

Request for Proposals (RFP)

The supply, installation and commissioning of a new fan control system for the Seven Meter Wind Tunnel to the CSIR

RFP No. 767/02/05/2017

Date of Issue	Wednesday, 12 April 2017	
Compulsory site inspection	Wednesday, 19 April 2017 Building 13 at 10:00	
Closing Date	Tuesday, 2 May 2017	
Place	Tender box, CSIR Main Reception, Gate 3 (North Gate)	
Enquiries	Strategic Procurement Unit	E-mail: tender@csir.co.za
CSIR business hours	08h00 – 16h30	
Category	Electronic Equipment	

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SECTION A – TECHNICAL INFORMATION

1 INTRODUCTION

The Council for Scientific and Industrial Research (CSIR) is one of the leading scientific research and technology development organisations in Africa. In partnership with national and international research and technology institutions, CSIR undertakes directed and multidisciplinary research and technology innovation that contributes to the improvement of the quality of life of South Africans. The CSIR's main site is in Pretoria while it is represented in other provinces of South Africa through regional offices.

2 BACKGROUND

Description of Wind Tunnel Facility

The Seven Meter Wind Tunnel ("7mWT") is a continuous-blow, Eiffel type wind tunnel with a test section measuring 7.5m x 6.5m x 13m. Wind speed is supplied by a fan array system mounted in one wall. The fan array system consists of 28 fans each directly driven by a 35kW constant speed induction motor. The fans are stopped and started using starter relays.

Control Philosophy

Wind speed in the 7mWT is controlled by selecting a pre-defined pattern of fans in the 4x7 fan array that, when acting together, provide the required wind through the test section. Feedback on the successful starting of individual fan motors (i.e. feedback when reaching synchronous speed) following a start signal is required. No other feedback is required.

3 INVITATION FOR PROPOSAL

Proposals are hereby invited for the supply, installation and commissioning of a new fan control system for the Seven Meter Wind Tunnel located at CSIR's Building 13, in Pretoria.

4 PROPOSAL SPECIFICATION

Project Scope

A new control system consisting of hardware, software and installation is required. Handover items will include relevant licenses, backups, drawings and documentation.

Project Timeline

The project will include the following phases, following the award of the tender: (i) design and development (ii) factory acceptance testing, (iii) installation (iv) final acceptance testing and (v) handover of the hardware, software, licenses, backups, drawings and documentation

Deliverables

It is envisaged that the new control system will consist of the following deliverable items.

Envisaged Hardware

It is envisaged that the new control system will consist of at least the following hardware:

- HMI hardware
- A SCADA System
- A PLC system
- Communications hardware
- A latching emergency stop button

There is existing functioning hardware, a Siemen Simatic S7-200 plc with DI/DO modules, remaining from a previous control system which can be reused or replaced as part of this project.

Software Functionality

New control software will be engineered. An example of the current philosophy of operation is supplied, in the form of screenshots from a control program. See Annexure B. The new control software should follow this same philosophy, which will include the following functionality:

- The software must allow for the selection between predefined fan patterns, and their starting and stopping, when in 'pattern' mode.
- The software must allow for the transition between patterns to be executed 'on the fly', without first stopping all the fans. The transition sequences between fan patterns must be done in a logical, symmetrical manner, resulting in the smoothest acceleration or deceleration of the wind through the test section as possible, taking into account the discrete nature of the control system. Interim patterns to be followed in these transitions sequences will be defined. Only two fans can be stopped or started as any sequential step during a pattern transition, to ensure a smooth 'wind' transition.
- The software must allow for individual fans to be started or stopped when in 'ad hoc' mode
- The software must allow for easy switching between pattern and 'ad hoc' mode, where individual, additional, fans can be started or stopped even when a pattern is running.
- The software must allow for the definition of new fan patterns, as well as the 'starting order' in which the fans start for that pattern.

- The software must allow for the editing of existing fan patterns, and the editing of their starting order
- The software must allow for the definition of the 'fan delay' time interval, which is the delay between consecutive fans starting when both in 'pattern mode' or 'ad hoc' mode, to prevent overcurrent conditions on the facility supply. This will be termed 'fixed time delay' mode
- The software must allow for an 'automatic fan delay' mode, using feedback from a facility current monitor and comparing the current being drawn to a facility current limit. The software will then manage the intervals between the starting of successive fan motors, to increase efficiency.
- The software must contain a latching stop button, which will result in the immediate off-signal being sent to all fan motors when clicked. This button must also act as an emergency stop. A reset button is also required to clear a stop signal before any fan motors can be started.

