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P&C-A-66

CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D.C. 20505

30 AUG 1966

MEMORANDUM FOR : Director, National Reconnaissance Office

SUBJECT : HEXAGON Sensor Subsystem Source Recommendation

REFERENCES :
(1) BYE-52304-66, dated 29 April 66
(2) BYE-1670-66, dated 22 July 66
(3) BYE-1671-66, dated 21 July 66
(4) BYE-1514-66, dated 12 May 66
(5) BYE-52333-66, dated 20 May 66
(6) BYE-1522-66, dated 8 July 66
(7) BYE-1680-66, dated 8 July 66
(8) BYE-1516-66, dated 27 May 66

1. In accordance with the direction of the Director, National Reconnaissance Office Action Memorandum No. 6 (Reference 1), the HEXAGON Sensor Subsystem Source Selection Board has conducted an evaluation of the proposals received from Perkin-Elmer and Itek (References 2 and 3). This memorandum represents a summary of the findings of this evaluation proceedings along with a source recommendation.

2. The Source Selection Board has examined all aspects of the referenced proposals and evaluated them against the specifications and requirements contained in the HEXAGON Request for Proposal (Reference 4). To the best of the board's knowledge and ability, all the relevant information and experience has been brought to bear in this evaluation. The adequacy and merits of the contractor's proposed designs as well as the technical and managerial capabilities of the companies to prosecute the development program were considered. It is the unanimous conclusion of the Source Selection Board that Perkin-Elmer is the better qualified of the two contractors. Therefore, the board recommends that you approve the selection of Perkin-Elmer as the HEXAGON Sensor Subsystem contractor.

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3. In accordance with your direction (Reference 5), the HEXAGON Sensor Subsystem Request for Proposal was released to Perkin-Elmer and Itek on 23 May 1966. The proposals were received from these two contractors on 22 July. In order to facilitate a detailed evaluation of these proposals, a Technical and Operations Evaluation Group and a Management, Production, and Logistics Evaluation Group were constituted (References 6 and 7). These evaluation groups were charged with an in-depth analysis of the proposals and they in turn drew on various advisors and consultants to aid them in their work. The two evaluation groups reported their findings to the Source Selection Board on 29 July. Copies of these findings are included as Attachments Three and Four.

4. The Source Selection Board has weighted the Evaluation Group ratings in accordance with a procedure developed prior to the receipt of the proposals (Reference 8). The scoring for the Itek proposal is tabulated in Attachment One to this memorandum and that for the Perkin-Elmer proposal in Attachment Two. Itek scored a total of 54.7 points out of a possible 100 and Perkin-Elmer scored 69.3 points. The Source Selection Board has reviewed the Evaluation Group ratings and has found no reason to take exception with the Evaluation Group judgments.

5. The preponderance of the differential between the Perkin-Elmer and the Itek scores is attributable to the Technical and Operations Evaluation Group's rating. In this area Itek received a total of 39.1 points and Perkin-Elmer 54.9. Although both technical proposals met the general requirements and specifications of the RFP, the Perkin-Elmer proposal is clearly better suited to the overall search and surveillance mission as defined in the RFP. The Perkin-Elmer system has a higher performance potential both in terms of resolution and in terms of mission duration. The Perkin-Elmer system meets the 2.7' nadir resolution specification at an altitude of 92.5 nm while the Itek system must operate at an altitude of 84 nm to meet the same specification. The Perkin-Elmer camera system is 700 pounds lighter than the Itek camera system. When configured for a 30-day mission, the Perkin-Elmer space vehicle will probably be at least 1,000 pounds lighter than the Itek space vehicle. The 10% resolution margin and the overall weight margin of the Perkin-Elmer system over the Itek system were judged by the Source Selection Board to be significant factors.

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6. In addition to the performance margin cited above, the Itek system poses a significantly larger development risk than does the Perkin-Elmer system. The Itek tolerances throughout will be more difficult to meet than the corresponding Perkin-Elmer tolerances. This implies that the Itek development program would be characterized by a greater risk of schedule slippage and a greater risk of falling short of the performance objectives.

7. The Itek system contains more and larger optical elements than does the Perkin-Elmer system. As all of these optical elements must be fabricated to exceptionally excellent surface quality, the follow-on production program in the case of the Itek system can be expected to result in greater difficulties in meeting the schedule and performance objectives than would be the case for the Perkin-Elmer system. The tighter tolerances on all of the Itek camera mechanisms will also contribute to follow-on procurement performance and schedule problems. In addition, the Itek system has significantly less performance margin than does the Perkin-Elmer system and, therefore, the probability of routinely meeting performance objectives will be lower for the Itek system than the Perkin-Elmer system.

8. Both contractors were deficient in their technical proposal presentations. Both made numerous errors in their design and analysis as well as in computing the performance parameters specified in the RFP. These errors were sufficiently serious to lead the Source Selection Board to question the adequacy of the engineering teams that prepared the proposal. This was particularly so in the case of Itek. However, the Source Selection Board has concluded that either company has adequate technical resources to pursue a development program if they choose to allocate these resources to this program.

