

**SATCOM NETWORKS DEPLOYMENT GROUP
DEVELOPMENT AND EDUCATIONAL COMMUNICATION UNIT
AHMEDABAD**

15th September 2015

A meeting chaired by Director, DECU was held between officials of Rajasthan SATCOM Network, DECU Team and M/s Infinium (India) Limited on 15th September 2015 at 11:00 Hrs. at DECU Conference Room, DECU to discuss the issues related to Rajasthan SATCOM Network. Sub-sequently a meeting through video conferencing was also held between DECU, GOR and ISRO HQ on 15th September 2015 at 14:00 Hrs. at video Conference Room, SAC to discuss actions to be initiated at GOR and ISRO end related to the issues raised by GOR.

Following officials were present:

DECU, Ahmedabad

- (1) Mr. Vikram Desai, Director, DECU
- (2) Mr. B.M. Darji, Consultant, DECU
- (3) Mr. V. P. Sangani, Sci/Engr 'SF', SNDG, DECU

ISRO HQ, Bangalore

- (1) Mr. H. Rayappa, Sci/Engr 'SG', SCNP, ISRO HQ

Department of Science & Technology (DST), Jaipur, Government of Rajasthan (GOR):

- (1) Dr. Meghedra Sharma, Project Officer, DST, GOR, Jaipur

M/s Infinium (India) Limited, Vadodara

- (1) Mr. R. H. Khamar, General Manager
- (2) Mr. K N Haraniya, Sr. Manager

Mr. Vikram Desai, Director, DECU welcomed all the participants in the meeting and initiated the discussion on issues related to Rajasthan SATCOM Network. He also stressed that ISRO is very much concerned about the issues & ready to give technical support which is mutually agreeable to all and work out solutions in logical way.

Record of discussion:

(a) Dr. Meghendra Sharma, DST, GOR briefed present operational status and utilization related to Rajasthan SATCOM Network. At present, network is operational with Edusat Hub, Teaching End 49 Satellite Interactive Terminals (SITs) & around 474 Receive Only Terminals (ROTs). ROTs are covered under Comprehensive Annual maintenance Contract (CAMC), However Edusat Hub and SITs are not covered under CAMC since March 2015.

(b) Dr. Meghendra Sharma, DST, GOR informed that at present 233 Govt. Senior Secondary Schools are covered under ROT network. However, Govt. of Rajasthan

(GOR) would like to cover all Govt. Senior Secondary Science stream schools (approximately 1200 nos.) under this network.

Director DECU opined that GOR shall go ahead with deployment of GSM based ROT at these schools. ISRO has already augmented existing 50 nos. of ROTs with GSM based interactivity earlier. GOR is already having RFP for procurement & deployment of these ROTs. GOR will submit copy of this RFP to DECU and DECU will accordingly verified / modified and send back to GOR for further processing. DECU informed that they developed two vendors for supply of GSM based ROTs to get competitive offer.

- (c) Dr. Meghendra Sharma pointed out that maintenance of network is most burning issue at present. He informed that CAMC of Hub, TE & Remote SITs expired on 31st March 2015. At present, Rajasthan SATCOM network is out of CAMC coverage. Since then GOR had made attempt to float tender for CAMC but could not be materialized as no vendor has quoted.

The above issue of not quoting for tender was discussed in detail between GOR officials and representative of M/s Infinium. The nonpayment of CAMC charges on time to vendor was major culprit for this. Dr. Meghendra informed that the delay in releasing payment was due to change of management and their lack of interest in SATCOM activities. He informed that now he has streamlined complete procedure / activity in regards to maintenance of network. He also told that the remaining bills for payment were submitted to Treasury Dept. and ensured that M/s Infinium will get remaining payment within 15 days.

Even than M/s Infinium shows their comprehension to submit the quote. After lot of discussion & intervention by DECU team, M/s Infinium agreed to participate in submitting bid for CAMC of Rajasthan SATCOM network in future with modified terms & conditions like down time, payment terms etc.

- (d) Dr. Meghendra Sharma informed that SATCOM Hub devices are monopolized in nature and some Hub equipments are obsolete. Hence, there is need to upgrade the existing Hub. He also raised concern of converting Ext. C-Band network to Ku-Band to accommodate more number of projects and enhance utilization.

The pros & cons of above issues were discussed in length. Director DECU informed that even Hub is upgraded, the proprietary nature of Hub will remain same. He also added that it is quite expensive (appx. 1.3 Crore) and require minimum 3 to 4 months down time to implement it.

As far as shifting from Ext. C-Band to Ku-Band is concerned, it requires change of large number of Hub and SIT components and incurred huge expenditure (appx. 6 Crore). This may require time scheduled of 12 to 18 months to implement the complete Ku-Band network.

Director DECU suggested that looking at present scenario, GOR shall continue with existing technology and enter into CAMC contract with service provider of OEM for 2 years. GOR shall award CAMC contract for SATCOM Hub, TE & Remote SITs for 2 years. In this connection DECU will review the earlier RFP and suitably modify RFP to take care of up front verification since there is discontinuity in CAMC contract for Rajasthan SATCOM network.