Licenses

All 3rd party hardware or software licensing requirements must be met and will be included in the tender as one of the deliverables of the project. License-free hardware or software will have the highest preference, followed by perpetual license items. Items with annual licensing requirements will have the lowest preference.

Wiring Diagrams and Documentation

The wiring of the new control system installation must be labelled and new wiring diagrams of the control system must be drawn up. No wiring diagrams of the current system are available.

All hardware or software documentation or instruction manuals must be included as part of the deliverables.

Warranties and Guarantees

The Tenderer is required to indicate what warranty period is offered for each of the items listed, as well as much detail as possible on the extent of the guarantee.

Acceptance testing

Both a factory acceptance testing document and a final acceptance testing document will be agreed upon between the successful tenderer and the CSIR.

Tender Format

Tenderers to submit tenders in a format they deem fit.

5 FUNCTIONAL EVALUATION CRITERIA

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

- A demonstrable capability in industrial automation - 40%
- A proven track record, through references, in the engineering of similar control systems - 20%
- The inclusion of hardware and/or software from recognized, reputable vendors in the proposal – 10%
- The inclusion of a comprehensive list of handover items (including licences, drawings, manuals and documentation) in the proposal – 10%
- Licensing cost requirements for proposed hardware and software (free v perpetual v annual) -5%
- Inclusion of a written demonstration of a clear understanding of the peculiarities involved in a control system for the fan motor array in the Seven Meter Wind Tunnel – 5%
- A clear, reasonable, achievable project timeline, with milestones and deliverables, commencing from the date of the awarding of the tender –10%

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.

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
- Non-inclusion of any documents specifically listed in Section 5
- Non-attendance of the site inspection

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 certified copy of their 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 at:

- **CSIR GATE 03 - Main Reception Area** (in the **Tender box**) at the following address
Council for Scientific and Industrial Research (CSIR)
Meiring Naudé Road
Brummeria
Pretoria

9 TENDER PROGRAMME

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

- Issue of tender documents: 12 April 2017
- Compulsory site inspection : 19 April 2017
- Closing / submission Date: 02 May 2017

10 SUBMISSION OF PROPOSALS

10.1 All proposals are to be sealed. No open proposals will be accepted.

10.2 All proposals are to be clearly marked with the RFP number and the name of the tenderer on the outside of the main package. Proposals must consist of two parts, each of which is placed in a separate sealed package clearly marked:

PART 1: Technical Proposal: RFP No.:767/02/05/2017

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

RFP No.: 767/02/05/2017

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

10.4 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 address mentioned above no later than the closing date of **Tuesday, 2 May 2017** 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

12.1 Awarding of tenders will be published the CSIR's 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**, local production and content.
- 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. If all tenders received are more than R1m, the proposal will be cancelled and re-issued.

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.

16.3 Awarding of contracts will be announced on the National Treasury website and no regret letters will be sent to unsuccessful bidders.

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 767/02/05/2017 - The supply, installation and commissioning of a new fan control system for the Seven Meter Wind Tunnel***" 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 *One hard copy and one electronic copy (CD or USB memory key)* of each proposal must be submitted. In the event of a contradiction between the submitted copies, the hard copy shall take precedence.
- 21.3 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.
- 21.4 If a courier service company is being used for delivery of the proposal document, the RFP description must be endorsed on the delivery note/courier packaging to ensure that documents are delivered to the tender box, by the stipulated due date.

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 R1300 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 Certificate 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: 767/02/05/2017

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.767/02/05/2017 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

WITNESSES	
1
2
DATE:	

