



Request for Proposals (RFP)

The provision of services in development of Industrial Solar Thermal Systems Training Course Materials on behalf of the NCPC-SA

RFP No. 3536/31/08/2022

Date of Issue	Wednesday, 17 August 2022	
Closing Date	Wednesday, 31 August 2022	
Bid Submission and queries	tender@csir.co.za	
Enquiries	Strategic Procurement Unit	E-mail: tender@csir.co.za
CSIR business hours	08h00 – 16h30	
Category	Professional Services	

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SECTION A – TECHNICAL INFORMATION

1 INTRODUCTION

This work is commissioned by the National Cleaner Production Centre, South Africa (NCPC-SA), as part of its commitment in the areas of climate change, sustainable development, and resource efficiency. The focus of this work is the development of Solar Thermal training materials for industrial and commercial sector applications in order to raise awareness and capacitate national energy engineers and experts in the evaluation, identification and implementation of solar thermal systems to offset national electricity grid demand and promote decarbonisation. The training material developed according to these terms of reference will be used to capacitate and develop a national base of solar thermal practitioners and promote its application in the industrial and commercial sectors.

2 BACKGROUND

The National Cleaner Production Centre, South Africa (NCPC-SA) is a green economy implementation program of Government, funded by the Department of Trade, Industry and Competition (the dtic) and hosted by the Council for Scientific and Industrial Research (CSIR). The NCPC-SA supports Government's efforts to achieve sustainable industrial development and lay the policy and institutional foundations for the development of a vibrant private sector. The promotion of sustainable production is an essential element of any sustainable economic development.

The NCPC-SA has long recognized that environmental issues must be addressed, and cleaner production methodologies must be promoted at a systemic level in industrial development. The promotion of resource efficiency requires a perspective and a decision-making process that simultaneously considers both economic value and environmental sustainability. Improved resource efficiency also applies to energy, where it reduces greenhouse gas emissions from energy generation and use, materials extraction and processing, transportation, and waste disposal. Sustainable industrial energy strategies that include the adoption of renewable energy sources, as well as energy efficiency, are thus key for addressing climate change by transitioning the economy onto a lower-carbon path.

Against this background, the NCPC-SA provides resource-efficient and low-carbon/energy efficient capacity building, for the implementation of multilateral environmental agreements.

3 INVITATION FOR PROPOSAL

Proposals are hereby invited to develop Industrial Solar Thermal Systems training course materials.

The NCPC-SA is committed to capacity building and has placed great emphasis on the need to develop green skills. The intention is to address immediate scarce and critical skills through developing and offering new and relevant training courses and recognizing green skills. The successful service provider will be required to map national thermal users to establish the potential and type of solar thermal applications most appropriate for the South African industrial sector, review solar thermal studies and pilot programmes undertaken in South Africa since 2005, survey existing national and international solar thermal training courses, to benchmark and align the end user content with best available and relevant programmes and technologies and avoid costly and time consuming duplication. The service provider is requested to develop the 2-day Solar Thermal Systems End User training as well as the Expert training material in soft copy and in English as defined in point 5 below. Suggested peer programmes to earmark for benchmarking:

- GIZ - <https://www.giz.de/en/worldwide/312.html>
- Fraunhofer - <https://www.fraunhofer.de/en.html>
- RENAC - <https://www.renac.de/>
- SANEDI - <https://www.sanedi.org.za/>
- CSIR Energy Centre - <https://www.csir.co.za/energy-research-centre>

4 PROPOSAL SPECIFICATION

4.1 End User training material development activities

Key elements to be developed by the service provider comprise the following material:

- An End User course curriculum document (using the NCPC-SA template) outlining the target audience, objectives and outcomes of the training, the objectives and key lessons of each course topic/ section / chapter and the associated delivery time periods. See Annexure B.
- A 2-Day classroom training Power Point slide pack comprising 220 – 250 numbered slides on the NCPC-SA / UNIDO power point slide template applying the NCPC-SA

content structure with accompanying facilitator and guidance notes on all content slides. The content must include a 15-minute power review at the start of day 2 and include four 15-minute quizzes, one on each training day. The power point slide template will be provided by the NCPC-SA for which the specified text font and size is Arial (title) 32 for slide title and minimum Arial (body) 16 for slide text.