He also added that ISRO has initiated development of in house (Make India) Tele-Education Hub & Remote SITs to remove dependency on vendor (getting rid off proprietary nature of system) and will take around 2 years time for realization.

He suggested after completion of 1 year of CAMC contract, GOR shall review the progress made by ISRO on development of in house technology and accordingly take decision to go ahead for up gradation or implement ISRO developed technology.

- (e) Dr. Meghendra Sharma informed that there is a need to set up mini studio for off line content generation. In this connection, DECU team visited IGPRS, Jaipur earlier and submitted report on site selection along with list of equipments required.

Considering the latest development in studio technology and present utilization, GOR will again resend the report to DECU for verification & suggestions, if any. Mr. Rahul Sharma will review this report and give his comments/suggestions.

- (f) Dr. Meghendra Sharma informed that existing TV Studio at IGPRS is almost 7 to 8 years old. The wiring/cabling of existing studio have been damaged at various locations and cable identification tags have been broken. Hence, there is a need for restructuring of cable network.

The relaying & restructuring of new cable network is huge task which take long lead time to deploy it. This will result non functioning of Studio and termination of transmission for long time. Director DECU suggested that this activity will be taken up only after setting up mini studio so that programme transmission will be uninterrupted for minimum turnaround time. He also suggested that GOR will award work contract for supply, rerouting & relaying of new cables at their own. However, DECU will provide technical guidance & supervision for carrying out this activity.

- (g) During meeting it was decided that GOR will award AMC contract for Studio equipments for smooth running of Studio. However DECU will extend technical support/consultancy in preparation of RFP and technical evaluation of tender document.

- (h) Dr. Meghendra Sharma stated that at present they are having 5 TB storage in their system to store recorded lectures. This storage is not adequate and sometimes they have to store in hard drive. He added they need storage capacity to store at least 1000 Hours of programme per year. Mr. Rahul Sharma will study the requirements in detail and suggest a suitable storage system.

- (i) Dr. Meghendra Sharma also informed that GOR is now showing keen interest in reactivation of Telemedicine network. In response this, Director informed that during meeting under chairmanship of principal secretary held on 14/03/2013 at Jaipur, GOR denied to utilize this SATCOM based Telemedicine facility. He added that Bandwidth for Telemedicine is already earmarked in present allotted Ext. C-Band capacity of 9 MHz to GOR. He opined that GOR will award work contract to service provider to know the exact operational status of 38 Telemedicine nodes deployed across Rajasthan State. After knowing the status, GOR will get all remote nodes repaired through vendor and made them operational. Mr. Arvind Kumar Tyagi from DECU will extend technical support / consultancy and coordinate this activity from DECU end.

- (j) Dr. Meghendra Sharma also informed that at present 44 SITs are located at DIETs & Education Training Centres which are not being taken care properly and located at Remote distance from city. They would like to shift all these SITs to District H.Q. Schools within city. Director DECU suggested that they will directly contact to service provider and award work contract for shifting of SITs. At present DECU is in process of renewing rate contract for procurement of peripherals, consumables & other allied items for SITs supplied by M/s ViaSat (OEM). He told that once this rate contract is finalized it will be sent to GOR and they will use this rate contract for fixing the rate of shifting of SITs within the same city.
- (k) Dr. Meghendra Sharma also inquired about cloud computing scope and relation with VSAT technology. Director DECU clearly mentioned that merging of internet and VSAT connectivity is not permissible as it seriously affect the performance of Hub due to virus attack from outer cyber space.
- (l) Subsequently a meeting through Video Conferencing with officials of ISRO HQ was held at 14:00 Hrs. Dr. Meghendra Sharma briefed about discussion held between GOR & DECU team on various issues faced by GOR for Rajasthan SATCOM network. He also told that he is now satisfied with technical support / consultancy extended by DECU team to address all the issues of Rajasthan SATCOM network activity during his visit at DECU.

Mr. Rayappa shared his experience on Tele-Education network which are performing well to cater need of distance education & training. He stated that all such networks are managed by a registered society (e.g. Utkarsh of Haryana, PES of Punjab, BISAG of Gujarat etc.) headed by Senior Govt. Official of State and exclusively involved in SATACOM activities of State Govt.

He suggested that GOR should take some initiative in this regard. Dr. Meghendra Sharma ensured that he will take action to form such society & submit his request to Govt. through proper channel.

He also informed that Principal Secretary, DST would like hold meeting with Senior Officials at ISRO HQ to discuss further on this issues. He said that his visit to DECU is preliminary discussion in this regard. Mr. Rayappa told that we will welcome Secretary DST to ISRO HQ mutually agreeable date and extend all cooperation & technical support to GOR to meet his goal.


DST/SATCOM
GOR


Director DECU
ISRO