



May 30, 2014

Reply to Attn. of:

12

TO: 12/Contracting Officer, Office of Procurement

FROM: 134/William Christopher Sikes, Sr.

SUBJECT: Justification for Other than Full and Open Competition (JOFOC) for
Controller Upgrade Project (PR 4200512333)

1. Recommendation

I recommend that NASA Langley Research Center negotiate with Damuth Trane for material and services to replace 11 legacy building management controllers and associated software that only runs on Windows XP which are used to monitor and manage our facilities HVAC systems. Note that Support for Windows XP ended on April 8, 2014 and presents an IT security risk to the Center because the controllers are connected to the network and therefore must be upgraded.

Replacement controllers will be integrated into the existing control software, Trane Summit.

2. Nature of the Action

The nature of the action being approved is:

- The purchase of materials and services necessary to replace 11 legacy building management controllers
- Remove the legacy control software (Johnson Controls, Metasys) that only operate on Windows XP software
- Integration with an existing building management product (Trane Summit)
 - Note that this work was performed under requisition number: 4200478378; order number NNL13AD61P – Integration and programming associated with the implementation of the Trane Summit managed building
- Comply with NASA's Minimum Interoperability Software Suite Standard NASA-STD-2804-O
- Consolidate duplicate products and reduce operational costs
- Provide the infrastructure for NASA Langley's primary building automation system (BAS) enterprise management tool to reduce operation and maintenance cost across the Center's facilities and support the Condition Based Monitoring (CBM) program.

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3. Description of the Supplies or Services

The Contractor shall perform the following task requirements:

- Provide materials, engineering, installation and startup required to replace building management and unit controllers in the following buildings:
 - Building 647
 - Building 1225
 - Building 1236
 - Building 1247A
 - Building 1247D
 - Building 1308
- Provide materials, engineering, installation and startup required to replace building management controllers and integrate into existing JCI unit controllers in the following buildings:
 - Building 1205
 - Building 1230
 - Building 1244
 - Building 1250
 - Building 1293
- For each new building management controller noted above, provide the following:
 - Integration into the center-wide existing Trane Summit software product using the BACnet protocol.
 - Utilize NASA LaRC's existing spatial data system (GIS) for asset locations and integration of managed components displayed in Trane Summit. This includes center level maps and layouts for individual buildings.
 - Generation of control schematics and wiring diagrams

The total estimated value of this procurement is: \$719,440.00

4. Statutory Authority

Provision for this JOFOC is made under the statutory authority of FAR 6.302-1(a)(2)(iii), only one responsible source and no other supplies or services will satisfy agency requirements.

5. Contractor's Unique Qualifications

- This task is the next phase of the CBM program for facility maintenance and management which is a part of the Center's strategic initiative of the Revitalization Program. The previously performed work by Damuth Trane, under requisition number: 4200478378; order number NNL13AD61P – was

to perform integration and programming associated with the implementation of the Trane Summit software to manage building controllers and was awarded June 27, 2013. This task was to establish a single software system to monitor and manage unit controllers in facilities across the Center.

- Damuth Trane is the local Trane office and is already familiar with the Energy Management and Control Infrastructure at NASA Langley Research Center.
- Damuth Trane is the only certified vendor in this region that can integrate the existing building controllers, set-up software on the existing web server and program the system to meet NASA Langley Research's needs. Note that Trane Summit is NASA Langley's primary building automation system (BAS) enterprise management tool.
- Since 2011, all new construction buildings at NASA Langley have been equipped with Trane building automation systems because they are the only company who provide this state of the art remote sensing and monitoring capability.
- Ideal interoperability occurs when a building's BAS equipment is from the same vendor as the parent building enterprise management system.
- The current workforce has received considerable training on Trane Summit, including controller programming, setup, sequence of operations, data logging, graphical displays and troubleshooting.

6. Efforts Made to Solicit Offers

In accordance with FAR 5.201, this requirement will be synopsisized via Federal Business Opportunities (FedBizOpps) and the NASA Acquisition Internet System (NAIS).

7. Determination of the Contracting Officer

With assistance from the NASA requiring organization, the Contracting Officer will determine that the anticipated cost to the Government will be fair and reasonable.

8. Description of the Market Research

Significant market research was conducted in support of this effort and the overarching strategic initiative for NASA Langley's primary building automation system (BAS) enterprise management tool to support CBM. The Trane Tracer Summit Building Control Units and software on a web server is compatible with most other similar system components where other manufactures (Johnson Controls, Invensys) have limited the interoperability of installed devices and have not updated the software to be compliant with today's standards. Both meetings and phone calls were made with Center Maintenance Operations and Engineering (CMOE) staff to research other suppliers of the

Control Environment on Center and understand other systems limitations and the complexity to operate and maintain multiple brands of devices. In my current role as the Computer Security Official/IT Project manager for COD I am responsible for the security and operation of the Trane Summit system and as such routinely research the market for other competitive sources of supply.

9. Any Other facts supporting the use of other than full and open competition:

- Building controllers from other vendors (Johnson Controls, Invensys) would not seamlessly integrate with the existing Trane Summit software and may experience operational issues such as:
 - Global commands may not understood or executed correctly
 - Industrial alarms may not be accurate (false positives and/or false negatives)
 - Manual control may be required for some tasks
 - Historical data used for CBM may be inaccurate or incomplete
- Purchasing a second software control product would add a substantial duplication of cost as follows:
 - Training would be required for the new product
 - Recurring software maintenance costs
 - Recurring operators costs
 - Recurring ongoing IT administration costs (i.e. patching, upgrading, issue resolution)
 - Redundant customization – The NASA GIS tool is being integrated with Trane Summit. Should a second software product be purchased, customizations would also be required for similar data (e.g. building floor plans, equipment layouts etc.)

10. Listing of Sources

None

11. Subsequent Competitive Acquisitions

At this time, there are no subsequent acquisitions planned for the EMCS environment. However, should funding be made available, replacing the remaining Invensys Niagra controllers in five buildings on center may be considered.

We will continue to do market research for other suppliers/manufactures that are compatible with the Trane Tracer Summit Building Control System but there is no short-term way to remove the barriers.

12. Certifications**Technical Certification**

I certify that to the best of my knowledge and belief, the data furnished above is complete and accurate.

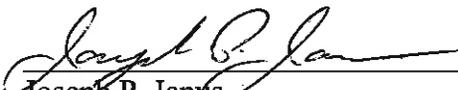


William Christopher Sikes, Sr.
Technical Requestor

5/30/2014
Date

Contracting Officer Certification

I hereby certify that the above justification is accurate and complete, to the best of my knowledge and belief, and the anticipated cost to the Government will be fair and reasonable.



Joseph P. Janis
Contracting Officer

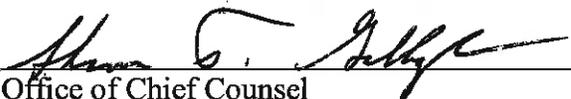
5/30/2014
Date

Concurrence:



C. Tom Weih
Branch Head, Mission Services Contracting
Branch, OP

6/2/2014
Date



Office of Chief Counsel

3 June 2014
Date



Susan E. McClain
Acting Procurement Officer

June 3, 2014
Date

Approval:



David E. Bowles
Competition Advocate

6/15/14
Date