- 4 Half-day virtual training session Power Point slide packs, comprising in total 220 – 250 numbered slides on the NCPC-SA / UNIDO power point slide template applying the NCPC-SA content structure with accompanying facilitator and guidance notes on all content slides. The content must include a 15-minute power review at the start of mornings 2,3, 4 and 5 and a 20-minute quiz after every day of instruction. After each chapter or unit a few (in the order of 3) discussion questions need to be listed which the facilitator can use to review the chapter and gauge the understanding of the content.
- A 100 to 150-page End User training manual in MS Word with a broader content subject range than that of the slide pack containing relevant benchmarking, case study and related best practice metrics which enables its use as a reference source.
- Two practical assignments requiring access to a candidate plant's data and information and related research to test the candidate's ability to model a solar thermal system for an industrial plant using fossil fuels. The assignment content should allow completion within 5 days.
- Three 1-hour class tests with accompanying memorandums, answers sheets and an excel scoring worksheet for each test.
- Class handouts comprising solar thermal case studies, solar thermal calculators, relevant publications, research articles, position papers, concept documents, conversion tables and general studies.
- A training feedback form to evaluate logistics, content and facilitator performance with multiple and open-ended questions that can be completed within 10-minute period, maximum.
- Development of Train the Trainer (TtT) material (the duration of which could span from 1-3 days) that will be delivered to prospective facilitators that will be identified by the facilitator. These prospective facilitators will be tested on their subject matter knowledge, delivery/presentation skills.
- Scoring sheet to be used in assessing the prospective facilitators should be included with each activity that will be assessed together with the "weight" of each activity.

4.2 Expert training material development activities

- An Expert course curriculum document (using the NCPC-SA template) outlining the target audience, objectives and outcomes of the training, the objectives and key lessons of each course topic/ section / chapter and the associated delivery time periods. See Annexure B.
- The Power Point slide pack of the Expert course, applying the NCPC-SA content structure with accompanying facilitator and guidance notes on all content slides. It is expected that the training would cover at least 4 in classroom days but would depend on the volume of material to cover. Multiple modules could also be developed. Very little to no duplication of material of the End User training is allowed. The content must include a 15-minute power review at the start of each day from day 2 onwards and include at least four 20-minute quizzes, one on each training day. The power point slide template will be provided by the NCPC-SA for which the specified text font and size is Arial (title) 32 for slide title and minimum Arial (body) 16 for slide text.
- A 300-500-page Expert training manual in MS Word with a broader content on the subject matter compared to the slide pack. Content based exercises, monitoring and tracking performance, case studies (other than that included in the End User).
- Three, 3-hour examinations with accompanying memorandums, answers sheets and an excel scoring worksheet for each test.
- Class handouts comprising solar thermal case studies, solar thermal calculators, relevant publications, research articles, position papers, concept documents, conversion tables and general studies.
- Solar thermal project development tool detailing the information to be gathered when developing a Solar thermal project, the calculations to be performed and relevant legislation, licensing and permitting required as well as available financial mechanisms to fund such projects and financial calculations to be performed in developing the business case of the project. It is expected that this tool will be Excel based and will be used by each candidate attending the training to document their progress in developing a Solar thermal project.
- A training feedback form to evaluate logistics, content and facilitator performance with multiple and open-ended questions that can be completed within 15-minute period, maximum.

