder is to comply with the requirements of applicable legislation and regulatory requirements in force for the use of personal data that is disclosed for the purposes of this RFP. SPC will handle any personal information it receives under the RFP in line with its [Privacy Policy](#), and the [Guidelines for handling personal information of bidders and grantees](#).

Right to amend, seek clarity, withdraw, not award: SPC reserves the right to: (1) amend, add to or withdraw all or any part of this RFP at any time, or to re-invite bids on the same or any alternative basis; (2) seek clarification or documents in respect of any bidder's submission; (3) choose not to award a contract as a result of this RFP; (4) make whatever changes it sees fit to the timetable, structure or content of the procurement process, depending on approvals processes or for any other reason. Please note that while SPC will not change the evaluation criteria set out in the RFP without the RFP process being re-issued, SPC does reserve the right at the time of award of contract to vary the quantity of services and goods specified in the RFP and to accept or reject any proposal at any time prior to award of the contract without incurring any liability to the affected bidder or any obligation to inform the affected bidder/s of the grounds for SPC's action.

Right to disqualify: SPC reserves the right to disqualify: (1) any bidder that does not submit a proposal in accordance with the instructions in this RFP; (2) any bidder that misrepresents information to SPC; (3) any bidder that directly or indirectly canvasses any SPC employee concerning the award of a contract.

Use of material: Bidders shall not use the contents of the RFP or any related material for any purpose other than for the purpose of considering submitting, or submitting, a bid to SPC.

Warranty, representation, assurance, undertaking: The bidder acknowledges and agrees that no person has any authority to give any warranty, representation, assurance or undertaking on behalf of SPC in connection with any contract which may (or may not) follow on from this RFP process.

2.8 Complaints process

Bidders that consider they were not treated fairly during any SPC procurement process may lodge a protest. The protest should be addressed to complaints@spc.int. The bidder must provide the following information: (1) full contact details; (2) details of the relevant procurement; (3) reasons for the protest, including how the alleged behaviour negatively impacted the bidder; (4) copies of any documents supporting grounds for protest; (5) the relief that is sought.

Part 3: Terms of Reference

A. Background

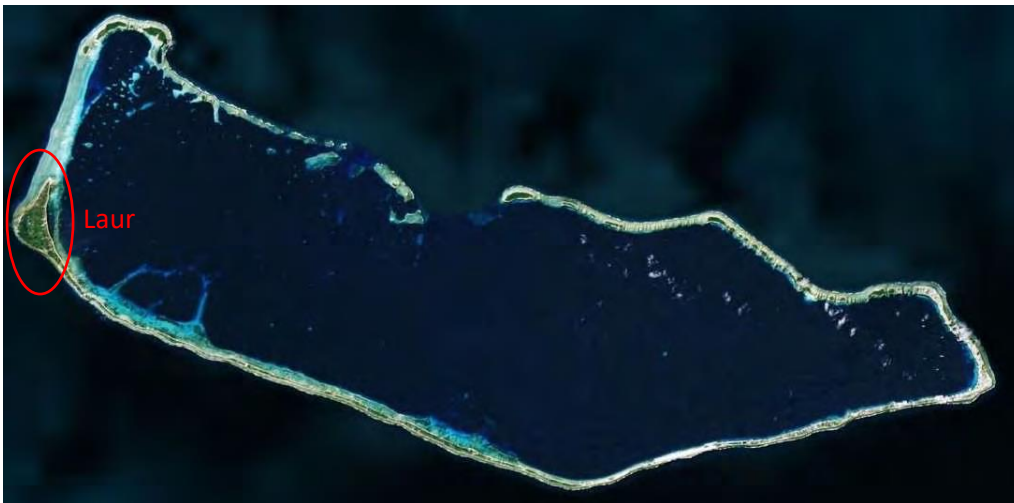
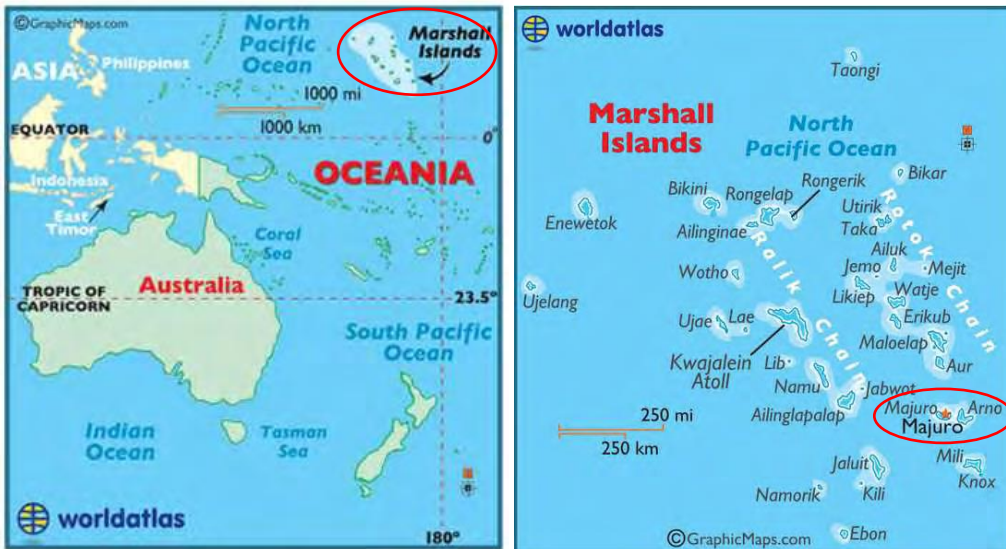
SIDS rely on small coastal aquifers for their water supply needs. These coastal aquifers are fragile thin freshwater lenses that float on the underlying denser seawater and are reliant on rainfall for recharge. These coastal aquifers are at higher risk of impact to water quality deterioration from threats including saltwater contamination from sea level rise, over abstraction, wave overtopping, loss of aquifer area through coastal erosion, and other impacts on water quality from inappropriate land-use activities. Climate change exacerbates these long-running threats to coastal aquifers through increased climate variability and climate extremes. The fragility of coastal fresh groundwater systems necessitates careful management and protection to ensure their long-term integrity and their role in climate change adaptation strategies and improved water security.

