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29 August 1966

**MEMORANDUM FOR: Deputy Director for Science and Technology**  
**SUBJECT : Chronology of FULCRUM Effort With Bek**

1. June 1963 - DCI convenes Parcell Panel who recommends improvement program for CORONA.
2. October 1963 - DCI asks Dr. Wheeler for CORONA Payload Improvement Proposal.
3. October 1963 - CIA convenes Drell Committee for basic CORONA examination.
4. February 1964 - Drell Committee report supports CIA position.
5. February 1964 - CIA contracted with Bek Corporation to determine the feasibility and potential intelligence value of using various individual sensors and combinations thereof in the satellite system.
6. 11 May 1964 - Dr. Aschenbrenner of Bek provided CIA with progress report on FULCRUM. The culmination of the effort established a desirable design of a system which would produce two to three foot resolution over a wide swath of the ground. Dr. Aschenbrenner presented three proposed camera designs; all included 120 degree scan angle. CIA agrees that twin 60" F/3 camera design desirable.
7. June 1964 - Land Panel reviews FULCRUM concept, recommends program to prove technical feasibility; DCI approves.
8. June 1964 - CIA begins alternate camera studies at PE.
9. August 1964 - CIA receives informal word that MacMillan had started competitive efforts to FULCRUM at Eastman-Kodak, Fairchild, and Bek.

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**SUBJECT: Chronology of FULCRUM Effort with Itak**

10. 18 September 1964 - Itak proposes work statement which would encompass work on both the twin 60" and the 1/4 focal length systems. Manning to accomplish both tasks extremely critical. Itak agreed to re-assess their resources to determine if it feasible to pursue both configurations.
11. September 1964 - CIA approves alternate camera design work at PE.
12. 23 September 1964 - Itak demonstrates the availability of personnel, and CIA authorized continued work on the two configurations, emphasizing the twin 60 optical bar has priority.
13. 5 November 1964 - As a result of Itak slip behind in their progress of FULCRUM effort, meeting was held and Itak asked to state advantages and disadvantages of continuing effort on the 1/3 (formerly 1/4) focal length. As a result of this meeting, CIA directed that the 1/3 focal length work be cancelled.
14. 23 November 1964 - Itak writes letter recommending 1/3 focal length breadboard be continued. Also, shortly thereafter, Dick Philbrick wrote letter to Dr. Wheelon stating that cancellation of 1/3 focal length was a mistake.
15. 11 January 1965 - During preparation for DCI/Land briefing on 18 January, conversation with CIA personnel and Philbrick and Levison concerning prerogatives of program was held. Following this discussion, Mr. Maxey talked to Mr. Wolfe of Itak and suggested that he and Wolfe must insure good management relations between the Government and Itak for the sake of both FULCRUM and CORONA programs. Mr. Wolfe agreed.
16. 16 January 1965 - Informal gathering at Mr. Lindsay's residence gave every indication that earlier differences had been resolved and management most anxious to get on with job.
17. 18 January 1965 - Briefing at Itak to Mr. McCone, DOD personalities, and Dr. Land. Privately, Mr. Lindsay advised Mr. McCone of competitive work that Itak was doing to FULCRUM for the Air Force. During the course of the briefing, Mr. McCone asked Mr. Lindsay if the FULCRUM approach was the best approach. Lindsay, Wolfe, and Levison

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all answered affirmative, though answers well couched. However, eventually had to agree that, considering the technical reach, manufacturability, and operability, the FULCRUM design was the optimum.

18. 19 February 1965 - Mr. Lindsay directed a letter to Dr. Whoolan claiming that project office had insisted upon a 120 degree scan angle, thereby projecting F design. It should be noted that 120 degree scan angle did appear in all work statements prepared by Dek and also that Dek initially recommended the 120 degree scan as a result of their study contract commencing February 1964. (Please confer 11 May 1964 above.)

19. 21 February 1965 - In preparing for Land Panel briefing on 23 February, Dr. Whoolan raised the 120 degree scan angle issue in presence of Philbrick, Wolfe, Madden, and company. From discussion, it evident that Dek was not restricted to the 120 degree scan angle requirement although they were the ones who had fostered it initially.

20. 23 February 1965 - Land Panel briefing at Dek on F system as well as Air Force competitive systems. Mr. Levinson and Mr. Wolfe, after briefing and while Land Panel was in executive session, informed Land that Dek was withdrawing from the FULCRUM program.

21. 25 February 1965 - Mr. Lindsay visits Mr. McCann.

22. 25 February 1965 - Mr. Madden, the Dek Project Officer, acknowledged to key project personnel, that the company would not undertake further work with the Agency under the present circumstances.

23. 2 March 1965 - Mr. Madden and Mr. Morser reject statement which Mr. Lindsay had made stating that six Dek officials threatened to resign if Dek did not terminate its association with the FULCRUM program.

24. Nearly a year later, CIA learns that the day before the Land Panel meeting of 22 February 1965, Dr. MacMillan had given a development contract to Eastman-Kodak for the Follow-On-Search-System.

25. March 1965 - PE states they can build FULCRUM system with some modification.

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**SUBJECT: Chronology of FULCRUM Effort With Itak**

26. July 1965 - Dr. MacMillan advises Vance and McCone that EK has been selected for new satellite search and surveillance system and that he would fund a back up following competition of Itak and PE designs.
27. August 1965 - New NRO Agreement.
28. September 1965 - PE chooses F' system over M'.
29. September 1965 - MOL authorized. EK selected for MCL, ordered to transfer design and equipment of new search system to Itak.
30. October 1965 - Flax replaces MacMillan.
31. December 1965 - CIA first visibility into Itak/EK Designs.
32. April 1966 - ExCom approves HEXAGON Management Plan.
33. May 1966 - CIA assumes contract responsibility for all HEXAGON sensor systems. (Itak s-2 and f/2) and PE). RFP's issued.
34. July 1966 - HEXAGON proposals received on new search system from PE and Itak. Itak did not bid on EK s-2 system but on their own f/2.
35. August 1966 - Proposals evaluated.
36. 1 September 1966 - HEXAGON sensor sub-system source selection scheduled to brief Dr. Flax on findings.

**JOHN J. CROWLEY**  
Director  
Office of Special Projects

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