

Ministry of Human Resource Development
Department of Higher Education

Committee on DTH

The DTH Committee, constituted by the MHRD under NME-ICT project, held the 6th meeting at 11:00 noon, on August 4, 2012 at the MHRD, Shastri Bhavan New Delhi.

The following members attended the meeting –

1. Prof. S.V. Raghavan, Chairman, DTH Committee, Scientific Secretary, Office of the Principal Scientific Adviser to the Government of India.
2. Mr. N.K. Sinha, Mission Director, NMEICT & Additional Secretary (TEL), MHRD, New Delhi. Member.
3. Prof. Y.N. Singh, Head Dept of Electrical Engineering, IIT Kanpur, Kanpur, Member.
4. Prof. Magala Sunder K., Deptt. Of Chemistry, IIT Madras, Chennai, Member.
5. Mr. Ravi Saksena, Ex. Head (DCTD) SAC/ISRO, Ahmedabad, Member.
6. Dr. P. Ramanujan, Director, C –DAC, Bangalore, Member.
7. Shri Ravikant, In-Charge Director, EMPC, IGNOU, Maidan Garhi, New Delhi. Member.
8. Mr. Kumar Bharat Bhushan, Jr. Consultant, NME-ICT, MHRD, member Invitee.
9. Shri Pradeep Kaul, Sr. Consultant, NMEICT, MHRD, New Delhi, Convener, DTH Committee.

The remaining Committee members, due to their pre occupation, could not attend the meeting.

- 1) Prof. Raghavan, Chairman DTH Committee welcomed the members of the Committee for attending the DTH meeting.
- 2) Mr. N.K. Sinha, Mission Director, NMEICT & Additional Secretary (TEL), MHRD, briefed the members that WPC/NOCC/SACFA clearance from the Ministry of Communication and IT, to uplink DTH channels, has been held up, since the M I&B has refused to award NOC to MHRD, on the pretext that DTH uplink can only be awarded to Companies. In order to resolve this issue the Honorable Minister HRM has written a letter to Honorable Prime Minister to kindly intervene and resolve this issue. The Honorable Prime Minister has in turn instructed the Cabinet Secretary to set up a Committee of Secretaries (CoS) and resolve the issue in consultation with the Secretaries. However in the first instance the Secretaries of concerned Ministries (including Secretary M I&B) have been asked to submit their response on this issue. Action on this issue has already begun and Committee of Secretaries (CoS) shall meet soon to sort out this issue.
- 3) Prof Raghavan briefed the Members that in spite of difficulties faced, significant progress has been made by the DTH Project. On the recommendations of the 5th DTH Committee, the Project Approval Board, (PAB) of the NMEICT has approved the engagement of M/s. TCIL, (a PSU under the Ministry of Communications and Information Technology) for

locating a Teleport Agency to carry MHRDs 50 DTH Channel transmission. He wished that the next DTH meeting should now coincide with the launch of MHRDs 50 DTH Channel transmission. However he stressed that we should now look into the issue of generation of content for running the 50 DTH channels.

- 4) Prof Raghavan felt that the initial difficulties faced by the DTH Committee and solving those issues shall go a long way in establishing the robust road map for launch of 1000 DTH Channels by the MHRD. In fact the 1000 DTH Channel setup should encompass all sectors of education be it a Higher or School education, Polytechnics, Skill Development, Vocational Courses, Training to the Teachers, etc.
- 5) A Background note prepared by the Convener, DTH Committee on '**Methodology, Telecast Subject Bands, Network Topology, Budget Requirements, Cost Analysis, List of Teaching End Equipment, Proposed Action Items**, etc.' was circulated to the members in advance and it was put up for a discussion by the members and the members offered some suggestions on it and advised significant revisions.
- 6) A discussion took place to find out, in absence of NOC from Ministry of Information and Broadcasting, if there is any way to go ahead and seek WPC/NOCC/SACFA clearances from Ministry of Communication and IT, to uplink MHRD DTH channels. The members deliberated on the issue and felt, although a Committee of Secretaries has been constituted by the PMO to sort out the NOC issue, however in order to avoid further delay on the launch of the DTH project, we may involve M/s TCIL to launch DTH Channels and apply for NOC on behalf of MHRD for launch of 50 DTH educational Channels and the payment etc., to be made to M I&B on this, if any, shall be made available by the MHRD to M/s TCIL. It was felt that this was an administrative alternative available at the disposal of MHRD and left it to the Mission Director to take it forward as is appropriate.
- 7) The members discussed the duration of each lecture on DTH Channels. A proposal was put forward that the duration may be of 1 Hr, 20 minutes, (that may include 50 mts of Lectures followed by 30 mts of Q&A sessions as Live Interactivity session with students). The Committee felt that we may need to deliberate and finalise on this and consider if the live lecture on DTH should instead be of 1 Hr, of duration, (that may includes 40 mts Lecture followed by 20 mts of Q&A session as Live Interactivity session with the students). However, the final impression of the committee was that the duration should be the decision of a Committee of Subject matter experts and is likely vary from subject to subject. While DTH committee can make provisions for a variable format, it will be up to the subject matter committee to take appropriate decisions.
- 8) It was felt that 8 hours of fresh content may be telecast a day and this cycle of 8 hour be recorded and repeated twice within twenty four hour period. Accordingly we may accommodate 6-8 lectures in the 8 Hour Cycle.
- 9) A discussion further took place should we use the recorded content that is available and is being produced under NME-ICT at institutions of higher education, or should we go for Live Content Delivery on all DTH channels. It was felt that for running one Channel 8 Hrs/day, we require 244 Hrs/month or 2920 Hrs/annum of Content. Accordingly, fifty Channels shall require 400 Hrs/day or 12,167 Hours/month or 1,46,000 Hrs of content/annum.