The Pacific Community (SPC) in collaboration with UNDP is currently implementing the Managing Coastal Aquifers (MCA) Project funded by the Global Environment Facility (GEF), a regional project taking place in the Republic of Marshall Islands (RMI), Republic of Palau, and Tuvalu. The USD 5.2 million project aims at improving the understanding, use, management and protection of coastal aquifers towards enhanced water security, including in the context of a changing climate. More specifically it aims at:

- 1) identifying the extent, threats and the development potential of groundwater resources,
- 2) increasing awareness of groundwater as a water security supply source,
- 3) providing options for improved access to groundwater,
- 4) and improving aquifer protection and management, within Pacific Small Island Developing States.

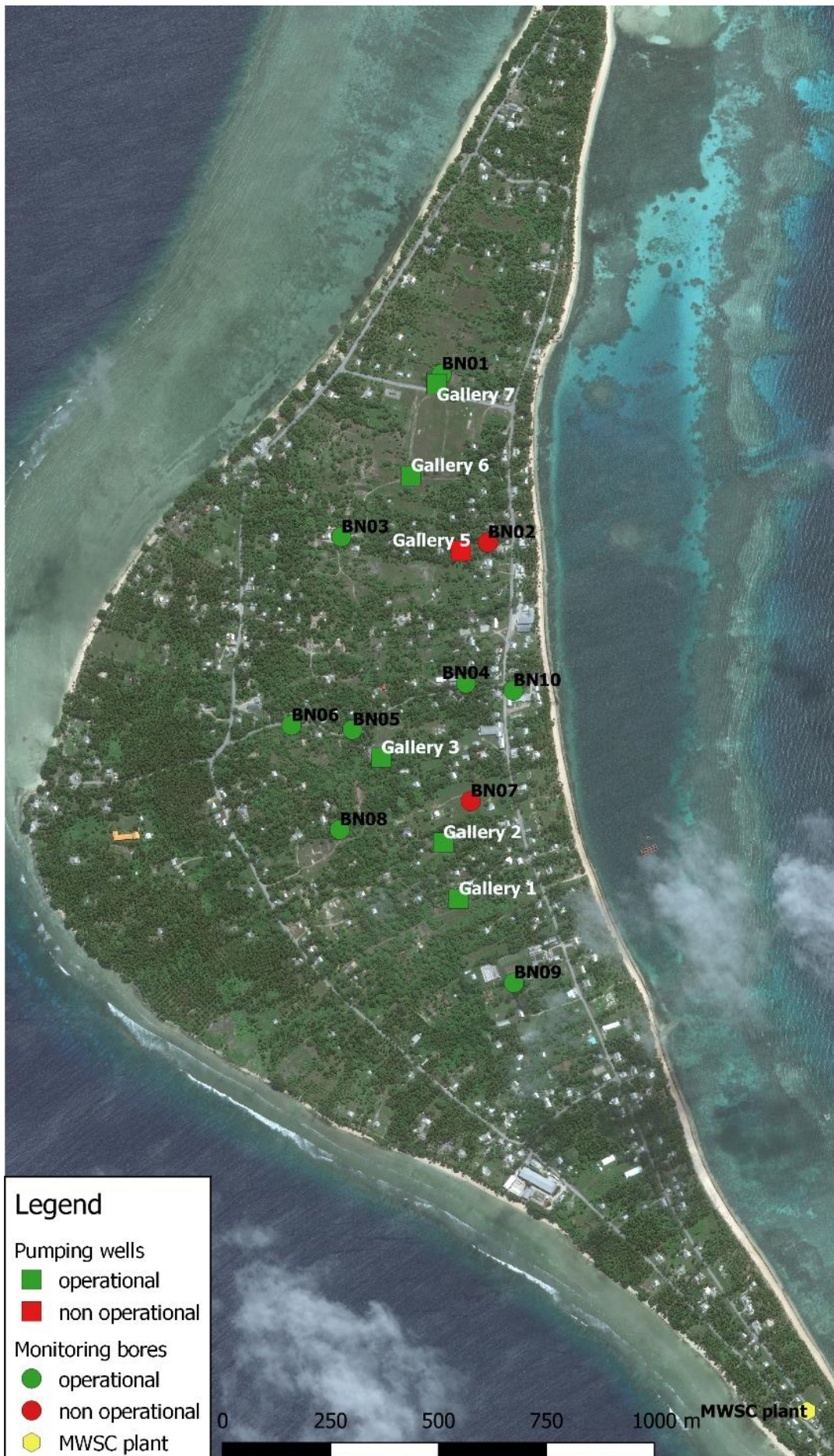
Context

Laura village is located on the largest islet within Majuro Atoll. The combination of large land area, suitable geology, and adequate rainfall has allowed for unique hydrogeological conditions resulting in the formation of a fresh groundwater lens. The dominantly rural and low-density activities taking place in the area makes Laura an ideal location for the development of a water supply for the residents of Majuro Atoll. The Laura freshwater lens has been developed by the Majuro Water and Sewer Company (MWSC) since 1991 for public water supply via six (currently five) horizontal wells (also called infiltration galleries) which were installed at shallow depth below the water table skimming the freshest part of the lens. This type of well design allows for sustainable groundwater abstraction while delaying saltwater intrusion (due to up-coning effects) which can compromise the abstracted groundwater quality. Infiltration galleries have been particularly efficient in low lying islands and coastal areas where freshwater lenses are developed for public water supply. The galleries installed in Laura were designed to yield 80,000 gal/d each (Presley 2005). Gallery arms extend approximately 45 m in each direction. The galleries pump groundwater to an underground storage tank of 30,000 gallons (114 m³) located at the Laura treatment plant. This storage acts as a balance tank, from which the treated water is then pumped directly to the residents of Laura and Ajeltake. During droughts (such as the 2015 drought), the Laura lens can be heavily relied upon as treated water is also pumped to the MWSC airport reservoirs to supply the larger population of DUD.



The existing monitoring network was installed in 1998 by the United States Geological Survey, to assess the impact of the 1998 drought on the freshwater lens in Laura. The network consists of 36 monitoring wells distributed over 10 sites and covering the extent of the freshwater lens. At each site, three to four monitoring wells were installed, reaching different depths to investigate the vertical and areal extent of the lens. Each well was constructed using a 2" diameter galvanized pipe having a 0.6 m long screen interval. At the moment (July 2022) only 8 sites are accessible (BN07 has been damaged and abandoned and BN02 is currently inaccessible due to land issues) with a total of 29 accessible monitoring wells.

