

EVENTS LEADING TO EVALUATION

• Study Contract for GOSS and IMCC Requirements

17 contractors submitted bids.
Philco chosen on basis of evaluation to make the study.

• Kaiser Selected by Corps of Engineers to:

Design IMCC Building
Design requirements based on study contract.

Building design now complete and initial building
contracts have been awarded.

Contract for remainder of building to be awarded in February.

• IBM Selected as WICC Contractor

IBM selected as contractor on basis of source evaluation
from 11 proposals.

• Preproposal Review of Companies Desiring to Bid

To be discussed in more detail.

• IMCC and GOSS Study Results Available to All Bidders.

Latest Philco study documents given all bidders.

70 percent building design also made available.

• Question-Answer Conference Held with All Prospective Bidders
After RFP Initiated.

PREFPROPOSAL REVIEW

Initial letter from NASA to 103 companies of NASA's intent to have IMCC designed and implemented.

Letter listed five major requirements:

1. Participated as major contractor in design and implementation of a large tracking and data systems network.
2. Had prime responsibility for integration of activities of a substantial number of contractors involved in the implementation of a geographically widespread data handling system.
3. Been responsible for design and implementation of a control center facility in support of a research or defense project.
4. Demonstrate capability and experience in the design and implementation of high-speed data transmission and computing system.
5. Been responsible for the design of an extensive communications network involving voice, TTY, and digital data.

As a result of this procedure, 19 contractors submitted material to NASA to qualify them as bidders on the IMCC contract.

PREPROPOSAL REVIEW (Cont'd)

NASA evaluated qualifications and sent RFP to those seven qualified and all others desiring to submit bids on IMCC.

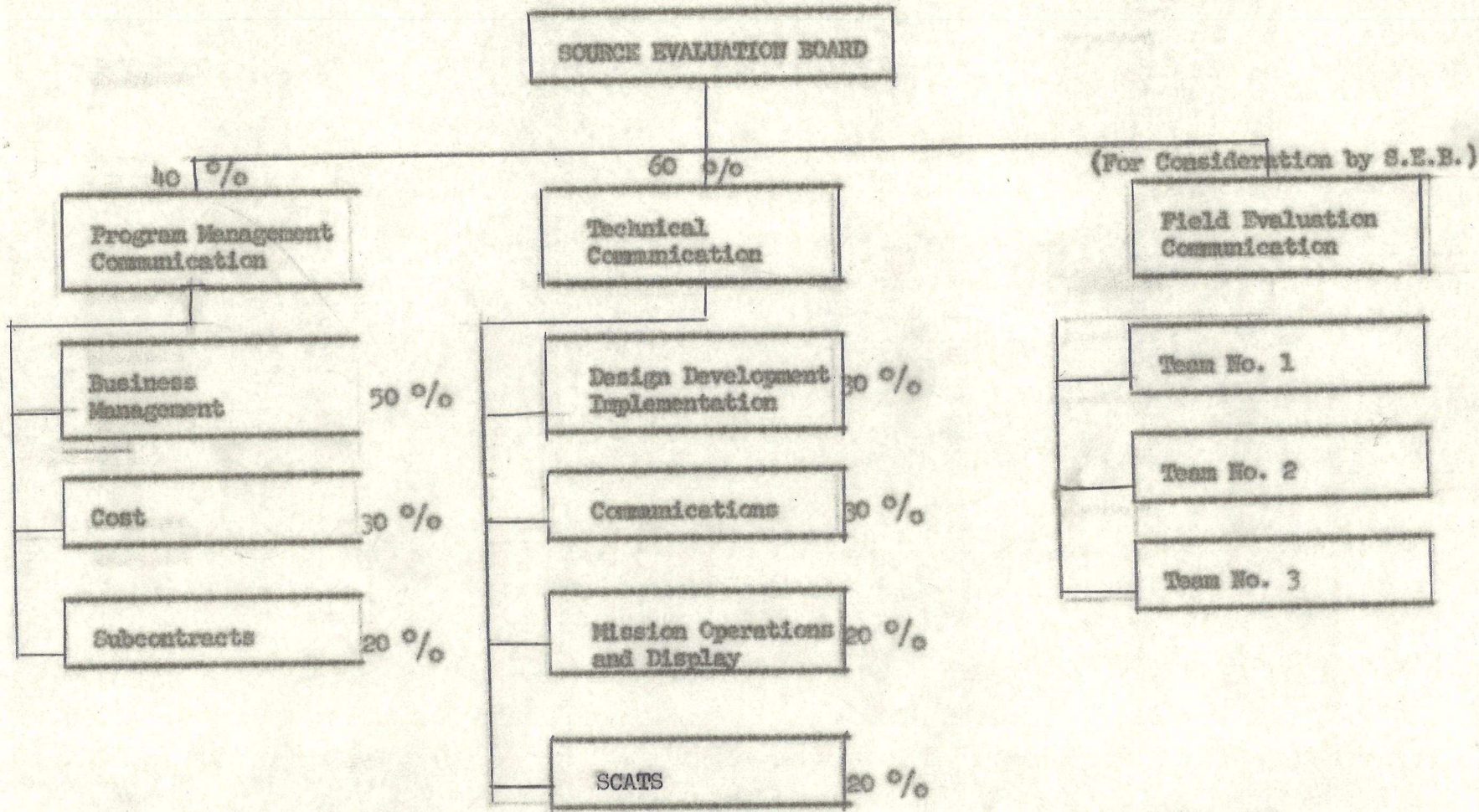
Those submitting bids are:

