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1 AFDDC Appr AFMRD-Ol 56440 ~~15 October 1958~~

2 AFCVC Sig OCT 1 1958

[redacted] nle

Mapping Satellite Proposal (Project Salaam) (U)

1. You may recall a briefing at this Headquarters on 26 September 1958 given by the General Electric, [redacted] team on their Mapping Satellite Proposal called Project Salaam. The proposal looks very good from a reconnaissance standpoint and has the potential of tying all map datums together very accurately and of locating targets with a high degree of precision.

2. The team representatives briefed ARPA on this proposal on 14 October 1958. They are scheduled also to give their briefing to AFMRD on 22 October and to [redacted] on 28 October. ARDC Missile Guidance, Bombing and Navigation people will attend both briefings. At this time, ideas for other uses of the system can be exchanged between [redacted] and the Air Force engineers as suggested in [redacted] letter. (Incl 2)

3. ARDC is scheduled to complete a technical evaluation of the Salaam proposal by approximately 1 December 1958 at which time results and recommendations will be presented to this Headquarters. Further Air Force action regarding possible support of the Salaam Project to satisfy [redacted] dated 26 September 1958 for a Satellite Reconnaissance Weapon System is contingent upon the results of the ARDC technical evaluation and certain development responsibility decisions to be made by the ARPA.

RECOMMENDATION

4. It is recommended that the attached letter to [redacted] be signed.

[redacted] Conf [redacted] in accordance with [redacted]

2 Incl
1. Proposed ltr to [redacted]
2. Cy ltr fr [redacted] 29 Sep 58

/s/ [redacted]
Deputy Director of
Research & Development, DCS/D

[redacted]

[redacted]

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Dear Mr. [redacted]

Thank you for your letter of September 29, 1958 concerning the recent briefing to this Headquarters on the Salaam Project. The proposed program appears to have potential to help solve one of the basic problems of bombing and missile guidance, that of precision target location.

As you know arrangements have been made for representatives of the General Electric, [redacted] and Sulova project team to brief our technical people at the Air Force Ballistic Missile Division and Wright Air Development Center on the Salaam proposal. Air Research and Development Command Navigation and Guidance experts will attend both briefings and will participate in the technical evaluation of the proposal.

Future Air Force action in this area is contingent upon decisions by the Advanced Research Projects Agency.

Sincerely yours,

/s/ CURTIS E. LeMAY
General, U.S. Air Force
Vice Chief of Staff

[redacted]

[redacted]

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[redacted]

September 29, 1958

General Curtis E. LeMay
Vice Chief of Staff, U.S. Airforce
Pentagon Building
Washington, D.C.

My dear General:

The purposes of this letter are: 1) to express regret that questioning did not develop at the Salaam briefing on Friday afternoon to indicate possible uses for the results of the project; 2) to convey to you (as a case history) the story of the Salaam project in relation to the [redacted] Monticello methods; and 3) to suggest steps which might be taken to assure that the full benefits of these methods are applied operationally elsewhere in the Airforce where they may fit.

(Under 1) As stated in previous letters, these techniques result in records of sensor information which can be accurately and automatically put together to (a) furnish a continuous record of just how a sensor ppi would look during a flight, thus allowing continuous visual comparison during flight; b) be sufficiently accurate for offset bombing at large distances (accuracy is independent of distance)and; c) serve as an automatic guidance and bomb release control for both manned and unmanned vehicles receiving sensor signals for active or passive sources.

(Under 2) Mapping by satellite has been discussed for a long period of time. Last November the Corps of Engineers issued a requirement letter to General Electric for a recoverable satellite mapping project based on simple photography. Requirements called for a highly stable platform and a highly stable orbit. GE was unable to meet these requirements and so reported to [redacted] this Spring. Later, in June, they learned of [redacted] suggestions of last Winter (see my letter par. 5, lines 12 14) of using concomitant star and ground photographs and reducing the relatively inaccurate data

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to accuracy by [redacted]-Monticello methods. Conferences rapidly showed that these ideas, previously tested under Air Force sponsorship, would be relax stability and orbit requirements as to make the proposed satellite mapping project an immediate and assured success even in the present stage of satellite control. Intense interest automatically followed as [redacted] mathematical and geodetic experts confirmed these conclusions.

(Under 3) It is my belief, in my limited knowledge, that the chief problems of automatic guidance and bombing at great distances from either manned or unmanned vehicles could be materially lessened by [redacted] methods. My mathematical instincts lead me to abhor a system where position is measured by integration of data which may contain a bias, such as gyroscopes and accelerometers. If your systems people knew the possibilities of the [redacted] methods and our technicians knew the problems of your systems people, a break-through as fundamental as that which happened in satellite mapping may be possible. Directives and appropriations looking to this end are suggested.

Sincerely yours,

[redacted]

[redacted]