The objective of the proposed work is to assist the RMI Government and particularly MWSC in evaluating practical approaches to sustainably manage the groundwater resources in Laura. The intention is to provide guidance on management and operation approaches for freshwater lenses that can be used by small water operators and communities to help maximize groundwater abstraction especially during droughts and seawater inundation from storm surge and manage saltwater intrusion deteriorating the abstracted water quality. It is expected that through the development of a calibrated numerical model, additional insight will be obtained around the behavior of the groundwater system and the impacts of external influences such as abstraction, storm surge inundation, and climatic stresses. This information may have direct benefits on the management of the lens and form a catalyst for future discussions on the protection and the sustainability of Laura's freshwater lens under a range of climate and management scenarios. The process to develop the numerical model will involve the participation of key stakeholders in RMI, including MWSC, RMI EPA, National Disaster Management Office, Laura Lens Committee, and SPC MCA project.



B. Purpose, objectives, scope of services

The scope of this consultancy is to develop a calibrated and validated numerical groundwater model for the Laura lens in consultation with the SPC MCA project team and key stakeholders in RMI.

The presence of an extensive groundwater monitoring network in Laura will allow for collection of adequate groundwater salinity data which in turn will allow for calibration and validation of the developed numerical model and enhance its reliability for prediction purposes. Since May 2022, hourly data on groundwater levels and electrical conductivity is being collected in a number of monitoring wells and galleries through automatic loggers. This monitoring data will be made available to the consultant to allow for calibration/validation of the numerical model. It is expected that having a calibrated model will allow testing various climatic and abstraction scenarios and observing their impacts on the freshwater lens and on the salinity of abstracted water. This will allow for the optimization of abstraction schemes, particularly useful to improve groundwater sustainability during droughts and increase the resilience of the Laura community who largely depend on groundwater. The numerical model will showcase how such tools can support evidence-based aquifer management and decision-making and will demonstrate the benefits of monitoring and data collection at the regional level.

The consultant will be required to conduct the following activities:

Activity 1: Groundwater model conceptualization

A conceptual model will be developed in consultation with the SPC MCA team and relevant stakeholders in RMI, drawing on atoll groundwater expertise and previous hydrogeological and groundwater studies and models. Data requirements will be compiled, additional needs determined, and strategies to acquire or generate necessary information will be outlined. Datasets that will be required and drawn upon for model development include surface topography (Lidar), groundwater level data (including their temporal variability), temporal and spatial groundwater salinity variations, land use and land cover, soil/geology data, drilling logs, geophysical data. Data are also needed on model forcings and stresses, including sea level data, groundwater abstraction, rainfall and evapotranspiration, salinity and groundwater level time series. This activity will also include a review to identify the most appropriate numerical code or the opportunity to build on existing models previously developed for the same or similar sites.

Output 1: Delivery of online presentation to SPC MCA project team and other relevant stakeholders describing conceptual model design and data needs.