- 10) A quick assessment was made and it was observed that (i) we do not have the quantum of Recorded content required to run the channels beyond 2 months and 19 days, (ii) that it is quicker to deliver content live than to record the content and play it and (iii) delivery of Live content is about 50% cheaper than content recorded; therefore it was recommended that dominant Live content delivery co-existing with orchestrated contents are required for running of 50 MHRD education channels through DTH.
- 11) As discussed repeatedly in earlier DTH meetings, DTH Teaching End may be setup in the first instance aimed at content generation, in all IITs, NITs, Central Universities, NITTTR, IIMs, IISc, CEC & its Media Centres, IGNOU, Agricultural Universities, Medical Institutions, and other Institutions may be associated with MHRD directly or with sister departments / ministries of GoI.
- 12) 'Hierarchical Star Network Topology' was recommended by the Committee; wherein a 'Central Institute' (as mentioned in para 12) will act as hubs. As a hub, it was felt that it shall be the responsibility of the 'Central Institutes' to look after the Academics and Content generation of Subject(s) being handled. The 'Central Institute' in turn shall further engage a number of institutes that are associated with them. In the beginning, it was felt that we may require 7 to 12 such 'Central Institutes' to look after generation and delivery of Contents over 50 Channels.
- 13) The Members felt that the 'Central Institutes' and institutes associated with them shall generate content and such Centres shall be called 'Teaching Ends (TE)'. In the first instance, for generation of content for 50 channels round the year, 100 to 150 Teaching Ends (including some Digital Satellite New Gathering (DSNG) units) shall require to be established. Two to three 'Teaching Ends' may be asked to provide content for one subject and each TE shall provide content for about three to four hours a day. In addition we require attaching 3 Teaching Ends and one DSNG unit to Teleport/Earth Station end. The MHRD will provide necessary equipment, infrastructure and funds for the establishment and Recurring & Non-Recurring Grants to sustain TEs on an ongoing basis as per the directions from DTH Committee from time to time.
- 14) The Members recommended that Fiber Optical network already existing under NMEICT/NKN may be used to link Teaching Ends to the Central Institutes. Further, Live Content on Fiber Optical (FO) Links flowing from all such Central Institutes shall be connected to Central Teleport Terminal for live telecast on regular basis for DTH transmission. A standby / redundant link may also be made available between TE, Central Institute and Teleport end. It was felt necessary to provide Terminal and Receive equipment at each of the Fiber Optical Ends at Teaching Ends, Central Institutes and Teleport Centre, necessary funds required for installation and maintenance of such equipment shall also be provided by the MHRD. Action on connection of Optical Link between TEs and teleport Centre may be initiated without delay. Coordination for establishment of FO Link is required between DTH Committee and BSNL/NKN/NMEICT Mission Secretariat.
- 15) It was also approved to engage three Technical and three Production related personal to look after the activities at each Teaching End on 10X365 days and at an average emoluments of Rs.25,000/m.

