

JAN 11 1960

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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11 Jan 1960

MEMORANDUM FOR THE ASSOCIATE ADMINISTRATOR

Subj: Meeting with Director, Development Operations Division,
ABMA, Huntsville

The following people participated in an all day meeting at
ABMA Huntsville on 6 Jan 1960:

Dr. W. Von Braun
Mr. E. Rees
Mr. A. Hyatt
Mr. A. Siepert

Several members of the Development Operations Division staff
also participated in particular subjects as required.

I Management Plan for Saturn Upper Stages

Dr. Von Braun's people have been working on this problem for several days. One of their principal concerns was the selection of a limited number of industrial contractors who would be asked to participate in the competition. It was their belief that specific constraints such as (1), "The contractor must have recent experience in the development of vehicles fueled with cryogenic propellants, and (2), a contractor must have recent experience in large ballistic missile systems" should be included in the request for proposals". The NASA Headquarters representative proposed that these constraints should not be included in a direct sense but rather that industry should be informed that such items as the above will be heavily weighed in the selection processes. In this manner the burden of proof on whether or not a company should propose will rest with a company's judgment rather than ABMA deciding that only certain companies have the necessary experience. After some discussion all participants agreed that the latter approach should prevail.

LCOL Hirsch presented a list of over 100 companies, most of whom might have at least some remote interest in this area. The participants at the meeting selected 20 companies from this group who would be invited to submit their proposals and

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participate in the competition for the Saturn second stage. Since a public release of the fact that ABMA will hold a competition for this stage will be made, it was also agreed that any other company who requests to participate will be allowed to do so. Most companies will realize that this is a "big league" competition and I doubt that there will be any companies aside from those selected who would seriously consider submitting a full scale proposal.

The following schedule for conducting the competition was agreed to:

- (1) Bidders conference at ABMA, 26-27 Jan 1960.
- (2) Proposals from contractors must be submitted to ABMA by the end of the working day of 29 February 1960.
- (3) Presentation of Source Selection Board recommendations to the Administrator on 1 April 1960.
- (4) A Technical Evaluation Team and a Business Evaluation Team will be established by ABMA. The Chairman of the Business Evaluation Team will be LCOL Hirsch of the Industrial Division of ABMA. He was nominated by Gen. J. Barclay. The Chairman of the Technical Evaluation Team will be Mr. Herman Widener of the Development Operations Division. Mr. R. Cushman will represent NASA Headquarters on the business team.
- (5) A Source Selection Board which would review and analyze the findings of the technical and business evaluation teams and make recommendations to the Administrator will be composed of the following members:

Dr. O. Lange, Chairman	DOD, ABMA
Dr. W. Von Braun	DOD, ABMA
Mr. W. Mrazek	DOD, ABMA
Mr. E. Brackett	NASA
Mr. M. Rosen	NASA
Mr. E. Lowrie	Industrial Division, ABMA

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All of the above information together with an accurate specification for the second stage, major area funding plan, and other pertinent information will be submitted by Dr. Von Braun to NASA Headquarters.

ACTION

1. Dr. Von Braun will submit the first draft of a management plan to Headquarters, Director of Launch Vehicle Programs, (DLVP), by 9 January 1960. A complete and detailed plan will be submitted by 15 Jan 1960.
2. Mr. Hyatt will arrange for a presentation by the Source Selection Board to the Administrator on 1 April 1960.
3. Mr. Hyatt will consider the assignment of Headquarters personnel to the Technical Evaluation Team.

II Position of Dr. Von Braun on Funding Requirements for Saturn Program

It has been widely reported that Dr. Von Braun feels that \$250 million in FY 61 is needed to adequately prosecute the Saturn program. Since the planned allocation of funds to Saturn in FY 61 is now some \$100 million less than the above figure, Dr. Von Braun was asked his views on whether this extra sum is indeed required and how would it be employed. Dr. Von Braun replied that if he were asked such a question in a Congressional hearing, for example, his reply would be essentially as follows. It is not his responsibility to place great stress on stabilizing the National budget. From his point of view the added funds would provide very important impetus to the Saturn program as well as many important technical phases which could not be undertaken with the amount of FY 61 funds now planned. Specifically, Dr. Von Braun believed that the following accomplishments would accrue from the added funds for FY 61 and proportionate funding thereafter:

- (a) The program for development and completion of launching of the first ten vehicles could be speeded up about one year.
- (b) A second test position at Huntsville could be constructed.