28 ANNEXURE A

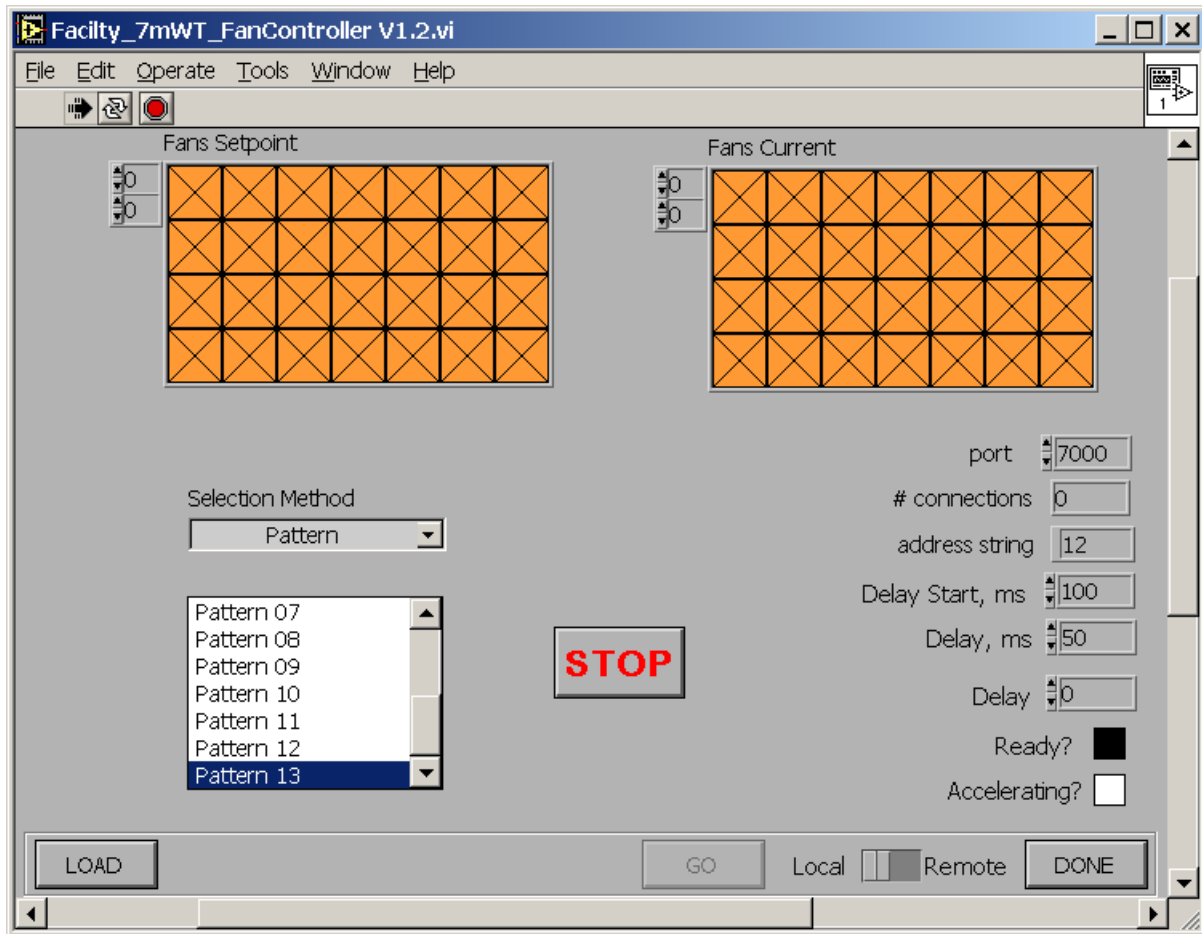
Functionality/Technical scoring sheet

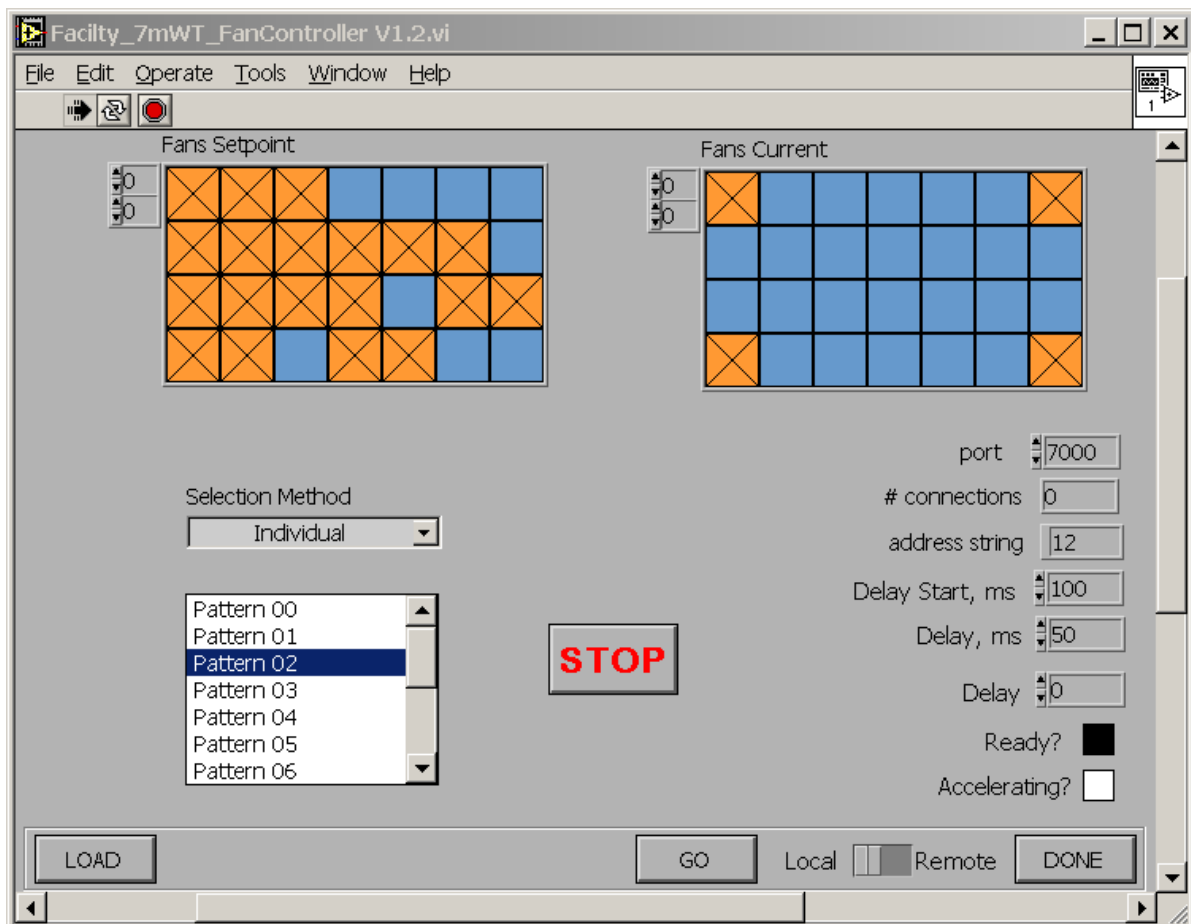
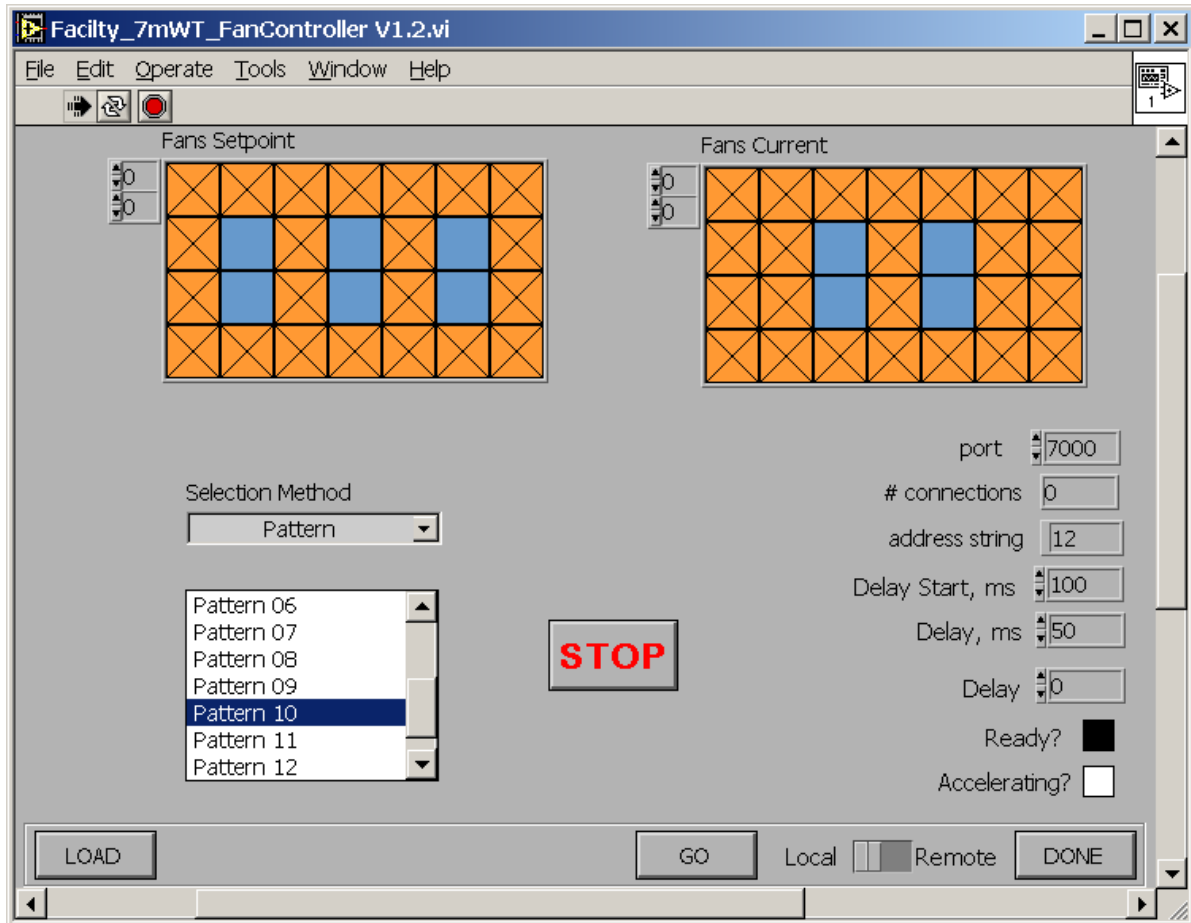
Criteria	Weight	0	5	10
A demonstrable capability in industrial automation	40%	Included no demonstration of capability in industrial automation; alternatively included inadequate descriptions and/or documented evidence of prior projects; alternatively included descriptions of significantly less complex projects	Included a demonstration of capability in industrial automation, in the form of detailed descriptions and documented evidence of 1 or 2 prior, successfully executed projects of comparable or greater complexity	Included a demonstration of capability in industrial automation, in the form of detailed