- Between 4 and 6 webinar templates (MS PowerPoint) which will serve as structured feedback templates for candidates to use to develop their feedback presentations to the facilitators and the company. These webinars will be held online during sessions that should roughly span two hours with each team providing feedback using the MS PowerPoint template.
- Final report template (MS Word) detailing a framework of chapters and short description of each chapter to show information to be reported by candidates when they develop their final candidate project report.
- Continuous Assessment (scoring) sheet for use by the facilitator. This sheet will be used to keep the scores of each group and individual candidate. Included in the MS Excel based spreadsheet the different activities that will be scored throughout the duration of the Expert course as well as the “weight” of each of the activities. Where possible guidance should be provided regarding the allocation of scores.
- Host and Candidate plant criteria, detailing the criteria that will render a company suitable to become a Host/Candidate plant for the training. Criteria could include (but are not limited to):
 - Size of water heating system
 - Industrial or commercial application of heated water etc.
- Development of Train the Trainer (TtT) material (the duration of which could span from 3-5 days) that will be delivered to prospective Expert facilitators that will be identified by the lead-facilitator. These prospective facilitators will be tested on their subject matter knowledge, delivery/presentation skills.
- Scoring sheet to be used in assessing the prospective facilitators should be included with each activity that will be assessed together with the “weight” of each activity.

4.3 First rounds of delivery of the courses

- Delivery (facilitation) of three End User courses must be included in the proposal/quote. These courses may be delivered online or in classroom (in which case the NCPC-SA will book and pay travel and accommodation costs of the lead facilitator). The online or classroom delivery will depend on the COVID regulations and logistical arrangements by the NCPC-SA.
- Marking and Assessing of the assignments and tests of all three courses and providing the scoring sheet to the NCPC-SA.

- Delivery (facilitation) of the first two rounds of Expert training that would be delivered in-classroom.
- Subsequent webinar sessions with mentoring inputs from the facilitator. The facilitator will be expected to:
 - Deliver the training in classroom in the relevant venue that will be booked and paid by the NCPC-SA.
 - Assistance with recruiting Host and Candidate plants for the training.
 - Mentoring and feedback during the webinar sessions, on e-mail or telephone if questions arise.
 - It is expected that the facilitator attend at least three site visits to each candidate plant will be conducted; one to prepare each plant and become familiar with the plant and relevant operations, another visit to introduce the candidates to the plant and the final feedback presentation of candidates to the plant.
 - Regular feedback of courses and candidates progress to the NCPC-SA during the Expert training.
 - Scoring of each candidate's performance during the training, webinars and candidate plant work.
 - Filled-out scoring sheet with all the candidate's scores.
 - Attendance, marking and scoring of final Exams and re-write exams.
- Delivery of one TtT event for the End User as well as on TtT event of the Expert course.

4.4 Course content framework and guideline

The training course guideline structure is presented below:

2-Day End User Solar Thermal System Training Course:

- **Duration of Module:** 16 hours
- **Material required:** As defined in point 4.1.
- **Target audience:** Senior Industrial and Commercial Plant Management, Plant Engineers and Utility Managers, Maintenance Managers, Process Engineers, Energy Consultants, Government Officials (Directors, Deputy Directors), Academia, Engineering Students.
- **Required Themes (but not limited to):**
 - *Theme 1 – Overview of Industrial and Commercial Thermal Systems*
 - Training Program
 - Industrial Energy Demand
 - Commercial Energy Demand

- Macroeconomic Framework and Energy Policy in SA
- *Theme 2 – Energy Assessment Methodology*
 - Assessment Standards
 - Assessment Steps
 - Assessment preparation
 - Data Collection
 - Baseline Modelling
- *Theme 3 – Industrial Processes and Characterisation of Energy Demand*
 - Solar Thermal Market for Industrial Processes
 - Thermal Energy Balances
 - Thermal SEUs
 - Use of Flow, Sankey and WikiWeb Diagrams
- *Theme 4 – Energy Supply Technologies*
 - Steam Systems
 - Chiller and Refrigeration Systems
 - Heat Pump Systems
 - Renewable Energy Systems
- *Theme 5 – Process and Systems Optimisation*
 - Process Optimisation
 - Systems Optimisation
 - Heat Recovery Loads and Opportunities
- *Theme 6 – Solar Thermal Basics*
 - Solar Irradiation – South Africa
 - Solar Heating and Cooling Roadmap
 - Identification of Solar Potential
 - Solar Collector Types for Process Heat and Losses
- *Theme 7 – Solar Thermal Integration Concepts*
 - Supply and Process Level Integration
 - Solar Heat Integration Concepts
 - Storage Systems
- *Theme 8 – Evaluation of Solar Thermal Integration*
 - Energy Criteria
 - Ecological Criteria
 - Economic Criteria

