

INDIAN SPACE RESEARCH ORGANISATION

HEADQUARTERS

MEMORANDUM

VERY SOON

FOR CHAIRMAN'S USE ONLY

For : Prof. S. Dhawan,
Chairman, ISRO.

File / Ref :

From : Y.S. Rajan,
ISRO HQ.

Date: June 17, 1977

Subject : An Aerospace Consortium for India/A Consultancy
Company within DOS.

- 1.0 The continuous reviews of our projects and observations otherwise are making it increasingly clear that the talents within ISRO are not adequate to meet the various demands of the complex space technology - both managerially and technically. Also the "inbreeding" leads to many inter-personnel problems which cannot be solved within ISRO without soft options of over duplication and import in many instances. One could afford to do this in the early stages of the ISRO programme because it not only gives easy (convenient !?) management structures but also leads to growth of talents needed at the initial stages. But such soft options are not possible in projects such as APPLE which are getting extremely complex and therefore costly.
- 2.0 It is in this context Chairman had mentioned some time ago that NAL should be "married to" ISRO very soon for some activities regarding satellite work; immediately, I had submitted a memo to Chairman which is given in the Appendix. Chairman had seen the memo. Chairman had promised that he would talk to Dr Valluri and Prof Rao to arrive at broad managerial agreements. Four precious months have slipped and various inputs that would have been available to APPLE had not taken place. The only link happens to be Dr Valluri and Dr Ramaseshan when they come for formal reviews.
- 3.0 On the HAL side things are slightly better because fabrication support cannot be had within ISRO ! Hence people have to go to HAL albeit helter skelter. So it is taking some shape.
- 4.0 Deep reflection over the past few months about the trajectory of ISRO and also the facts about the progress of our major projects especially APPLE point out the fact that it is not just enough to have HAL fabrication support move the projects. We need lot of brain to be utilised in much more formal ways. It is in this context I suggest Chairman considering organisation of an aerospace consortium immediately consisting of ISRO, HAL, NAL, BEL and perhaps one or two defence laboratories if they are

so willing.

- 4.1 This is not just a mere formal affair of "dog and pony show" done for Aero R&D Board. It should be a serious corporate commitment from the organisations concerned. To start with it should consist of at least one middle level scientist from each of these organisations having 4-5 hard-core engineers assisting them. These people should sit in once single place; the ideas about the various programmes of interest to the individual units will then flow thru these personnel. These persons having an intense awareness of the needs of their own organisation (both the present and future needs) will also get the familiarity with other capabilities through this co-location. Position papers and analysis papers should be created by this team. Then the heads of the individual organisations should formally meet to discuss these issues in broad terms once a month. In about a year the pattern of contributing mutually to each other will emerge.
- 5.0 I am aware that some of the organisations like HAL, NAL do not have clarity about their long range strategy to the extent we have. But this need not be of serious concern to start with.
- 6.0 To give ^a little muscle to this unit certain formal activities of cooperation between the organisations should slowly be routed through this "Aerospace Consortium" unit for a while. Also in a fire fighting mode some small-scale cooperative activities between the organisations should be worked out within a year's time. APPLE will be ideal focal point.
- 7.0 To argue on the side of pessimist one may wonder whether we should load such a critical experiment on a project like APPLE. Another question which will arise is what we have done in the three decades and how something new is going to come now! It is all the same old rotten path ! I somehow feel that we can afford to be optimistic neglecting some of these doubts because there are certain major events which have taken place in the country which can make the people to come together. Another one important national psychosis nowadays would be generally hard-questioning of the relevance big science which I hope will make the bosses in the big science to pull together or to else they will hang together.
- 8.0 I am rushing this idea to you because something is to be done soon; this is not a mere spike and has been a thought out idea. Later it will be hard to get some opportunity

to start this "consortium"; may be one can wait for INSAT to get approved. Even for INSAT the schedules are critical and one can use the same old argument of not experimenting with a time critical project. But I am sure, without a concentrated activity (like APPLE, INSAT, SLV-Variant) nothing will move in forming a consortium because without action, it will be end up a coffee table chat.

9.0 AN IMMEDIATE SOLUTION

One excellent way of starting this activity (which I consider is in the interest of ISRO) with the basic spirit unchanged, is to start a Consultancy Type Organisation (Holding company or some other form) immediately within DOS. This organisation then will not only transfer the technology from ISRO to other organisations but also buy technology of use to ISRO programmes. We have in the past bought KaraiKudi Ammonium Perchlorate technology. For example we may in future buy operational or near-operational computer programmes or get computer programmes developed for structural design; we may buy an OBP developed by say ECIL; etc. A "Commercial" organisation to do this buying and selling technology make the work more businesslike.

- 9.1 Also this is something we can start of our own without initial commitment of NAL, HAL, etc. We can put them in the Management Board to start with & later convert this into an Aerospace Consortium if needed. What is needed is fast action. What is bothering me is that the productive forces within ISRO and utilisation of national productive forces by ISRO are not in keeping with the needs of complex ISRO tasks. The managerial solution therefore is not cutting back on ISRO programmes but to modify the managerial structures to try new avenues.

This consultancy agency of DOS can transfer lots of chemical technology and electronics systems and thus earn both prestige and money. With these and with the money from ISRO projects can buy technology.

- 10.0 Chairman may wonder whether I have thought of who will man this. Yes; I have. The Managing Director should be Dr. V. R. GOWARIKER. . . .
The Board may be as under:

Chairman, ISRO	-	Chairman
Chairman, HAL	-	Member
Director, NAL	-	Member
Chairman, BEL	-	Member

Secretary, DST	-	Member
Director, VSSC	-	Member
Director, ISAC	-	Member
Director, SHAR	-	Member
Dr V Siddhartha	-	Member
Dr. GOWARIKER	-	Member-Secretary.

The choice of Dr. GOWARIKER as Managing Director is based on his great capacity to innovate, create and lead. Also this will be the best way to utilise his enormous energy for ISRO. As far as buying of technology is concerned, he may have inhibitions probably in the field of Chemical technology. But in this field we need more selling and in others (structure, fabrication, analyses etc) more buying. Hence there will be no mismatch of individual motives and the ISRO goals.

11.0 The above is put before Chairman for consideration, with a request for urgent action.

With regards.

Rajan

17/6/77