Activity 2: Groundwater model construction, calibration and validation

A model of the existing groundwater system will be constructed, with a focus on historical lens behavior. This will require appropriate gridding of the model area and determination of aquifer properties and boundary conditions. Parameter estimation will be undertaken using an appropriate historical period of groundwater salinity data recorded in pumping wells (galleries) and monitoring wells. It is expected that meaningful calibration metrics will be identified and, when feasible (depending for example on run-time constraints), automated calibration software (e.g. PEST, UCODE_2005) will be used to finetune aquifer parameters and to improve the match between the model outputs and field measurements. Model validation will be performed by testing the model prediction ability using existing groundwater salinity data which were not used for the calibration process. Anticipate transient model to include the entire islet of Laura, within Majuro atoll, to provide greater understanding and guidance on operational recommendations under different scenarios identified under Activity 3

Output 2: Delivery of online presentation to SPC MCA project team and other relevant stakeholders describing the design of calibrated numerical groundwater model including sensitivity analysis of calibrated model parameters and model validation results.

Activity 3: Development of optimized management strategies based on future climatic scenarios and the impacts of predicted storm surge and sea level rise inundation scenarios

The calibrated transient 3D groundwater model will be used to simulate future climatic scenarios and examine the possible impacts on abstracted groundwater and the timing associated with lens recovery from increased salinity induced by reduced recharge and/or increased pumping. Additionally, the model will be used to identify the impacts of sea level rise and storm surge scenarios resulting in inundation impacts, using existing numerically modelled inundation scenarios.

This activity will capture the role of the model as a management tool, able to predict the aquifer's response under different external influences. As such, it will provide recommendations on possibilities to improve the existing abstraction schemes to maximize yields without compromising the abstracted water quality. More specifically, the sensitivity of existing pumping wells to salinity increases induced by increased pumping and/or reduced recharge should be assessed and quantified. Recommendations will be given with regards to management of pumping rates and pumping durations to allow for a maximized groundwater abstraction during dry periods or periods of inundation, without compromising the quality of abstracted groundwater and the health of the freshwater lens.

Output 3: Delivery of online presentation to SPC MCA project team and other relevant stakeholders with visualizations to indicate modelled scenario impacts, and recommendations on optimized groundwater management strategies based on future climatic scenarios.

Activity 4: Delivery of technical report and presentation of results

The Contractor is finally expected to compile all the information on model design, model calibration/validation results, parameter sensitivity analysis, groundwater management recommendations with regards to future climatic scenarios into a technical report, along with any visualizations tools used to present on the results. Furthermore, the Contractor is expected to deliver a working version of the actual groundwater model to SPC's MCA project team. A final online presentation is to be delivered to key RMI stakeholders and SPC's MCA project team. Contractor will be required to make themselves available to present on the final results in country to stakeholders, with costs of travel to be included in the financial proposal.

Output 4: Delivery of one technical report describing the model design and all associated results (incl. future climatic/management scenarios) and delivery of final presentation to key RMI stakeholders and SPC MCA project team.

C. Timelines

This consultancy will be delivered over a period of 10 months. The target date of commencement of the work is 5 December 2022 and the expected completion date is 30 October 2023. If necessary, the consultancy period may shift by one month to accommodate any unexpected delays preventing the commencement on the target date. The target deadline for the delivery of each expected output is presented in Section F below.

D. Reporting and contracting arrangements

The consultancy will be managed by the MCA project Regional Technical Advisor within SPC's Disaster and Community Resilience Programme under the Geoscience Energy Maritime (GEM) Division. Progress reporting will be monitored via the delivery of the Consultancy Outputs as detailed in Section B. Additional progress reporting may be required by the consultancy manager as needed.

The Contractor is expected to interact and collaborate with SPC's MCA project team as well as with key RMI stakeholders (MWSC, EPA, MWSO, Laura Lens Committee, NDMO, and others) in the course of this work. It is expected that these institutions and stakeholders will have an active role in providing data and information necessary for the delivery of the work.

The Contractor is expected to be home based, but country visit(s) will be considered where justified by the Contractor, inclusive of final presentation of results to stakeholders in RMI. Costs of travel related to delivery of Contract should be included in the budget proposal along with proposed travel arrangements and objectives.

E. Skills and qualifications

SPC seeks to engage a consultant or consultancy team with groundwater modelling expertise. Skills required are as follows:

- Tertiary degree or equivalent in hydrogeology or similar discipline.
- At least 10 years' experience in modelling density-driven groundwater flow in islands and coastal areas. Experience in Pacific Small Island States would be an advantage.
- Excellent analytical skills.
- Experience with multi-stakeholder participatory and consultative approaches especially in Pacific SIDS.
- Excellent interpersonal and communication skills and experience in a multicultural Pacific Island environment.
- Excellent English communication skills (oral and written).
- Ability to work independently and/or in a small team and provide deliverables in a timely manner.

F. Scope of Bid Price and Schedule of Payments

This is a milestone-based contract and will be paid in accordance with the payment schedule below. The terms of payment shall be in accordance with the provisions of Article 10 of the SPC General Conditions.