- 16) The DTH Committee recommended that a meeting of the Heads of the 'Central institutions' be convened to interact and discuss issues concerning DTH and possibly of evolving self-assignment of responsibilities to generate live content from their institutions. The 'Central institutions' may be requested to select subjects for live telecast and select Subject Coordinator(s) for each of the subjects to be telecast.
- 17) It was felt that '**Subject Coordinator(s)**', to co-ordinate academic activities, selection and engagement of '**Academic Experts**' & Scheduling of a Subject shall be engaged by the 'Central Institutes' and for this an honorarium upto Rs.2.5 Lakhs may be paid to them for completing one Subject.
- 18) The 'Subject Experts' once engaged may be offered conducive environment to appreciate the need for handling the technology and be enabled to create scripts (much along the lines of a movie script) as per the Syllabus associated with each assigned subject. Judging from the quantum of effort involved, a list of Experts to be engaged for delivery of live content in respective Subject may also be prepared by the respective institutions. However, we may evolve criteria for content certification that can be "locally" practiced by the Central Institutions and monitored centrally by DTH committee from time to time.
- 19) Members felt an Honorarium/Sitting Fee of Rs.5000/- and TA of Rs.1000/- to Academic Experts for delivering Live 60-80 mts. Lectures be paid, this also requires preparation in advance the lecture plan, collection of graphics, pictures, animations, web-links, etc.
- 20) Members studied and offered some comments to the draft Request for Proposal (RFP) for "Hiring Teleport facilities to uplink 50 DTH Channels" submitted by M/s TCIL and recommended by Technical Expert Committee (TEC), DTH. It was suggested that the RFP may further be re-looked by the TEC, DTH and the Convener, DTH may obtain the sign-off from TEC in writing. DTH advised Convener to avoid proprietary technology specific references in such documents. DTH committee will look at it again after getting the revised RFP version.
- 21) The Members recommended that we should collect Information from all possible Institutions of Higher Education that are engaged in generation of e-content / video programmes. We need to (i) ascertain in what Medium, form and format is the content available at the Institutions (ii) what needs to be done to make it ready for uplink from Teleport Agencies and (iii) if any format conversion of content is required, who is the agency that should be doing it. The e-educational content available at such Institutions across the country, be physically collected, digitised and made available for the DTH telecast. If the content is not in digital form such content be got Digitized. Such content should further be sorted out by the Course Coordinators and utilised in the DTH transmission on respective subject/Channels.
- 22) It was felt that since IIT Madras is at present engaged in (i) Coordination of NPTEL content being generated by a number of IITs in the country and (ii) selection of equipment required by IITs under NPTEL, the IIT Madras may also be engaged by the MHRD in (i) finalization of a list of equipment for Teaching End, (ii) decide no of Teaching End required for running of 50 DTH Channels (iii) Tender & negotiate for bulk purchase of Teaching End Equipment on behalf of all TEs and (iv) ensure the deployment of TE equipment in a time bound manner in 3 months. It was suggested that the Teaching Ends

should also be provided with UPS / standby power supply and two Toll Free telephone lines to take questions received during live interaction sessions. For this all, the Director IIT Madras may set up a 'DTH Techno-cum-Operational Committee' and in order to have better coordination some members from DTH Committee may be inducted in this Committee. The MHRD shall provide necessary Recurring & Non-Recurring Grants to IIT Madras for purchase of TE equipment, establishment and running of Teaching Ends on the recommendation of DTH Committee.

- 23) Discussion also took place on should the Teaching Ends be fixed or portable one (to be engaged at different Lecture Halls and actually being used by the Experts). However, it was felt that the Network complexity, system cost, ease to handle against tight time schedule Vs ease by the experts needs and other issues be ascertained before a decision on this is arrived at.
- 24) It was felt that besides experts from education institutions, experts should also be involved from scientific establishment, Defense and CSIR Labs, Eminent/Distinguished Experts, etc.
- 25) Members wanted to find as to how many total Experts shall be required to be engaged to deliver the content over 50 DTH channels. A rough estimate was that we may require about 600 to 1200 experts from different fields, to be engaged in delivery of one full or half course per person. However, engaging an expert to deliver one lecture a day and 3 lectures a week may require about 1000 number of subject experts to deliver 50 subjects in 2 to 3 months.
- 26) Some suggestions were received that we should debate on the methodology of distribution of a subject between two Teaching Ends or to much larger Teaching Ends that are spread across the country thereby the selection of content to the required channel be made using Matrix / Switchers at the Teleport Centre.
- 27) Members suggested that for selecting proper Subject Telecast Bands we may also seek the help from Management Experts.
- 28) Members felt that besides DTH content to be received by the learner at home, efforts may also be made to design a Smart Class Rooms, so that the content online or offline is used by a teacher in a Class Room. In that case the Institutions across the country need to be funded appropriately by the Mission. However it is felt that a further discussion on this issue is required and it shall be taken up in the next DTH meeting.
- 29) It was felt that we may require conducting Mock exercises / rehearsals before launch of DTH Channels.
- 30) The meeting ended with vote of thanks to the Chair.

Pradeep Kaul
Convener, DTH Committee &
Senior Consultant (Tech.) NME-ICT