- *Theme 9 - Financial Analysis*
 - Cost Benefit Analysis
 - Time and Size Compensation
 - Third Party Financing

- *Theme 10 – Develop Solar Thermal Business Proposal*
 - Feasibility Analysis
 - Project Plan
 - Implementation Plan

Expert Solar Thermal Project developer Training Course:

- **Duration of Module:** Between 36- and 60-hours classroom-based training (excluding webinars, plant work and exams)
- **Material required:** As defined in point 4.2.
- **Target audience:** Plant Engineers and Utility Managers, Maintenance Managers, Process Engineers, Energy Consultants, Government Officials, Academia, Engineering Students.
- **Required Themes (but not limited to):**

Module 1: Classroom based training

- *Theme 1 – Introduction to solar thermal technology and its applications*
 - Analysing solar resource in geographic locations (specifically based on South African geography) and site selection
 - Measurements to be taken and assumptions to be made
 - Solar thermal system and technology types (applicable to industrial/manufacturing size systems)
 - Solar thermal system components (in larger scale systems)
 - Solar thermal system configurations (larger scale applications)
 - System design (using the developed MS Excel based tool)
 - Business case calculations and costs
 - Installation considerations, operations, and maintenance
 - Measurement requirements for control and optimisation, control philosophies and optimisation
 - Health and Safety aspects to consider and include in the design and installation
 - Project management, implementation pitfalls and project economics

Module 2: Practical site work

- Site visits, measurements and data gathering
- Data analysis and system design
- Relevant legislation, permitting and licensing
- Health and safety requirements
- Business case and economic calculations as well as financing options

- Report writing
- Preliminary and final feedback to candidate companies

Module 3: Projects close-out

- Scoring of reports and amended reports
- Exam and re-write exams

4.5 Summary of deliverables

	Deliverable
1	End User course curriculum and Expert course curriculums
2	End User and Expert classroom slide packs
3	End User Online slide pack (4 to 15 sections of roughly 4 hours each to be covered over the course of a week)
4	End User 15 min quizzes (4 or 5) and Expert quizzes one per day from day 2 onwards.
5	End User 100 to 150-page training manual in MS Word. Expert training manual 300-500 pages with exercises and case studies.
6	Two End User practical assignments
7	Three 1-hour End User class tests and three 3-hour Expert examinations.
8	Pack of class handouts (End User) and pack of class handouts (Expert)
9	End User training feedback form and Expert course feedback form.
10	Set of Train the Trainer Material (End User) as well as the set of Train the Trainer Material for the Expert course.
11	Solar Thermal project development tool (MS Excel based)
12	Between 4 and 6 webinar templates for feedback during Expert course.
13	Final Report template (Expert training) in MS Word
14	Continuous Assessment scoring sheet for the Expert course (MS Excel)
15	Host and candidate plant criteria documents (Expert training)
16	Facilitation of three End User courses with marking and scoring of assignments as well as marking and scoring of the tests as well as re-write tests.
17	Facilitation of two Expert training courses including classroom based training, recruiting host and candidate sites, mentoring and feedback during webinar

	sessions, regular communication with the NCPC-SA, scoring of each candidate throughout the course.
18	Delivery of one End User the Train the Trainer event and one Expert Train the Trainer event to prospective Trainers.