<u>Milestone/output</u>	<u>Deadline (Date)</u>	<u>% Payment</u>
Workplan and schedule for conducting the consultancy	5 December 2022	20%
Output 1: Delivery of online presentation to SPC MCA project team and other relevant stakeholders describing conceptual model design and data needs.	27 February 2022	10%
Output 2: Delivery of online presentation to SPC MCA project team and other relevant stakeholders describing the design of calibrated numerical groundwater model including sensitivity analysis of calibrated model parameters and model validation results.	12 June 2023	20%
Output 3: Delivery of online presentation to SPC MCA project team and other relevant stakeholders with visualizations to indicate modelled scenario impacts, and recommendations on optimized groundwater management strategies based on future climatic scenarios.	11 September 2023	20%
Output 4: Delivery and acceptance by SPC of one technical report describing the model design and all associated results (incl. future climatic/management scenarios) and delivery of final presentation to key RMI stakeholders and SPC MCA project team.	30 October 2023	30%

G. Indicative relevant literature

- Anthony S.S. 1985. Preliminary findings of the near surface geology of Laura Island, Majuro Atoll. University of Hawaii, Water Resource Centre, Hawaii, USA.
- Griggs J.E. and Peterson F. 1989. Groundwater flow and development alternatives: A numerical simulation of Laura, Majuro Atoll, Marshall Islands, technical report. Water Resources Research Center, University of Hawaii at Manoa, Honolulu, Hawaii, USA.
- Hamlin S.N. and Anthony S.S. 1987. Ground-water resources of the Laura area, Majuro Atoll, Marshall Islands. U.S. Geological Survey Water – Resources investigation report 1987, 87-4047.
- Jansen S.W. 2021. Quantifying fresh groundwater lens behaviour for Laura island. MSc thesis
- Japan International Research Center for Agricultural Sciences. 2015. Laura lens conservation and management manual, Laura Island, Majuro Atoll, Republic of the Marshall Islands, Japan International Research Center for Agricultural Sciences.
- Mink J.F. 1996. Groundwater from Laura Island, Majuro Atoll. Proposed additional development report: Prepared for Parsons Engineering Science by Mink and Yuen, Inc.
- Post, V., Bosserelle, A., Galvis, S., Sinclair, P., & Werner, A. 2018. On the resilience of small island freshwater lenses: Evidence of the long-term impacts of groundwater abstraction on Bonriki Island, Kiribati. *Journal of Hydrology*, 133-138.
- Presley T.K. 2005. Effects of the 1998 drought on the freshwater lens in the Laura Area, Majuro Atoll, Republic of the Marshall Islands. U.S. Geological Survey Scientific Investigations Report 2005-5098. 40 p.
- SPC. 2017. Climate and Abstraction Impacts in Atoll Environments (CAIA) – Assessment of the 2015–2016 drought impacts on the fresh groundwater lens at Laura, Majuro Atoll, Republic of the Marshall Islands. SPC Technical Report SPC00055). Suva, Fiji. SPC, Geoscience Division of the Pacific Community.
- SPC. 2017. Climate and Abstraction Impacts in Atoll Environments (CAIA) – Sustainable management of the Bonriki Water Reserve, Tarawa, Kiribati. SPC Technical Report SPC00054. Suva, Fiji. SPC, Geoscience Division of the Pacific Community.
- Werner, A., Sharp, H., Galvis, S., Post, V., & Sinclair, P. 2017. Hydrogeology and management of freshwater lenses on atoll islands: Review of current knowledge and research needs. *Journal of Hydrology*, 819-844.

Part 4: PROPOSAL EVALUATION MATRIX

4.1 Evaluation criteria & Score Weight

A two-stage procedure will be utilised to evaluate the proposals, with evaluation of the technical proposal being completed prior to any financial proposal being opened and compared.

The competencies which will be evaluated are detailed in [Part 3](#).

The evaluation matrix below also reflects the obtainable score specified for each evaluation criterion (technical requirement) which indicates the relative significance or weight of the items in the overall evaluation process.

The technical component, which has a total possible value of 700 points, will be evaluated using the following criteria.

Evaluation criteria	Score Weight (%)	Points obtainable
Organisational requirements		
<ul style="list-style-type: none"> Tertiary degree or equivalent in hydrogeology or similar discipline. 		<p>Mandatory requirements Bidders will be disqualified if any of the requirements are not met</p>
Technical requirements		
Technical criterion 1		
<ul style="list-style-type: none"> At least 10 years' experience in modelling density-driven groundwater flow in islands and coastal areas. Experience in Pacific Small Island States would be an advantage. 	25%	175
Technical criterion 2		
<ul style="list-style-type: none"> Experience with multi-stakeholder participatory and consultative approaches especially in Pacific SIDS. 	20%	140
Technical criterion 3		
<ul style="list-style-type: none"> Excellent interpersonal and communication skills and experience in a multicultural Pacific Island environment. 	15%	105

Technical criterion 4		
<ul style="list-style-type: none"> Excellent analytical skills 	15%	105
Technical criterion 5		
<ul style="list-style-type: none"> Proposed workplan and schedule 	25%	175
Total Score	100%	700
Qualification score	70%	490

Click or tap here to enter text.

4.2 Financial evaluation

The financial component of the proposal will be scored on the basis of overall costs for the delivery of the services and financial incentives and benefits provided to SPC. The lowest financial proposal will be awarded maximum 300 points and other financial offers and incentives will be awarded points as per the formula below:

$$\text{Financial Proposal score} = (\text{Lowest Price} / \text{Price under consideration}) \times 300$$

Part 5: PROPOSAL SUBMISSION FORMS

Annex 1: BIDDER'S LETTER OF APPLICATION

Dear Sir /Madam:

Having examined the Solicitation Documents, the receipt of which is hereby duly acknowledged, we the undersigned, offer to supply the required services for the sum as may be ascertained in accordance with the Financial Proposal attached herewith and made part of this proposal.

