

4/28/08

Statement of Work for a Flight Qualified C-Band Analog Video Transmitter and Receiver System SOW: DFRC-VID-08

1 General Scope of Work

1.1 Background

The National Aeronautics and Space Administration (NASA)/Dryden Flight Research Center (DFRC) currently utilizes C-band video transmitter and receiver systems for the transmission of research flight test video in National Television System Committee (NTSC) format. This statement of work is for the acquisition of replacement C-band transmitters and receivers for this application. The transmitters are operated in adverse environments and are used for applications critical to mission safety therefore they must be highly reliable. The receivers while typically operated in a controlled environment are also used for applications critical to mission safety therefore they must also be highly reliable. Systems purchased under this statement of work must also be compatible with existing systems on the Western Aeronautical Test Range (WATR).

2 Applicable Documents

The Analog C-Band Video Transmitter Requirements Document, DFRC-VID-08-001, and Analog C-Band Video Receiver Requirements Document, DFRC-VID-08-002, contain all of the guidance document references and are the superseding compliance documents. Data Requirements Description (DRD), DFRC-VID-08, describes the status report, design review, documentation, data and user manual deliverables.

3 Requirements

3.1 Design Requirements

Supplier shall deliver transmitters, binary coded decimal (BCD) switches and receivers that meet the design requirements specified in the attached transmitter, DFRC-VID-08-001, and receiver, DFRC-VID-08-002, requirements documents.

3.2 Transmitter Qualification Units

3.2.1 Qualification Testing

Supplier shall conduct qualification testing of two sets of transmitter and BCD switch qualification units. These units shall be representative of the proposed production transmitter and use similar materials and processes in order to demonstrate that the proposed design satisfies the requirements specified in DFRC-VID-08-001. The supplier shall provide a qualification test report for purchaser review. The purchaser retains the

right to cancel the procurement at no cost to the purchaser for failure to satisfactorily complete qualification testing within 90 days after receipt of order (ARO). [DRD: DFRC-VID-08]

3.2.2 Qualification by Similarity

The purchaser reserves the right to waive qualification testing if the purchaser determines that the hardware offered by the supplier has been previously qualified to requirements which meet or exceed the qualification requirements in the transmitter requirements document.

3.2.3 Transmitter / BCD Cables

The supplier shall deliver two transmitter / BCD switch interconnect cables of 12 inches in length with the transmitter qualification units. If the purchaser waives qualification testing these cables shall be delivered with the first two flight units.

3.3 Transmitter Flight Units

The supplier shall deliver transmitter and BCD switch flight units which satisfy the transmitter requirements specified in, DFRC-VID-08-001.

3.3.1 Acceptance Testing

Supplier shall conduct acceptance testing of all transmitter and BCD switch flight units. These units shall not include hardware previously used in qualification testing. The supplier shall provide acceptance test data with each transmitter and BCD switch delivered. [DRD: DFRC-VID-08]

3.4 Receiver Ground Units

The supplier shall deliver receiver ground units which satisfy the receiver requirements specified in, DFRC-VID-08-002.

3.4.1 Acceptance Testing

Supplier shall conduct acceptance testing of all receiver units. The supplier shall provide acceptance test data with each receiver delivered. [DRD: DFRC-VID-08]

3.5 Status Reports

Supplier shall give status reports bi-weekly and as required during the design, fabrication and testing of the video transmitter, BCD switch and receiver hardware. [DRD: DFRC-VID-08]

3.6 Design Reviews

Supplier shall hold a design review to define the detailed design for the transmitter and receiver hardware within 30 days ARO. [DRD: DFRC-VID-08]

3.7 Quality Assurance

The supplier shall meet the quality assurance requirements specified in the attached transmitter, DFRC-VID-08-001, and receiver, DFRC-VID-08-002, requirements documents.

3.7.1 Quality Assurance Attachments

Transmitter and receiver hardware delivered to the purchaser shall satisfy the attached Q-8, Q-9 and Q-10 Quality Procurement Requirements.

3.7.2 Source Inspection

The purchaser shall retain the right to conduct source inspections of supplier quality assurance processes and procedures. The purchaser shall retain the right to witness qualification and acceptance testing of transmitter, BCD switch and receiver hardware.

3.8 Users Manuals

Supplier shall deliver users manuals which address operation and maintenance of the transmitter including BCD switch and receiver hardware at the time of hardware delivery. [DRD: DFRC-VID-08]

4 Schedule

The supplier shall meet the delivery schedule specified in the key milestones specified below. Failure to meet a key milestone may result in contract cancellation at no additional cost to the purchaser.

4.1 Key Milestones

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|------------------------------|--------------|
| a) Design Review | 30 days ARO |
| b) Transmitter Qualification | 90 days ARO |
| c) Transmitter Delivery | 180 days ARO |
| d) Receiver Delivery | 180 days ARO |

5 Deliverables

The supplier shall provide a cost estimates for deliverables; a), b), c) and d) as specified below. The purchaser reserves the right to purchase any or all of these deliverables as specified in the cost estimate.

- a) Design review which provides documentation that the proposed design for the transmitter and receiver meet the specified requirements within 30 days ARO.
- b) Fabrication, qualification testing and delivery of **two** transmitter / BCD switch sets and qualification test report within 90 days ARO.
- c) Fabrication, acceptance testing and delivery of **ten** flight transmitters / BCD switch sets and acceptance test data within 180 days ARO.
- d) Fabrication, acceptance testing and delivery of **two** ground station receivers and acceptance test data within 180 days ARO.
- e) User manuals for transmitters and receivers within 180 days ARO.

6 Reference Documents

- Analog C-Band Video Transmitter Requirements Document, DFRC-VID-08-001
- Analog C-Band Video Receiver Requirements Document, DFRC-VID-08-002
- Attachment Q-8, Inspections and Test Data Requirements
- Attachment Q-9, Electrical / Electronic Articles and Materials
- Attachment Q-10, Verification of Serviceability
- Data Requirement Description (DRD), DFRC-VID-08