5 FUNCTIONAL EVALUATION CRITERIA

5.1 The evaluation of the functional / technical detail of the proposal will be based on the following criteria:

Criteria	Criteria Description	Weight
Qualification and experience of team members	Provide a list of team members and their qualifications.	50
Timeframe	Projected timeframe to complete all tasks described	30
Additional elements that add value	Proposal includes additional elements that adds value to the potential impact of the proposed projects	20
	Total	100

5.2 Proposals with functionality / technical points of less than the pre-determined minimum overall percentage of 70% and less than 50% on any of the individual criteria will be eliminated from further evaluation.

5.3 Refer to Annexure A for the scoring sheet that will be used to evaluate functionality.

6 ELIMINATION CRITERIA

Proposals will be eliminated under the following conditions:

- Submission after the deadline;
- Proposals submitted at incorrect location or email address;
- Bidders that are listed on the NT database of restricted suppliers will not be considered.

- Bidders that are registered on the NT Register of Tender Defaulters will not be considered.
 - Bidders that do not submit a fully completed and signed SBD 1 and SBD 4 Annexure C Form will not be considered.
- The proposed project team does not include members that collectively meet **all** of the criteria listed below:
 - Engineering or equivalent qualification.
 - UNIDO EnMS/ESO Expert with a minimum of 10-year industrial energy efficiency experience.
 - In-depth understanding of the industrial thermal environment and the needs of industry in South Africa.
 - Minimum of 5 years Solar thermal project development experience.
 - Excellent skills in training material development and training delivery.
 - Professional expertise and background covering the requirements of tasks defined in the contract.

7 NATIONAL TREASURY CENTRAL SUPPLIER DATABASE REGISTRATION

Before any negotiations will start with the winning bidder it will be required from the winning bidder to:

- be registered on National Treasury's Central Supplier Database (CSD). Registrations can be completed online at: www.csd.gov.za;
- provide the CSIR of their CSD registration number; and
- provide the CSIR with a copy of their B-BBEE certificate issued by an accredited verification agency and bearing a SANAS logo; or
 - Valid sworn affidavits made on DTIC designed templates; or
 - DTIC issued affidavit; or
 - CIPC issued B-BBEE certificate. If no certificate can be provided, no points will be scored during the evaluation process. (RSA suppliers only)

SECTION B – TERMS AND CONDITIONS

8 VENUE FOR PROPOSAL SUBMISSION

All proposals must be submitted using the following email address: tender@csir.co.za

9 TENDER PROGRAMME

The tender program, as currently envisaged, incorporates the following key dates:

- Issue of tender documents: 17 August 2022
- Last date for submission of queries: 24 August 2022
- Closing / submission Date: 31 August 2022
- Estimate appointment date of successful tenderer: 19 September 2022
- Estimated contract duration (in months/years) 18 Months

10 SUBMISSION OF PROPOSALS

10.1 Proposals must consist of two parts, each of which clearly marked:

PART 1: Technical Proposal: RFP No.: 3536/31/08/2022

PART 2: Pricing Proposal, B-BBEE and other Mandatory Documentation:

RFP No.: 3536/31/08/2022

10.2 Proposals submitted by companies must be signed by a person or persons duly authorised.

10.3 The CSIR will award the contract to qualified tenderer(s)' whose proposal is determined to be the most advantageous to the CSIR, taking into consideration the technical (functional) solution, price and B-BBEE.

11 DEADLINE FOR SUBMISSION

Proposals shall be submitted at the email address mentioned above no later than the closing date of *Wednesday*, 31 August 2022 during CSIR's business hours. The CSIR business hours are between 08h00 and 16h30.

Where a proposal is not received by the CSIR by the due date and stipulated place, it will be regarded as a late tender. Late tenders will not be considered.

12 AWARDING OF TENDERS

Awarding of tenders will be published on the CSIR tender website. No regret letters will be sent out.

13 EVALUATION PROCESS

13.1 Evaluation of proposals

All proposals will be evaluated by an evaluation team for functionality, price and B-BBEE. Based on the results of the evaluation process and upon successful negotiations, the CSIR will approve the awarding of the contract to successful tenderers.