We acknowledge that:

- SPC may exercise any of its rights set out in the Request for Proposal documents, at any time;
- The statements, opinions, projections, forecasts or other information contained in the Request for Proposal documents may change;
- The Request for Proposal documents are a summary only of SPC's requirements and is not intended to be a comprehensive description of them;
- Neither the lodgement of the Request for Proposal documents nor the acceptance of any tender nor any agreement made subsequent to the Request for Proposal documents will imply any representation from or on behalf of SPC that there has been no material change since the date of the Request for Proposal documents, or since the date as at which any information contained in the Request for Proposal documents is stated to be applicable;
- Excepted as required by law and only to the extent so required, neither SPC, nor its respective officers, employees, advisers or agents will in any way be liable to any person or body for any loss, damage, cost or expense of any nature arising in any way out of or in connection with any representations, opinions, projections, forecasts or other statements, actual or implied, contained in or omitted from the Request for Proposal documents.

We undertake, if our proposal is accepted, to commence and complete delivery of all items in the contract within the time frame stipulated.

We understand that you are not bound to accept any proposal you may receive and that a binding contract would result only after final negotiations are concluded on the basis of the Technical and Financial Components proposed.

For the Bidder: *[insert name of the company]*

Signature:

Name of the Bidder's representative: *[insert name of the representative]*

Title: *[insert Title of the representative]*

Date: *[Click or tap to enter a date]*

Annex 2: CONFLICT OF INTEREST DECLARATION

INSTRUCTIONS TO BIDDERS

What is a conflict of interest?

A conflict of interest may arise from economic or commercial interests, political, trade union or national affinities, family, cultural or sentimental ties, or **any other type of relationship or common interest between the bidder and any person connected with the contracting authority** (SPC staff member, consultant or any other expert or collaborator mandated by SPC).

Always declare a conflict

The existence of a potential or apparent conflict of interest does not necessarily prevent the bidder concerned from taking part in a tender process. **However, the declaration of the existence of such a conflict by the persons concerned is essential and allows SPC to take appropriate measures to mitigate it and prevent the associated risks.**

Bidders are therefore invited to declare any situation, fact or link which, to their knowledge, could generate a real, potential or apparent conflict of interest.

Declaration at any time

Conflicts of interest may arise at any time during the procurement process or the implementation of a contract (e.g. new partner in the project) or as a result of a change in personal life (e.g. marriage, inheritance, financial transaction, creation of a company). If such a relationship is found and could be perceived by a reasonable person as likely to influence a decision, a declaration of the situation is necessary. In case of doubt, a conflict situation must be declared.

Declaration for any person involved

A declaration must be completed for each person involved in the tender (principal representative of the bidder, possible subcontractors, consultant, etc.)

Failure

Failing to declare a potential conflict of interest may result in the bidder being refused a contract or placed on SPC's list of non-responsible suppliers.

DECLARATION

I, the undersigned, *[name of the representative of the Bidder]*, acting in the name and on behalf of the company *[name of the company]*, declare that:

<input type="checkbox"/>	To my knowledge, I am not in a conflict-of-interest situation
<input type="checkbox"/>	There is a potential conflict of interest with regard to my <i>[Choose an item]</i> . relationship with <i>[name of the person concerned]</i> in his or her capacity as <i>position/role/personal or family link with the person concerned</i>], although, to the best of my knowledge, this person is not directly or indirectly involved in any stage of the procurement process
<input type="checkbox"/>	I may be in a conflict of interest with regard to my <i>[Choose an item]</i> relationship with <i>[name of the person concerned]</i> in his or her capacity as <i>position/role/personal or family link with the person concerned</i>], as this person is, to the best of my knowledge, directly or indirectly linked to the procurement process
<input type="checkbox"/>	To my knowledge, there is another situation that could potentially constitute a conflict of interest: <i>[Describe the situation that may constitute a conflict of interest]</i>

In addition, I undertake to:

- declare, without delay, to SPC any situation that constitutes a potential conflict of interest or is likely to lead to a conflict-of-interest;
- not to grant, seek, obtain or accept any advantage, whether financial or in kind, to or from any person where such advantage constitutes an unfair practice or an attempt at fraud or corruption, directly or indirectly, or constitutes a gratuity or reward related to the award of the contract;
- to provide accurate, truthful and complete information to SPC in connection with this procurement process.

I acknowledge that I and/or my company and/or my business partners who are jointly and severally bidding on the RFP *[SPC Reference]* may be subject to sanctions such as being placed on SPC's list of non-responsible vendors, if it is established that false statements have been made or false information has been provided.

For the Bidder: *[insert name of the company]*

Signature:

Name of the representative: *[insert name of the representative]*

Title: *[insert Title of the representative]*

Date: *[Click or tap to enter a date]*

Annex 3: INFORMATION ABOUT THE BIDDER AND DUE DILIGENCE

Please complete the following questionnaire and provide supporting documents where applicable.