descriptions and documented evidence of 3 or more prior, successfully executed projects of comparable or greater complexity
A proven track record in the engineering of similar control systems. 4 contactable references to be provided and not less than 2.	20%	Provided less than 2 references	Provided 2 or 3 references.	Provided 4 and more references.
The inclusion of hardware and/or software from recognized, reputable vendors in the proposal	15%	Included only hardware and/or software from obscure vendors	Included a reasonable mixture of more unknown, and recognized reputable vendors. No obscure vendors included.	Included only hardware and/or software from industry-leading, recognized, reputable vendors
The inclusion of a comprehensive list of handover items (including licences, drawings, manuals and documentation) in the proposal	10%	Included no list of handover items	Included a partial list (some items missing) of handover items	Included a full and comprehensive list
Licensing cost requirements for proposed hardware and software (free v perpetual v annual)	5%	Proposed any annual licensing costs	Proposed a mixture of perpetual and/or free licensing (no annual costs proposed)	Proposed no licensing costs (all free)
Inclusion of a written demonstration of a clear understanding of the peculiarities involved in a new control system for the fan motor array in the CSIR's Seven Meter	5%	Included no logic diagram or document demonstrating understanding	Included a logic diagram and/or paragraph, but faulty	Included a logic diagram and/or paragraph demonstrating