A two-phase evaluation process will be followed.

- The first phase includes evaluation of **elimination** and **functionality criteria**.
- The second phase includes the evaluation of **price** and **B-BBEE** status.

Pricing Proposals will only be considered after functionality phase has been adjudicated and accepted. Only proposals that achieved the specified minimum qualification scores for functionality will be evaluated further using the preference points system.

13.2 Preference points system

The 80/20 preference point system will be used where 80 points will be dedicated to price and 20 points to B-BBEE status.

14 PRICING PROPOSAL

14.1 Pricing proposal must be cross-referenced to the sections in the Technical Proposal. Any options offered must be clearly labelled. Separate pricing must be provided for each option offered to ensure that pricing comparisons are clear and unambiguous.

14.2 Price needs to be provided in South African Rand (excl. VAT), with details on price elements that are subject to escalation and exchange rate fluctuations clearly indicated.

14.3 Price should include additional cost elements such as freight, insurance until acceptance, duty where applicable.

14.4 Only firm prices* will be accepted during the tender validity period. Non-firm prices** (including prices subject to rates of exchange variations) will not be considered.

*Firm price is the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax which, in terms of a law or regulation is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;

**Non-firm price is all prices other than “firm” prices.

14.5 Payment will be according to the CSIR Payment Terms and Conditions.

15 VALIDITY PERIOD OF PROPOSAL

Each proposal shall be valid for a minimum period of three (3) months calculated from the closing date.

16 APPOINTMENT OF SERVICE PROVIDER

16.1 The contract will be awarded to the tenderer who scores the highest total number of points during the evaluation process, except where the law permits otherwise.

16.2 Appointment as a successful service provider shall be subject to the parties agreeing to mutually acceptable contractual terms and conditions. In the event of the parties failing to reach such agreement CSIR reserves the right to appoint an alternative supplier.

17 ENQUIRIES AND CONTACT WITH THE CSIR

Any enquiry regarding this RFP shall be submitted in writing to CSIR at tender@csir.co.za with ***“RFP No 3536/31/08/2022 - The provision of services in development of Industrial Solar Thermal Systems Training Course Materials on behalf of the NCPC-SA”*** as the subject.

Any other contact with CSIR personnel involved in this tender is not permitted during the RFP process other than as required through existing service arrangements or as requested by the CSIR as part of the RFP process.

18 MEDIUM OF COMMUNICATION

All documentation submitted in response to this RFP must be in English.

19 COST OF PROPOSAL

Tenderers are expected to fully acquaint themselves with the conditions, requirements and specifications of this RFP before submitting proposals. Each tenderer assumes all risks for resource commitment and expenses, direct or indirect, of proposal preparation and participation throughout the RFP process. The CSIR is not responsible directly or indirectly for any costs incurred by tenderers.

20 CORRECTNESS OF RESPONSES

20.1 The tenderer must confirm satisfaction regarding the correctness and validity of their proposal and that all prices and rates quoted cover all the work/items specified in the RFP. The prices and rates quoted must cover all obligations under any resulting contract.

20.2 The tenderer accepts that any mistakes regarding prices and calculations will be at their own risk.

21 VERIFICATION OF DOCUMENTS

21.1 Tenderers should check the numbers of the pages to satisfy themselves that none are missing or duplicated. No liability will be accepted by the CSIR in regard to anything arising from the fact that pages are missing or duplicated.

21.2 Pricing schedule and B-BBEE credentials should be submitted with the proposal, but as a separate document and no such information should be available in the technical proposal.

22 SUB-CONTRACTING

- 22.1** A tenderer will not be awarded points for B-BBEE status level if it is indicated in the tender documents that such a tenderer intends sub-contracting more than 25% of the value of the contract to any other enterprise that does not qualify for at least the points that such a tenderer qualifies for, unless the intended sub-contractor is an exempted micro enterprise that has the capability and ability to execute the sub-contract.
- 22.2** A tenderer awarded a contract may not sub-contract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is sub-contracted to an exempted micro enterprise that has the capability and ability to execute the sub-contract.