VENDOR INFORMATION			
Are you already registered as an SPC vendor?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
If 'No', please complete the form. If 'Yes', do you have any information to update?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
If 'Yes', please complete the form. If 'No', sign directly the form without completing it			
1. Please provide information related to your entity.			
Company name	<i>[Enter company name]</i>	Address	<i>[Enter address]</i>
Director/CEO	<i>[Enter name of the executive person]</i>	Position	<i>[Enter position of the executive person]</i>
Business Registration/License number	<i>[Enter company registration/license number (or tax number)]</i>		
Date of business registration	<i>[Enter date of business registration]</i>		
Country of business registration	<i>[Enter country of business registration]</i>		
Status of the entity:			
<input type="checkbox"/> For-profit entity (company), <input type="checkbox"/> NGO, <input type="checkbox"/> International organisation, <input type="checkbox"/> Government body, <input type="checkbox"/> University, <input type="checkbox"/> Association, <input type="checkbox"/> Research Institute, <input type="checkbox"/> Other: <i>[insert details]</i>			
2. Please provide the following documents (or any other relevant documents according to your national legislation) to verify the legal existence of the entity, the authority of its officer and proof of its address:			
<input type="checkbox"/> Evidence of the power of attorney or board resolution granted to the officer to transact business on its behalf or any other document delegating authority <input type="checkbox"/> Certificate of business registration/license <input type="checkbox"/> Memorandum, Articles or Statutes of Association <input type="checkbox"/> Telephone or electricity bill in the name of the entity <input type="checkbox"/> Bank statement bearing the name of the entity			
3. How many employees does your company and its subsidiaries have?		<i>[provide answer]</i>	
4. Do you have professional insurance against all risks in respect of your employees, sub-contractors, property and equipment?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
5. If 'no', what type of business insurance do you have?		<i>[provide answer]</i>	
6. Are you up to date with your tax and social security payment obligations?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
7. Is your entity regulated by a national authority?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
<i>If you answered 'yes', please specify the name:</i>		<i>[Insert name of the national regulation authority]</i>	
8. Is your entity a publicly held company?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
9. Does your entity have a publicly available annual report?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
<i>Please send SPC your audited financial statement from the last 3 financial years if available</i>			

DUE DILIGENCE			
10. Does your entity have foreign branches and/or subsidiaries?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
<i>If you answered 'yes' to the previous question, please confirm the branches.</i>			
• Head Office & domestic branches		<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Domestic subsidiaries		<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Overseas branches		<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Overseas subsidiaries		<input type="checkbox"/> Yes	<input type="checkbox"/> No
11. Does your entity provide financial services to customers determined to be high risk including but not			

limited to:					
Foreign Financial Institutions	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Casinos	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Cash Intensive Businesses	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Foreign Government Entities	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Non-Resident Individuals	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Money Service Businesses	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="checkbox"/> Other, please provide details:			[Provide details]		
12.If you answered 'yes' to any of the boxes in question 11, does your entity's policies and procedures specifically outline how to mitigate the potential risks associated with these higher risk customer types?				<input type="checkbox"/> Yes	<input type="checkbox"/> No
If you answered 'yes', please explain how:			[Provide explanation]		
13.Does your entity have a written policy, controls and procedures reasonably designed to prevent and detect fraud, corruption, money laundering or terrorist financing activities?				<input type="checkbox"/> Yes	<input type="checkbox"/> No
If 'yes', please send SPC your policy in English.					
14.Does your entity have an officer responsible for anti-corruption, or anti-money laundering and counter-terrorism financing policy?				<input type="checkbox"/> Yes	<input type="checkbox"/> No
If yes, please state that officer's contact details:			[Insert name and contact details of your officer in charge]		
If 'no', what process does your entity have in place to prevent and detect money laundering or terrorist financing activities?				[provide answer]	
15.Has your entity or any affiliated entity ever filed for bankruptcy?				<input type="checkbox"/> Yes	<input type="checkbox"/> No
16.Have any of the entity's current or former directors or CEO filed for bankruptcy?				<input type="checkbox"/> Yes	<input type="checkbox"/> No
17.Has your entity ever been the subject of any investigations or had any regulatory or criminal enforcement actions resulting from violations of any laws or regulations, including those relating to money laundering or terrorism financing?				<input type="checkbox"/> Yes	<input type="checkbox"/> No
If you answered 'yes', please provide details:			[Provide details]		
18.Has the director or CEO of your entity ever been the subject of any investigations or had any regulatory or criminal enforcement actions resulting from violations of any laws or regulations, including those relating to money laundering or terrorism financing?				<input type="checkbox"/> Yes	<input type="checkbox"/> No
If you answered 'yes', please provide details:			[Provide details]		

SOCIAL AND ENVIRONMENTAL RESPONSIBILITY (SER)

19.Does your entity have a written policy, controls and procedures to implement its Social and Environmental Responsibility (SER) commitments?				<input type="checkbox"/> Yes	<input type="checkbox"/> No
If yes, please send SPC your policy in English.					
Does your Policy cover the followings?					
<input type="checkbox"/> Child protection <input type="checkbox"/> Human rights <input type="checkbox"/> Gender equality <input type="checkbox"/> Social inclusion <input type="checkbox"/> Sexual harassment, abuse or exploitation <input type="checkbox"/> Environmental responsibility					
Please, outline the major actions you have undertaken in these areas:			[provide answer]		
20.Does your entity have an officer responsible for Social and Environmental Responsibility (SER)?				<input type="checkbox"/> Yes	<input type="checkbox"/> No
If yes, please state that officer's contact details:			[Insert name and contact details of your officer in charge]		
If 'no', what process does your entity have in place to ensure your social and environmental responsibility?				[provide answer]	

I declare that the particulars given herein above are true, correct and complete to the best of my knowledge, and the documents submitted in support of this form are genuine and obtained legally from the respective issuing authority.

I declare that none of the funds received or to be received by my company will be used for criminal activities, including financing terrorism or money laundering.

