Comments on "REQUEST FOR PROPOSAL"
EG&G RFP #1183-3B
ETS-1
DIGITAL DATA SYSTEM--FUNCTIONAL SPECIFICATIONS
&
ATTACHMENT "A"

WANL TME-260

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MASTER

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(Fourth Paragraph) This paragraph will have to be changed to reflect the inclusion of the NB, DC amplifiers.

2.3.3 SYSTEM OVERLOAD CHARACTERISTICS

See comments of paragraph 2.1.1.3.

2.3.8.1 OVERALL ACCURACY REQUIREMENTS

The high accuracy requirement of $\pm 0.1\%$ should include the NB, DC amplifiers.

2.3.9 SYSTEM STABILITY

A warm-up time of 15 minutes is not sufficient for a system of this magnitude. This warm-up time should be one hour, in order that all components of this system are temperature stabilized to ensure the greatest stability for the system.

5.1.1 Temperature limits not consistent with those of paragraph 2.3.9.

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ETS-1

DIGITAL DATA SYSTEM

1.0 Intent

To be assured of compatible equipment and meeting the performance requirements set forth by the NERVA criteria, it is highly recommended that only one contractor be considered as having system responsibility for the entire scope of work.

4.0 Time Schedule and Phasing

It is suggested that the schedule recommended by memo CD-1169, dated December 29, 1962 to Limbacher (REON) from Dippel (WANL) be considered.

5.1 State of the Art Approach

The last sentence which describes the use of unproven or special equipment does not meet the requirements or intent of paragraph 1.4.1, page I, 1.4-1 of Vol. I, NERVA Criteria ETS-1.

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FES-1
DIGITAL DATA SYSTEM--FUNCTIONAL SPECIFICATIONS
ATTACHMENT A

1.0 INTRODUCTION

EG&G specifies in the third paragraph that each system shall be capable of independent operation, but they do not specify that the power supplies and other components of this system shall be entirely independent, and that the failure of any one sub-system shall not affect another sub-system. A failure in the timing system or the digital computer shall not affect any sub-system.

2.1.1.2 (First Sentence) The wording is misleading in view of the actual distribution of high vs low level channels and high vs low accuracy channels.

2.1.1.2 SIGNAL GROUNDING

Recommend that a brief description of the input grounding be presented, rather than as stated. The low level signals cannot be single-ended signals. These signals must be a balanced input with a shielded line which is grounded. The high level signals can be either balanced or single-ended signals.

2.1.1.2 SOURCE IMPEDANCE

Some high level signals could be more than 1000 ohms, such as signals from various control systems and potentiometers.

In the high accuracy channels, the specification as stated permits the output impedance of the differential amplifiers to be 1000 ohms or less. The amplifiers recommended by the criteria have a specified output impedance of 1 ohm or less. Since 1000 ohms could cause errors and may also create an unnecessary strain on performance for the system manufacturing, it is suggested that this value be reduced to at least 500 ohms maximum for the high accuracy channels.

2.1.1.3 OVERLOAD SIGNALS

Analog: It is suggested that the overload signal to the low level multiplexers and to the narrow band, differential DC amplifiers be changed to ± 10 volts.

2.1.1.4 ANALOG PATCHBOARD

In view of a recommendation requesting that the narrow band amplifiers be made a part of this system, it is suggested that consideration also be given to include the patchboard in the system.

2.3.1.1 ANALOG SCANNING

The distribution of high level vs low level channels and high accuracy vs low accuracy channels is listed incorrectly. See W memo CD-1215 dated 1/8/63 to Limbacher from Dippel.

2.3.2.1 ANALOG

(First Paragraph) All high accuracy, low level signals will enter the system through narrow band (NB), differential DC amplifiers which are to be included as a part of the system. See W memo CD-1215 dated 1/8/63 to Limbacher from Dippel.