Bendix
Hughes
IBM
ITT
Lockheed
Philco
RCA

The GE and STL companies were considered qualified but did not submit.

Bendix and Hughes considered to be marginal and notified accordingly. However, all proposals given equal considerations during evaluation.

Also, a great number of subcontractors were sent condensed RFP for information purposes.



RATINGS USED

Outstanding	7
Excellent	6
Very Good	5
Good	4
Satisfactory	3
Fair	2
Poor	1
Unacceptable	0

PHILCO

BEST TECHNICAL PROPOSAL

Complete and well thought out design concept.

Systems proposed were detailed. Each major function separated.

Very good appreciation of implementation problems, unification and integration tasks.

MINIMUM OF REDIRECTION

Design reflects MSC requirements

Design more developed than any other bidder.

VERY GOOD MANAGEMENT

Strong organization group to be located in Houston. Key personnel relevant experience was impressive. Procurement policies and procedures were good.

THIRD HIGHEST COST

For system proposed cost is considered realistic.

MOST LIKELY TO MEET SCHEDULE

Systems concept more developed than other bidders resulting in initial performance specifications already available.

IIT

• VERY GOOD UNDERSTANDING OF PROBLEM

Good appreciation of overall task lacked unified display concept.

• MAJOR TECHNICAL RESERVATIONS

Excessive number of tasks assigned to the communications processor. Eliminated the capability to separate major systems to facilitate check out and future modification.

Major elements of the IMCC dependent on early operation of the communications processor.

Existing concept would require significant redirection of the RTCC contractor.

• VERY GOOD MANAGEMENT

Strong organization group to be located in Houston.

Subcontract structure very good.

Procurement policies and procedures were good.

Previous customer interviewed reported poor performance (Big Rally II)

• INADEQUATE MANPOWER

Manpower proposed for unification and integration considerably underestimated.

Only one shift of M and O personnel provided.

Previous customer interviewed reported it was necessary to direct IIT to provide adequate manpower (465L).

ITT (Cont'd)

• FOURTH HIGHEST COST

System costs considered realistic.

Software costs considered low because of inadequate manpower.

• CONSIDERABLE REDIRECTION

Extensive modifications to achieve desired utilization of the communications processors.

Considerably more work required in display area, particularly personnel consoles.

LOCKHEED

GOOD APPRECIATION OF NETWORK OPERATING PROBLEMS

Proposal reflected bidder's experience in network operations.

However, showed lack of appreciation of manned aspects of space flight.

GROSS MISCONCEPTION OF THE IMCC REAL-TIME FUNCTION

Failed to show any understanding of rapid reaction required by flight control team.

Failed to show an appreciation of the large amounts of data required at the IMCC.

PROPOSED MANUAL SYSTEM INADEQUATE

Manual display system requires excessive number of operating personnel.

Results in cumbersome and undesirable operating procedures.