By sending this declaration to SPC, I agree that my business and personal information may be used by SPC for due diligence purposes. I also understand and accept that SPC will treat any personal information it receives in connection with my proposal in accordance with its [Privacy Policy](#), and the [Guidelines for handling personal information of bidders and grantees](#).

For the Bidder: *[insert name of the company]*

Signature:

Name of the representative: *[insert name of the representative]*

Title: *[insert Title of the representative]*

Date: *[Click or tap to enter a date]*

Annex 4: TECHNICAL PROPOSAL SUBMISSION FORM

[SPC Reference number]

TECHNICAL PROPOSAL SUBMISSION FORM – SERVICES

INSTRUCTIONS TO BIDDERS

The Technical Proposal Submission Form is a table that includes the technical criteria (set out in Part 3) on which bidders will be scored and allows the bidder to respond to them. This table is then used by the technical evaluation committee to score the technical proposals received.

The table below is an example of a format that can be modified. In all cases, the Technical Proposal Form should be based on the evaluation matrix and SPC statement of needs.]

Technical Requirements	
Evaluation criteria	Response by Bidder
Experience and specified personnel/sub-contractors	
Experience: Tertiary degree or equivalent in hydrogeology or similar discipline.	Experience:
	[insert details of relevant experience]
	Details for three references:
	1. Client's name: [insert name of client 1]
	Contact name: [insert name of contact]
	Contact details: [insert contact details]
	Value contract: [insert value of contract]
	2. Client's name: [insert name of client 2]
	Contact name: [insert name of contact]
	Contact details: [insert contact details]
	Value contract: [insert value of contract]
	3. Client's name: [insert name of client 3]
	Contact name: [insert name of contact]
	Contact details: [insert contact details]
Value contract: [insert value of contract]	
Personnel: [insert details of the personnel/su-contractors required]	Details about personnel/sub-contractors
	Manager's experience: [insert details about manager's experience]
	Consultants' experience: [insert details about consultants' experience]
Technical criterion 1	
At least 10 years' experience in modelling density-driven groundwater flow in islands and coastal areas. Experience in Pacific Small Island States would be an advantage.	[Bidder's answer]

Technical criterion 2	
Experience with multi-stakeholder participatory and consultative approaches especially in Pacific SIDS.	<i>[Bidder's answer]</i>
Technical criterion 3	
Excellent interpersonal and communication skills and experience in a multicultural Pacific Island environment.	<i>[Bidder's answer]</i>
Technical criterion 4	
<ul style="list-style-type: none"> • Excellent analytical skills 	<i>[Bidder's answer]</i>
Technical criterion 5	
<ul style="list-style-type: none"> • Proposed workplan and schedule • Detailed workplan indicating travel, or other specific requirements to achieve successful implementation 	<i>[Bidder's answer]</i>

For the Bidder: *[insert name of the company]*

Signature:

Name of the representative: *[insert name of the representative]*

Title: *[insert Title of the representative]*

Date: *[Click or tap to enter a date]*

Annex 5: FINANCIAL PROPOSAL SUBMISSION FORM

INSTRUCTIONS TO BIDDERS

In their financial proposal, bidders should detail as much as possible the price requested in response to the technical specifications.

Wherever possible, this should be stated as a lump sum and then as a total amount (e.g. lump sum can be: daily rate for a consultant, a project manager, a developer, a scientist, lump sum for the organisation of an event, price of a consultation and total amount can be: number of days of drafting required to produce the report, number of meetings required, number of conferences, workshops, etc.).

Good detail in their financial proposal helps bidders to give clarity and transparency to their proposal and makes it easier for SPC to score the proposals received.

The contract to be concluded with the selected bidder must mention all the costs incurred for the execution of the assignment entrusted to him. No additional costs can be claimed from SPC after the contract has been signed. Bidders must mention in their financial proposal all additional costs foreseen for the execution of the contract (material, equipment, travel, etc.). These costs will either be included in their fees, paid or reimbursed by SPC upon presentation of supporting documents. In any case, they must be estimated by the bidder in its financial proposal and will form an integral part of SPC's evaluation of proposals.

Bidders must also mention any special conditions relating to the amount of their proposal or the terms of payment.

The financial proposal must be submitted Inclusive of tax in accordance with the applicable legislation. However, the final amount of the awarded contract may be paid to the successful bidder inclusive or exclusive of taxes, depending on the tax exemptions enjoyed by SPC as an intergovernmental organisation in its member countries and territories.

The following form is given as an indication, the bidder may submit its financial proposal to SPC in another format, provided that it complies with the instructions detailed in this RFP/RFQ and in particular:

Include indication of travel costs for the project implementation

BIDDER'S FINANCIAL PROPOSAL – SERVICES

Services description	Total Amount USD
Delivery of output 1	[total amount]
Delivery of output 2	[total amount]
Delivery of output 3	[total amount]
Delivery of output 4	[total amount]
Travel expenses	[total amount]
Other costs (please provide a breakdown)	[total amount]
Total	[Total]

No payment will be made for items which have not been priced. Such items are deemed to be covered by the financial offer.

Bidders will be deemed to have satisfied themselves, before submitting their proposal and to its correctness and completeness, taking into account of all that is required for the full and proper performance of the contract and to have included all costs in their rates and prices.

For the Bidder: *[insert name of the company]*

Signature:

Name of the representative: *[insert name of the representative]*

Title: *[insert Title of the representative]*

Date: *[Click or tap to enter a date]*