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- (c) A second launching pad would be initiated.
- (d) A second test stand at Rocketdyne for continued reliability development of the H-1 engine would be undertaken.
- (e) A great deal of testing of all components and sub-systems would be carried out to ensure the maximum reliability possible beginning with the very first launching.
- (f) Dr. Von Braun believes that all of the additional funds would be used for research and development and little or none of the funds for long lead-time items for production quantity of vehicles.

ACTION

Dr. Von Braun will submit his considered views on the above subject in writing to Headquarters, DLVP.

III Space Exploration Program Council

Dr. Von Braun was informed of Mr. Horner's intent to establish this group and to hold periodic meetings. The first meeting will be held on Jan 28, 1960. Tentative agenda for the first meeting is to include a discussion of preparations for the forthcoming Congressional hearings and a discussion of program guidance for 1962 programs. It is Mr. Horner's wish that the first meeting be limited to the principal members only. This was transmitted to Dr. Von Braun. Dr. Von Braun suggested as a possible other agenda item for this meeting the definition of the prime missions of the various NASA field centers versus other activities that are going on at the various centers.

ACTION

Dr. Von Braun should schedule this meeting on his calendar.

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IV Organizational Plan and Relationship of the Future Launch
Vehicle Division of the NASA Huntsville Development Center
with NASA AMR Staff

Dr. Von Braun requested that Dr. Kurt Debus participate in this discussion. Dr. Debus proposed a plan which called for the establishment of a vehicle launching division or agency which would report to the Director of NASA Huntsville Development Center. The head of this group would then establish the necessary staffs at AMR and PMR to carry out all the functions involved in dealing with the Range Commanders and provide the necessary support for vehicle launching operations. Specifically, in the case of AMR, Mr. M. Gough would report to Dr. Debus. (I am assuming that if this arrangement is approved, Dr. Debus would be placed in overall charge and would report to Dr. Von Braun.)

This arrangement appears to be satisfactory to me, however, no commitments for Headquarters were made at this time. The arrangement for public information and public relations are specifically excluded and will be made through other channels. It was readily apparent to all that a plan of this nature would only come into being gradually and that a number of the existing arrangements for launching NASA vehicles will be carried out according to plans already in existence. They will be phased out gradually and into the new organization at an appropriate time.

ACTION

Dr. Von Braun will submit to Headquarters, DLVP, a suggested organizational plan of a launching operations group which would include the relationship to it of AMR and PMR. This plan will be submitted by 15 January 1960.

V Transfer of F-1 Management Responsibility to NASA Huntsville
Development Center

Since the Administrator has stated that the administration and technical direction of the development of the F-1 engine will be transferred to Huntsville, the question was raised of how this should take place. Mr. Rees at this point expressed a number of thoughts which relate to this question as well as a number of subsequent items. He was concerned that effort expended by Huntsville in these other directions would take away personnel which would be needed in the Saturn program thereby detracting from it. Also, many of these programs are well along and Huntsville

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did not participate in their initiation nor will they be able to assign the number of personnel to the direction of these programs that has been their practice in the past. Mr. Rees was concerned that the result would be that Huntsville would be accepting responsibility beyond what was justly theirs. After some discussion, Headquarters held to the position that the Huntsville Center was the most qualified and logical center to administer and direct this and other vehicle and propulsion area programs. It was also clear that the direction of these programs would have to be undertaken without changing the total ceiling of personnel complement at NASA Huntsville. Dr. Von Braun and Mr. Rees agreed that they would undertake the administration and technical direction of the F-1 program.

ACTION

DLVP will request in writing the Director of Development Operations Division, ABMA, to submit a plan to Headquarters for taking over and implementing of the F-1 development program.