Manually controlled communications switching cannot satisfy real-time data requirements.

VERY GOOD MANAGEMENT

Project organization in Houston and considered to be very good.

Work experience on satellite test center can be applied to IMCC.

Subcontract and control considered very good.

Field committee reports on past performance on cost and schedules were unfavorable.

LOW COST DUE TO MANUAL SYSTEM

Substantial increase in cost would result from redesign required in the display and communications systems.

MAJOR REDIRECTION

All of the above considerations would require an almost prohibitive amount of redirection by the NASA.

RCA

• **GOOD APPRECIATION OF OPERATIONAL PROBLEMS**

Well outlined formulation of tasks.

Particular attention to GOSS unification.

• **LACK OF DEFINITIVE SYSTEMS**

Number of systems solutions presented.

Tradeoffs established but final system not developed.

Lacks unified IMCC concept.

• **UNDUE RELIANCE ON RTCC AND COMMERCIAL CARRIER**

Assumed all communications processing and display driving to be RTCC function.

Contrary to RFP but not justified.

Assumed rented terminal and intercom equipment.

Not desirable due to management control problems.

• **GOOD MANAGEMENT**

Unique system of part-time program management at Houston and New Jersey.

• **FIFTH HIGHEST COST**

Proposal cost reflected unwarranted assumptions.

Costed system not the recommended system in the proposal.

Required system substantially higher in cost.

• **MAJOR REDIRECTION**

Proposal far from final design stage.

Would require considerable NASA direction.

IBM

STRONG IN COMPUTER RELATED AREAS

Design of communications processor was very good and showed good design detail.

Very good understanding of RTCC interface problems.

LACKED DETAIL UNDERSTANDING OF OPERATIONAL REQUIREMENTS

The bidder's presentation of the tasks to be performed was poorly developed and considered inadequate.

Proposal showed improper use of the mission operations room and a complete lack of understanding of a centralized control concept.

However, detail data network checkout was very good.

DISPLAY SYSTEM OVER SOPHISTICATED

Duplication of group displays in several areas considered to be unnecessary and unjustified.

Unnecessary display transfer system.

Elaborate and unjustified display storage subsystem.

PROGRAM MANAGEMENT CONSIDERED ONLY FAIR

Key personnel drawn from widespread organization making for difficult management problems.

Personnel experience very good in computers but poor in all other areas.

Manpower levels proposed considered to be excessive reflecting lack of understanding.

HIGH COST

In spite of elaborate and over sophisticated system, the exorbitant cost could not be justified.

HUGHES

• **POOR UNDERSTANDING OF OVERALL TASK**

Technical depth of proposal extremely limited.

Weak and vague in entire area of COSS unification and IMCC integration.

Communications system proposed was difficult to understand and completely lacking in detail design.

Bidder lacked knowledge of communication carrier techniques.

Proposed use of data processors was vague and confusing. In fact, evidently proposed four computers but costed only two.

• **POOR PROJECT MANAGEMENT**

Proposed small liaison group in Houston.

Company has only limited related experience.

Proposed no NASA systems review prior to delivery.

Second shift M and O personnel flown in for missions only.

• **LACKED UNDERSTANDING OF RTCC INTERFACE**

Systems checkout largely accomplished in California.

• **REDIRECTION REQUIRED BY NASA PROHIBITIVE**

BENDIX

• POOR UNDERSTANDING OF OVERALL TASK

Technical depth of proposal extremely limited.

No major problem areas identified.

No specific plans to the integration and unification tasks.

Proposed subsystem checkout was good.

• DESIGN AND IMPLEMENTATION APPROACH NOT COMPATIBLE WITH SCHEDULE REQUIREMENTS

Proposed to design and build communications processors.

Proposed to design and build intercom system.

• LACKED APPRECIATION OF FUNCTION OF IMCC

Relationship of MOCR and SSR incorrect.

Resulted in improper design of communications and display system.

• POOR MANAGEMENT

Proposed only a small liaison group in Houston.

Lacked understanding of coordination necessary with NASA.

Key personnel related experience weak in all areas other than operations and maintenance.

Staffing proposed was inadequate.

• LOW COST

Lack of design detail and understanding of overall task suggests little reliance can be placed on the cost estimate presented.