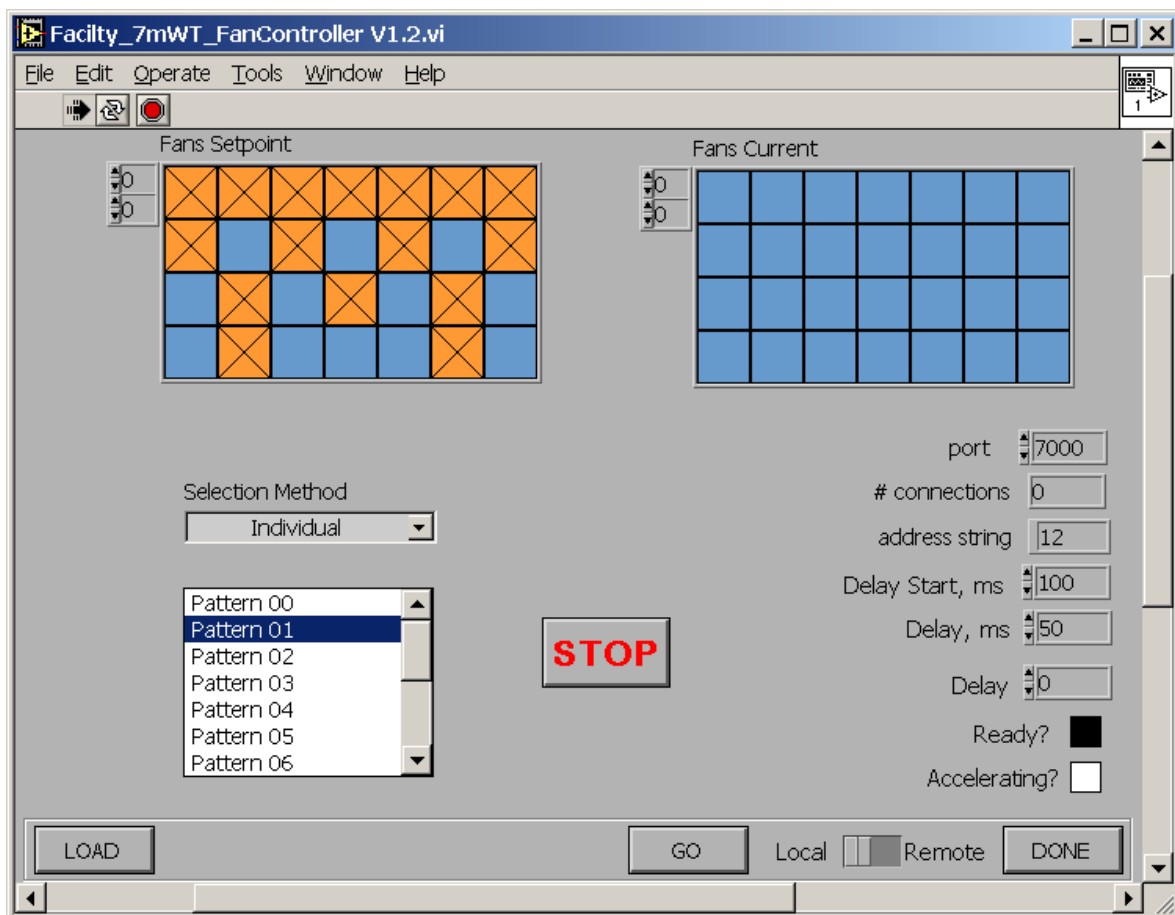
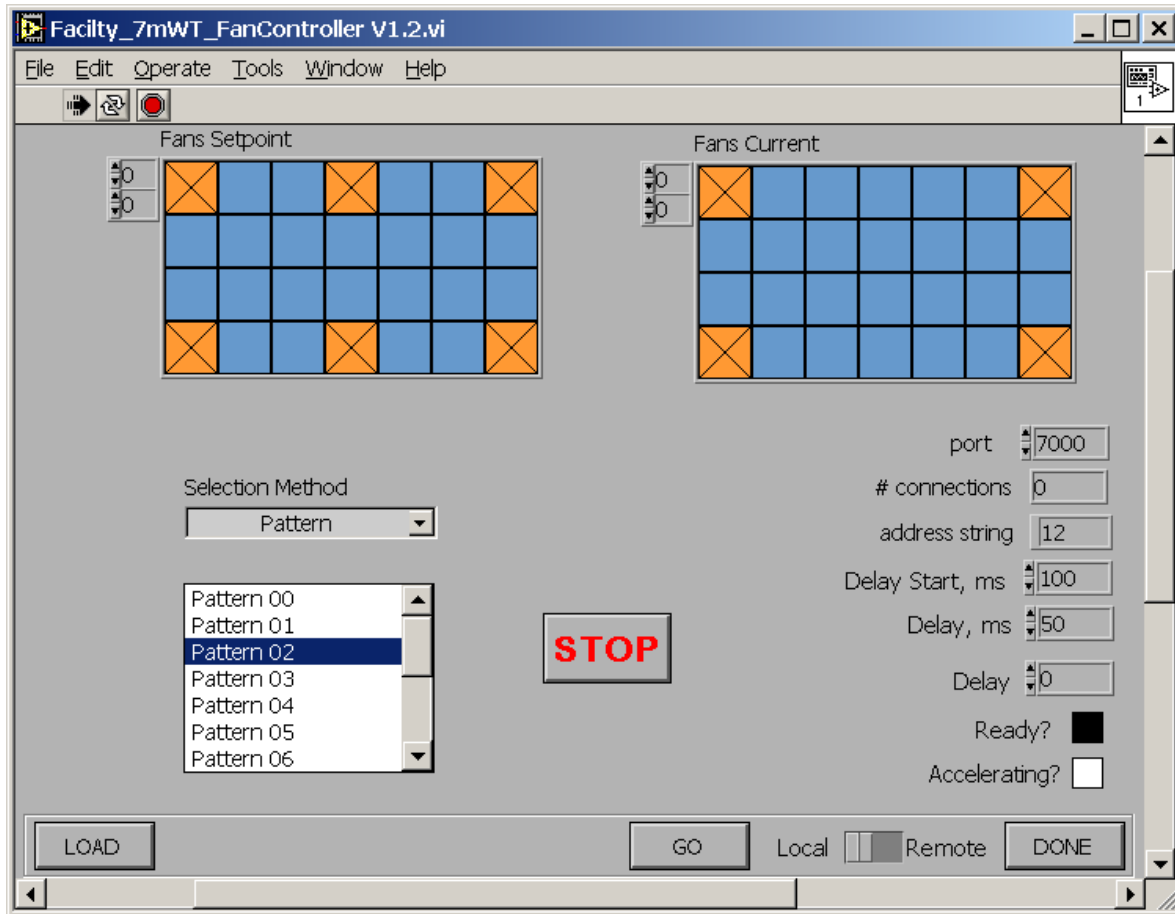
Wind Tunnel		of system requirements	understanding or unclear understanding has been demonstrated	a clear and comprehensive understanding of system requirements
A clear, reasonable, achievable project timeline, with milestones and deliverables, commencing from the date of the awarding of the tender	5%	Included no project plan	Included a partial, unclear, unreasonable or incomplete project plan	Included a full, clear, reasonable and achievable project plan
TOTAL	100%			