VI Administration and Technical Direction of the 150-200K Liquid Hydrogen-Liquid Oxygen Engine Development

The state of preparation for holding the competition for the 150-200 K engine was explained. Again it was pointed out that Headquarters desires that NASA Huntsville take over responsibility for administration and technical direction of this program. Mr. Rees again discussed the same points that he had enumerated in relation to the F-1 program. In this case it was agreed that this program is more closely related to the technology of the Saturn upper stages. Dr. Von Braun and Mr. Rees agreed to undertake the administration and technical direction of the development of the 150-200 K engine.

Because Headquarters has already completed many of the mechanics of the engine competition it was agreed that Headquarters personnel would continue with prime responsibility for this project through the selection of a contractor. However, very close collaboration and coordination with people to be designated by Dr. Von Braun at Huntsville will take place.

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ACTION

DLVP will request in writing the Director of Development Operations Division, ABMA, to submit a plan to Headquarters for taking over the 150-200K H₂O₂ program.

VII Launching of Centaur Vehicle

The first launching of the Centaur vehicle is now scheduled for mid 1961. It appears to me that this provides ample time for NASA Huntsville to plan and carry out the launching operations of the Centaur developmental vehicles. The upper stage of Centaur is to be the third stage of Saturn, therefore, experience in launching Centaur vehicles should prove very valuable to Huntsville not only in learning to operate with liquid hydrogen but to have direct experience with the complete stage which will be the third stage of the Saturn. Consequently, the question was posed relative to Development Operations Division, ABMA undertaking the supervision of the launching of the developmental Centaur vehicles. By supervision, it is not meant that Development Operations Division, ABMA would furnish complete launching crews. Dr. Von Braun was informed that existing contractual arrangements already required Convair to furnish the necessary launching support. However, Dr. Debus's group would undertake supervision in areas they deem appropriate as well as make the necessary arrangements with AMR or other range for carrying out the operation. Some discussion on this subject ensued but in general, Dr. Von Braun and Dr. Debus were receptive to this proposal. It was pointed out that prior to a direct request to ABMA to submit a plan for this program, Headquarters will have to determine the status of planning for launching by the Centaur Project Director.

ACTION

1. DLVP will determine the present status of planning for development vehicle launching operations by the Centaur Project Director, LCOL John Seaberg.
2. Subject to the planning status as determined above and to further consideration by Headquarters, DLVP will request Dr. Von Braun to submit a plan for undertaking the supervision of the launching operations of the Centaur developmental vehicles.

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VIII Saturn Advisory Committee

Dr. Von Braun is willing to serve on the Saturn Advisory Committee as the ABMA representative.

IX Administration and Technical Direction of Electric Propulsion Programs

Some misunderstanding has existed as to whether or not Development Operations Division, ABMA would be requested by Headquarters to undertake administration and technical direction of electric propulsion programs. Headquarters position was that Development Operations Division, ABMA will be requested to carry out this work. Dr. Von Braun, Mr. Rees, and Dr. Stuhlinger were all quite receptive to this suggestion.

ACTION

DLVP will request Dr. Von Braun to assign the necessary personnel to participate in setting up this program and to carry out the administration and technical direction of the program.

X Communications Aspect of Management

Rapid communications by Headquarters and Huntsville are imperative. With this in mind, I asked Dr. Von Braun for his views on an arrangement, whereby once he has approved a program and a Headquarters Project Manager and a Huntsville opposite have been assigned, that flow of information, desires, policies, and directive to and from relative to that project, be via these individuals. It would be the responsibility of these individuals to make certain that they do indeed represent the policies of their respective organizations. Dr. Von Braun and Mr. Rees both agreed that this was a very desirable manner of operation and that they have been used to operating in this manner with ABMA in the past.

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XI Information to ABMA on Rover Program

Dr. Von Braun asked if it would be permissible to have a Development Operations Division, ABMA observer at the Rover Coordinating Committee in order that his organization may be kept abreast of the developments in this area as it may apply to future vehicle developments. I see no objection to this request.

ACTION

Mr. Finger will take the necessary action to permit an ABMA representative to participate as an observer at the Rover Coordinating Committee meetings.

Dr. Von Braun has nominated Dr. R. Shelton of ABMA as his representative.

Abraham Hyatt
Deputy Director, Launch Vehicle Programs

Copy to:
Dr. T. K. Glennan
Dr. H. Dryden
Gen. D. Ostrander
Dr. W. Von Braun
Mr. A. Siepert