23 ENGAGEMENT OF CONSULTANTS

The consultants will only be remunerated at the rates:

- 23.1** Determined in the "Guideline for fees", issued by the South African Institute of Chartered Accountants (SAICA); or
- 23.2** Set out in the "Guide on Hourly Fee Rates for Consultants", by the Department of Public Service and Administration (DPSA); or
- 23.3** Prescribed by the body - regulating the profession of the consultant.

24 TRAVEL EXPENSES

- 24.1** All travel expenses for the CSIR's account, be it directly via the CSIR's travel agent or indirectly via re-imburements, must be in line with the CSIR's travel policy. The following will apply:
- 24.1.1 Only economy class tickets will be used.
- 24.1.2 A maximum of R1400 per night for accommodation, dinner, breakfast and parking will be allowed.
- 24.1.3 No car rentals of more than a Group B will be accommodated.

25 ADDITIONAL TERMS AND CONDITIONS

- 25.1** A tenderer shall not assume that information and/or documents supplied to CSIR, at any time prior to this request, are still available to CSIR, and shall consequently not make any reference to such information document in its response to this request.
- 25.2** Copies of any affiliations, memberships and/or accreditations that support your submission must be included in the tender.
- 25.3** In case of proposal from a joint venture, the following must be submitted together with the proposal:
- Joint venture Agreement including split of work signed by both parties;
 - The original or certified copy of the B-BBEE certificate of the joint venture;
 - The Tax Clearance Pin of each joint venture member;
 - Proof of ownership/shareholder certificates/copies; and
 - Company registration certificates.
- 25.4** An omission to disclose material information, a factual inaccuracy, and/or a misrepresentation of fact may result in the disqualification of a tender, or cancellation of any subsequent contract.
- 25.5** Failure to comply with any of the terms and conditions as set out in this document will invalidate the Proposal.

26 CSIR RESERVES THE RIGHT TO

- 26.1** Extend the closing date;
- 26.2** Verify any information contained in a proposal;
- 26.3** Request documentary proof regarding any tendering issue;
- 26.4** Give preference to locally manufactured goods;
- 26.5** Appoint one or more service providers, separately or jointly (whether or not they submitted a joint proposal);
- 26.6** Award this RFP as a whole or in part;
- 26.7** Cancel or withdraw this RFP as a whole or in part.

27 DISCLAIMER

This RFP is a request for proposals only and not an offer document. Answers to this RFP must not be construed as acceptance of an offer or imply the existence of a contract between the parties. By submission of its proposal, tenderers shall be deemed to have satisfied themselves with and to have accepted all Terms & Conditions of this RFP. The CSIR makes no representation, warranty, assurance, guarantee or endorsements to tenderer concerning the RFP, whether with regard to its accuracy, completeness or otherwise and the CSIR shall have no liability towards the tenderer or any other party in connection therewith.

DECLARATION BY TENDERER

Only tenderers who completed the declaration below will be considered for evaluation.

RFP No: 3536/31/08/2022

I hereby undertake to render services described in the attached tendering documents to CSIR in accordance with the requirements and task directives / proposal specifications stipulated in RFP No: 3536/31/08/2022 at the price/s quoted. My offer/s remains binding upon me and open for acceptance by the CSIR during the validity period indicated and calculated from the closing date of the proposal.

I confirm that I am satisfied with regards to the correctness and validity of my proposal; that the price(s) and rate(s) quoted cover all the services specified in the proposal documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.

I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this proposal as the principal liable for the due fulfilment of this proposal.

I declare that I have no participation in any collusive practices with any tenderer or any other person regarding this or any other proposal.

I accept that the CSIR may take appropriate actions, deemed necessary, should there be a conflict of interest or if this declaration proves to be false.

I confirm that I am duly authorised to sign this proposal.

NAME (PRINT)

CAPACITY

SIGNATURE

NAME OF FIRM

DATE

CSIR RFP No. 3536/31/08/2022

WITNESSES	
1
2
DATE:.....	