29 ANNEXURE B

Screenshots from existing control system executable (examples for information only)







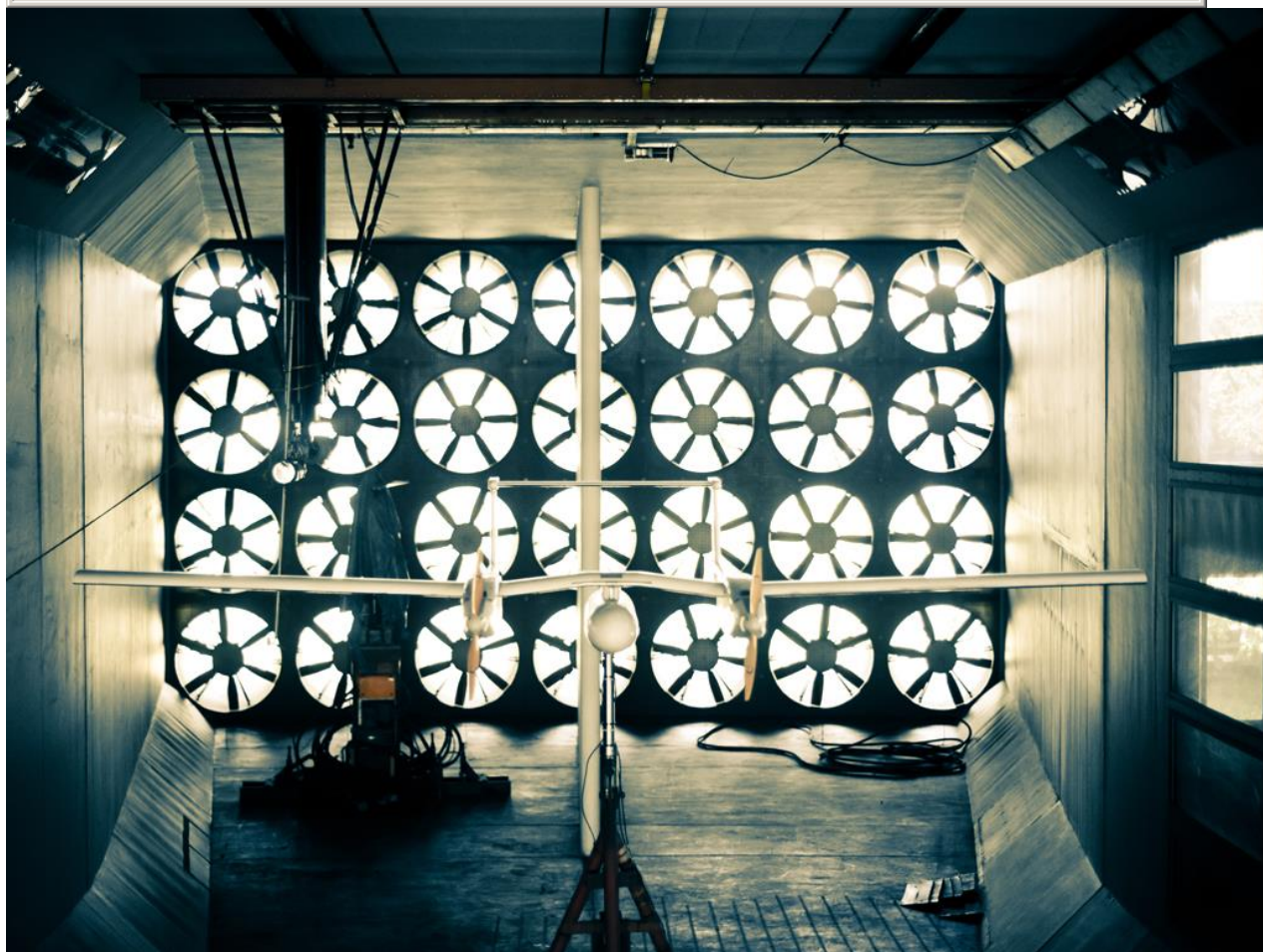
