LAUNCH CONTROL SYSTEM CONSOLE ENCLOSURE ACQUISITION REQUEST FOR INFORMATION

A. Background

NASA is seeking industry solutions and a contractor to design, construct, deliver, and assemble the next generation command and control console enclosure for the KSC Launch Control System.

Working with the user community, initial requirements and enclosure concepts have been developed. Requirements and functionality are based on the current Control Rooms at KSC and Johnson Space Center (JSC) for Expendable Launch Vehicle (ELV), Space Shuttle, Space Station, and the evolving LCS Command & Control (C&C) System.

NASA seeks a console enclosure that meets Constellation Program user requirements and is flexible enough to accommodate legacy rack-mounted communications equipment yet include a support path to future systems that will be smaller or integrated into other systems.

A key console design decision has been the requirement for a hood. User feedback on audible noise in large Control Rooms and noise problems identified during a Shuttle Countdown simulation convinced the users that a noise barrier of some sort was needed. The requirement to provide a sound barrier, house legacy communications equipment in the quantities desired, and to remain flexible to evolving programmatic and vehicle requirements has driven the enclosure design concept defined in the attachment.

A NASA Enclosure Design Team including Human Factors Engineering personnel with Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) expertise developed the basic dimensions and features necessary for a mock-up console enclosure. Mock-up enclosures were fabricated and offered to the KSC user community for analysis.

An important outcome of the mock-up analysis and a driving desire to ensure that the enclosures are flexible for the future, resulted in a design concept that does not depend on a particular enclosure configuration. Basically, an enclosure consists of a base, a desktop, and a hood that supports rack-mount equipment in up to four positions and in various rack-mount heights.

Schedule

The following preliminary acquisition schedule is provided below. It is subject to revision as requirements evolve.

- Responses to this RFI due: December 17, 2008
- Request For Proposal released: January 2009
- Responses to RFP due: April 2009
- Contract Award: June 2009
    i. Pre-Production OE/TM Console Enclosure with Four (4) 5RU RETMA Enclosures and Four (4) Monitor Arms (1 unit)
    ii. Pre-Production 24 Inch (60.96 cm) Extended Wedge (1 unit)
    iii. Pre-Production 5 Degree Angled Wedge (1 unit)
    iv. Pre-Production 6RU RETMA Enclosure (1 unit)
    v. Pre-Production 10RU RETMA Enclosure (1 unit)
    vi. Pre-Production 14RU RETMA Enclosure (1 unit)
- Pre-Production Units delivered: August 2009
- Pre-Production Units evaluation complete: September 2009
- Basic order (51 Enclosures): October 1, 2009
    i. Stage 1 Production Unit First Delivery (15 Enclosures and TBD Wedges): December 15, 2009
    ii. Stage 2 Production Unit Second Delivery (36 Enclosures and TBD Wedges): March 2010
- Option 1 exercised: October 1, 2010
    i. Option 2 Production Unit Delivery (20 Enclosures and TBD Wedges): March 2011
- Option 2 exercised: October 1, 2011
    i. Option 3 Production Unit Delivery (42 Enclosures and TBD Wedges): May 2012

B. Information Requested

NASA invites industry to submit feedback on the stated scope, schedule, and technical requirements described herein and in the attached document, “Launch Control System Console Enclosure”.

Suppliers having the capabilities necessary to meet or exceed the stated requirements are invited to submit written responses to the issues below along with appropriate documentation, literature, brochures, and references. Suppliers should also submit any other information that they deem appropriate to demonstrate to the Government their ability to design, manufacture, and deliver the Console Enclosures.

1. Provide a list of similar contracts of comparable scope, magnitude, and complexity to this acquisition that NASA should consider in developing the procurement strategy and solicitation. Identify the contract number, brief description of scope, contract type, customer, approximate value, and technical points of contact with telephone numbers and E-mail addresses. Please expand to include any complexity issues you have encountered.

2. Provide comments relating to typical Industry acquisition schedules and the length of time needed to perform a procurement of this magnitude, including the length of time and information needed to conduct due diligence and assemble a comprehensive and accurate proposal for the work to be accomplished.
3. Electronic equipment within the base requires protection from electromagnetic interference (EMI). The attachment indentifies minimum EMI attenuation across a wide frequency spectrum. Are the values shown attainable given the need for cable penetrations and ventilation? Are there alternatives to the Base design you can offer to satisfy this requirement?
4. Overall console enclosure height in important in a LCS Control Room environment. With a preferred height of 58 inches and the need for reconfigurable rack mount space above the desktop, is this height limitation attainable?
5. With a requirement for ventilating the base while keeping the console enclosure as quite as possible, is 35dBA sound pressure attainable with standard practices? What audible noise level can you provide with standard practices? What alternatives do you offer to meet the 35dBA requirement?
6. If no changes are made to the delivery schedule, can you design, construct, deliver, and assemble the first fifteen (15) production console enclosures and connecting wedge peripherals within the ten (10) weeks allocated after award? Should production deliveries under basic order i. stage 1 and ii. Stage 2 be combined? How many console enclosures and connecting wedge peripherals can you deliver within the ten (10) week period? What is the earliest date you can deliver and assemble all fifty-one (51) units of basic order?
7. Given the operating temperature range of equipment within the Base and the ambient temperature range of a Control Room, can sufficient ventilation be provided without exceeding the maximum 35dBA sound pressure requirement? What other information would you require to design the ventilation system?
8. Describe your plan for performing electromagnetic interference (EMI) testing.