9. The level of design detail presented in the Perkin-Elmer proposal as compared to that presented in the Itek proposal clearly indicates that the Perkin-Elmer design is appreciably more mature than that of Itek. The Source Selection Board conclusion is that the schedules proposed by both companies are very tight. However, from a technical risk viewpoint Perkin-Elmer has a better chance of meeting their schedule than does Itek.

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10. In the Management, Production and Logistics Evaluation area, Itek scored 15.6 points and Perkin-Elmer 14.5. This small differential in favor of Itek is largely attributable to Itek's experience on the CORONA and LANYARD programs. While this differential is real, it is not nearly large enough to cause the Source Selection Board to re-evaluate the selection of Perkin-Elmer as the recommended contractor. From a Management, Production and Logistics point of view, there is no serious doubt about the capability of Perkin-Elmer to prosecute the proposed program. However, this program will tax the corporate resources to such an extent that prior to the award of any substantial new government business, a contractor facility capability survey should be conducted.

11. The development program cost proposals as adjusted by the Cost Evaluation Group are 74.587M for Itek and 81.848M for Perkin-Elmer. The Itek follow-on production program unit cost is approximately 10% higher than is the Perkin-Elmer follow-on unit cost. Over the expected duration of the program, these cost differentials tend to be cancelling and in any case are sufficiently small so that in the judgment of the Source Selection Board they should not have a bearing on the choice of contractor.

12. All of the above considerations have influenced the Source Selection Board's conclusion that the contractor best qualified for this program is Perkin-Elmer. Although the Perkin-Elmer system holds greater performance potential than the Itek system and is characterized by a significantly lower level of development risk, it is nonetheless a state of the art technical undertaking which will require a maximum effort by all concerned if it is to have a successful conclusion. It is the view of the Source Selection Board that this contractor's willingness to bring to bear necessary assets will significantly influence the degree of success that will be achieved. It is of great importance that this be clearly understood by the contractor prior to the initiation of a development program.

Leslie C. Dirks

LESLIE C. DIRKS
Chairman, Sensor Subsystem
Source Selection Board

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CONCUR:

F. S. Buzard
Colonel F. S. Buzard

[redacted]

James H. McDonald

[redacted]

ATTACHMENT I

ITEK RATING SUMMARY

Technical and Operation (Weight 75)

Category		Evaluation (0-9)	SSB Weight	Score
I.	Performance Evaluation	4.0	30	13.3
II.	Development Risk	5.4	6	3.6
III.	Design Margin	4.2	12	5.6
IV.	Value Function	6.8	14	10.6
V.	Reliability	3.8	6	2.5
VI.	Operational Considerations	6.0	8	5.3
VII.	Effect on Space Vehicle	4.0	8	3.6
VIII.	Interface Definition	3.2	6	2.1
IX.	Master Program Plan, Design Development Plan, Qualification Plan, Integration Assembly and Checkout Plan	5.0	8	4.4
X.	Fabrication and Delivery Plan, AGE Design Development and Delivery Plan, Mass Properties Control Plan, Reliability Program Plan	5.0	2	1.1
			100	52.1

Management, Production and Logistics (Weight 25)

I.	Past Performance	7.0	7.5	5.8
II.	Management and Organization	7.0	7.5	5.8
III.	Master Planning Scheduling	7.1	7.5	5.9
IV.	Financial Capability and Accounting Policies	5.7	7.5	4.8
V.	Production Capability and Subcontracting	6.3	14.0	9.8
VI.	Facilities, Special Tooling and Government Furnished Property	4.3	14.0	6.7
VII.	Manpower	5.3	14.0	8.2
VIII.	Interference with Other Programs	4	14.0	6.2
IX.	Quality Assurance	6	14.0	9.3
			100	62.5

Weighted Score: 54.7

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ATTACHMENT II

PERKIN-ELMER RATING SUMMARY

Technical and Operation (Weight 75)

Category		Evaluation (0-9)	SSB Weight	Score
I.	Performance Evaluation	6.5	30	21.7
II.	Development Risk	7.0	6	4.7
III.	Design Margin	7.0	12	9.3
IV.	Value Function	9.0	14	14.0
V.	Reliability	4.6	6	3.1
VI.	Operational Considerations	6.2	8	5.5
VII.	Effect on Space Vehicle	7.8	8	6.9
VIII.	Interface Definition	5.8	6	3.9
IX.	Master Program Plan, Design Development Plan, Qualification Plan, Integration Assembly and Checkout Plan	3.6	8	3.2
X.	Fabrication and Delivery Plan, AGE Design Development and Delivery Plan, Mass Properties Control Plan, Reliability Program Plan	3.4	2	0.8
			100	73.1

Management, Production and Logistics (Weight 25)

I.	Past Performance	5	7.5	4.2
II.	Management and Organization	6.1	7.5	5.1
III.	Master Planning Scheduling	5.7	7.5	4.7
IV.	Financial Capability and Accounting Policies	7.3	7.5	5.1
V.	Production Capability and Subcontracting	4.7	14.0	7.3
VI.	Facilities, Special Tooling and Government Furnished Property	3.7	14.0	5.7
VII.	Manpower	5.0	14.0	7.8
VIII.	Interference with Other Programs	7.0	14.0	10.9
IX.	Quality Assurance	4.0	14.0	6.2
			100	58.0

Weighted Score: 69.3