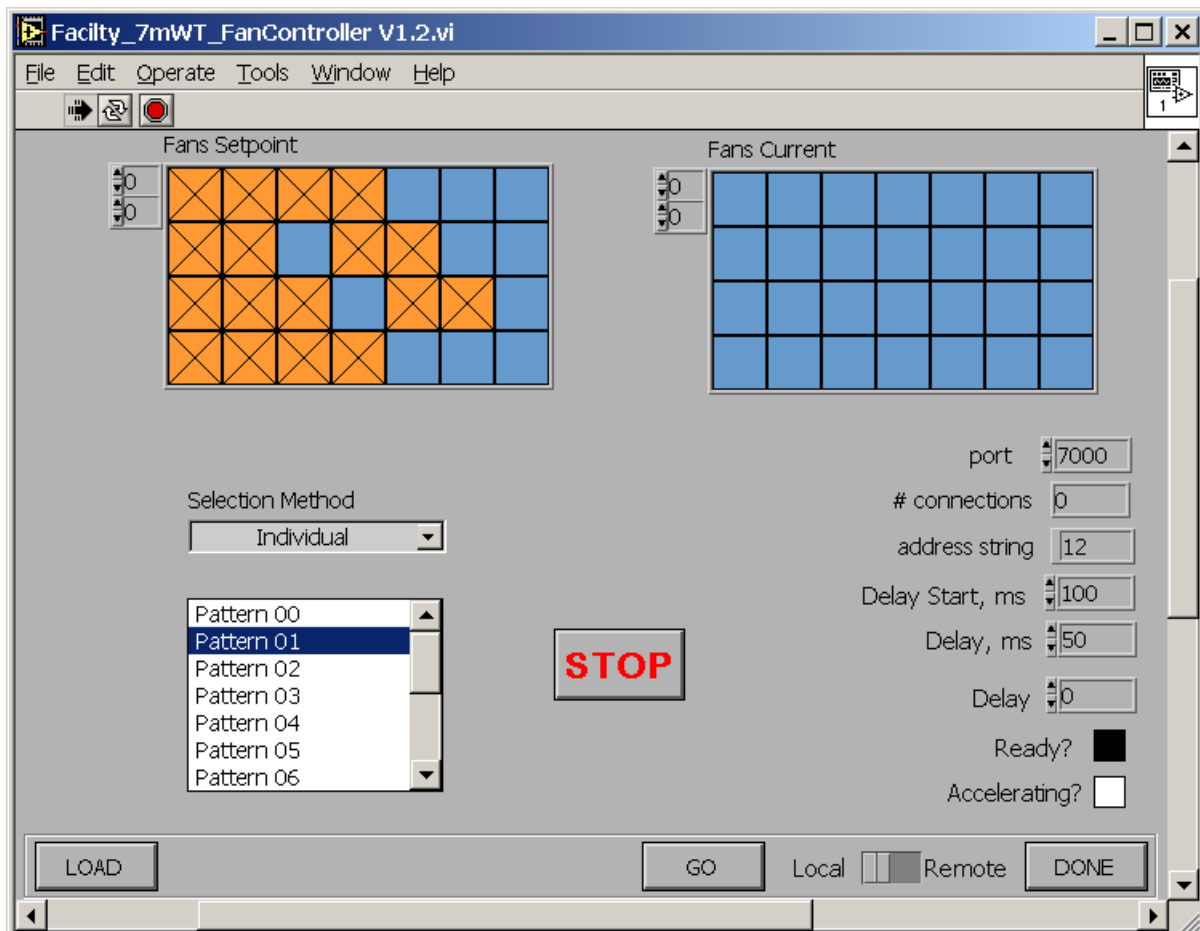


Figure 1 Photograph of the Seven Meter Wind Tunnel's fan array