28 ANNEXURE A – Technical scorecard

Criteria	Criteria Description	Weight	3	5	7	10
Qualification and experience of team members	Provide a list of team members with Engineering or equivalent qualifications and Solar Thermal related experience.	50	Provided a list of team members with one Engineering or equivalent qualifications and Solar Thermal related experience per individual of 7 to 10 years.	Provided a list of team members with one Engineering or equivalent qualifications and Solar Thermal related experience per individual of 11 to 15 years.	Provided a list of team members with one Engineering or equivalent qualifications and Solar Thermal related experience per individual of 16 to 20 years.	Provided a list of team members with one Engineering or equivalent qualifications and Solar Thermal related experience per individual of more than 20 years.
Timeframe	Projected timeframe to complete all tasks described in proposal for the RFP	30	The projected timeframe to complete all tasks described in the proposal is more than 36 months.	The projected timeframe to complete all tasks described in the proposal is more than 24 months	The projected timeframe to complete all tasks described in the proposal is no more than 20 months	The projected timeframe to complete all tasks described in the proposal is 18 months or less
Additional elements that add value	Proposal includes additional elements that adds value to the potential impact of the proposed training programme	20	Proposal does not include additional elements that adds value to the potential impact of the proposed training programme	Proposal includes 2-4 additional elements that adds value.	Proposal includes 5-8 additional elements that adds value.	Proposal includes more than 9 additional elements that adds value.
	Total	100				

29 ANNEXURE B – Curriculum

Training Pump System Optimization (PSO) 1-Day Introductory Workshop

	Training	Expert / Trainer	Location	Comments
Day 1	Introductory		Training room	

Target Group:

Any technically inclined person with some involvement or potential involvement with Pump Systems, who wants to get a basic understanding of Pump System Optimisation and its benefits in terms of energy and cost savings.

Those who would like a basic introduction before carrying on to the 2 – Day End User and Expert Training levels.

Learning Objectives

- Gain an understanding of how LCC (Life Cycle Cost) affects the operational costs of a Pump System
- Gain an understanding of how to correctly estimate the actual operating costs of a Pump System
- Gain an understanding of the need of using a Systems Approach to accurately evaluate Pump Systems and optimization opportunities
- Learn about different Pump & Valve types and their uses in specific situations
- Learn about the various components within a Pump system
- Learn how to determine how a Pump system operates
- Gain an understanding of basic hydraulics and how this affects Pump system performance
- Learn about the various terminologies for Pressure, Flow, Power and Efficiency

- Gain an understanding of Pump curves and Pump performance characteristics
- Gain an understanding of System curves and the effect of control components on system performance
- Learn about various control methods and the advantages and disadvantages
- Identify the measurements required to manage Pump systems
- Identify areas for efficiency improvements
- Calculate the energy costs associated with Pump systems operation

Title: Introductory PSO Workshop

Start Time: 08:30	Section 1: Fundamentals			120 minutes	Slide allocation
Life Cycle Costs, Systems approach, Basic Hydraulics					
<i>Content</i>	<i>Means of Evaluation</i>	<i>Learning Activities</i>	<i>Duration</i>	<i>Slide #’s</i>	
Introduction to the UNIDO Industrial Energy Efficiency Project	Not applicable	Information only	20 minutes	NCPC	Tanya
Introduction of attendees and Outline of course	Not applicable	Understand participant backgrounds	20 minutes	1-5	Tanya

Pump System Life Cycle Costs	Participants questions Group discussion Class review and discussion	Understanding of Pump Systems and Life Cycle Costs	20 minutes	6 - 12	Tanya
The Systems Approach	Participants questions	Understanding the system and its components	20 minutes	13 - 19	Tanya
Pump System Fluid Relationships and Basic Hydraulics	Participants questions	Understanding Static Head, Velocity Head and Friction Losses Understanding friction factor	30 minutes	20-29	Tanya