STAR's Response to ITBB's Consultation Paper on Digital Terrestrial Broadcasting in Hong Kong

General comments

STAR welcomes the opportunity to respond to the Consultation Paper on Digital Terrestrial Broadcasting.

STAR supports the development of Digital Terrestrial Television (DTT) and Digital Audio (DA) broadcasting. We see these are major building blocks for Hong Kong to entrench its status as the regional broadcasting hub. Most importantly, the conversion to DTT relieves the frequency bottleneck problem in the territory, providing a more fair and competitive environment for new entrants. We therefore urge the Government to expedite its policy formulation and future licensing process on DTT.

To ensure that digital terrestrial broadcasting will flourish in the territory, we strongly take the view that it should be operated under a liberalized regulatory regime. The regulator should adopt an enabling approach and allow market forces to drive the demand for these services and determine the success of the prospective service providers.

Nonetheless, STAR finds that the paper has created a few artificial barriers which would hamper the development of the industry. The restrictions imposed on multiplex operators to run a maximum of two multiplexes, and on program service providers to use a maximum bit rate of one multiplex are some of the examples. We urge the Government to revisit the above and remove the proposed restrictions.

STAR supports the adoption of DVB-T as the DTT standard recommended by the Government.

As regards the choice of conditional access (CA)) system, we recommend the Government should take a neutral stance and leave it to the market to decide.

However, we find that the paper fails to address the CA and Set Top Box (STB) middleware standards. To enhance technical connection, the Government should clearly define the Conditional Access (CA) and Set Top Box (STB) middleware, such as Digital Video Broadcast – Multimedia Home Platform (DVB-MHP), prior to seeking applications for multiplexer licences. This is particularly crucial in ensuring the provision of an open interface for EPG content and other additional services.

Otherwise, additional service providers may have to seek re-authorising and engineering services from each multiplex operator. This practice is undesirable as it restricts the growth of such services. Due to universal service obligations for terrestrial distribution, STB compatibility across all multiplexes for all services must be ensured.

The Government should also make it clear that simulcrypt must be made a mandatory requirement for all multiplexer licensees as this will permit decryption of other services on other multiplexes.

Finally, STAR recommends an allocation of spectrum on IBCCDS for the carriage of DTT's initial six multiplexes. This allocation would assist the distribution of services throughout Hong Kong where the majority of citizens live in Multi Dwelling Units. STAR considers that it is unduly onerous to burden multiplex operators with the cost of paying for the upgrade to higher system capacity and for the cost of channel conversion equipment.

Specific comments

Specifically, STAR has the following comments on Proposals 2.1 to 2.38:

Regulatory Proposals for DTT:

Proposal 2.1:
We support the adoption of the DVB-T as the standard for Hong Kong DTT. DVB-T adopts an 8MHz channel bandwidth which is compatible with the channel plan in both Hong Kong and China, as Hong Kong currently adopts the analogue PAL-I standard with its 8MHz channel bandwidth, whilst China adopts the PAL-D standard, which also has an 8MHz channel bandwidth.

The Coded Orthogonal Frequency Division Multiplex (COFDM) modulation adopted by DVB-T makes mobile operation feasible. DVB also supports the Single Frequency Network operation, thereby allowing up to 14 multiplexes to be deployed in the SAR. DVB-T is flexible and offers rates from 4.9 – 31.7 Mbps in an 8MHz channel.

Comparative tests among DVB, ISDB and ATSC systems worldwide appear to confirm the superiority of the DVB standard. It would appear unlikely for China to adopt either ISDB or ATSC as both standards have basic channel bandwidths of 6MHz. Also, DVB-T is adopted in Europe, and by a number of Asian countries including Singapore and Australia.

Proposal 2.2:
We support the adoption of the DVB-T with Dolby AC-3 as the audio coding standard. We believe the quality of sound from Dolby AC-3 will enhance viewers' enjoyment as it provides 5.1 channels of high quality audio surround sound. We would also like to point out that both Australia and Singapore have committed to using Dolby AC-3 with their DVB-T transmission format.

Proposal 2.3:
We support the Government's approach of not mandating the three Multi Frequency Network multiplexes to achieve territory wide coverage initially. However, we urge the Government to ensure these multiplexes attain full territory wide coverage as quickly as possible.

Proposal 2.4:
We believe that Multiplex Operators can easily alert customers to the correct use of the audio-visual output of VCRs in place of the radio-frequency connection from VCR to the television and thereby avoid problems with the deployment of Channels 35 and 37 as prime frequencies for the initial DTT multiplexes.

Proposal 2.5:
STAR recognises the rationale behind licensing STBs and idTVs in relation to Conditional Access Systems under the Telecommunications Ordinance. We, however, have to point out that CA software is proprietary. Manufacturers or television operators who would like to deploy CA software in their STB or idTV already need to obtain a software licence from a CA software manufacturer. Any regulation of Conditional Access Systems needs to acknowledge the proprietary nature of the technology.

Further, we support the adoption of Simulcrypt, rather than Multicrypt, for interoperation among various CA Systems for reasons stated below.

Interoperability allows consumers to choose channels with ease and gives broadcasters flexibility in changing CA vendor. Both Simulcrypt and Multicrypt require CA systems to conform to certain common standards.

For Simulcrypt, it allows a single transport stream to contain several CA systems. With Simulcrypt, the Headend Conditional Access, EPG generation and multiplexing systems need to conform with common standards to enable different sets of CA control streams to be sent with the content in a single multiplex or transport stream. The scrambling algorithm has to be the same, or at least known to all CA Systems employed - the DVB common scrambling algorithm. At present, Simulcrypt only exists in the European DVB domain.

With Multicrypt, content is delivered over separate delivery systems. It requires the specification of a common interface to be installed in a set top box or TV. Users can then switch manually between CA systems, or switch cards when presented with a CA system not installed in his box.

Simulcrypt puts the cost of integration onto broadcasters, whereas Multicrypt puts this onto consumers.   With the latter, the receiver has to have two or more CA Modules plus other items which in turns makes the receiver more costly.

Proposal 2.6:
STAR supports the proposal of not mandating HDTV or mobile reception in the initial stage of DTT Multiplex roll out. Indeed, STAR believes that consideration should be given to exclude HDTV and mobile reception until after additional capacity is made available when analogue transmission ends. With limited capacity available initially, the priority should be given to new service providers to foster their growth and promote competition in Hong Kong.

HDTV requires the capacity of a full multiplex and when it is transmitted, other services on the same multiplex will have to stop. This appears to present a problem where the current analogue service is simulcast on a multiplex. From the viewers' perspective, their SDTV channels are discontinued or interrupted for a HDTV broadcast.

Proposal 2.7:
STAR supports the proposal to release spectrum for digital multiplexes and transfer customers from the current terrestrial analogue to digital services as quickly as possible.

Proposal 2.8:
STAR agrees in principle with the Government's proposal to review the progress in take up of DTT services either 5 years after commencement of simulcast or after the penetration of DTT reaches 50% of all households. However, we urge the Government to set a firm date for the switch off of analogue services to provide a target for the industry to achieve.

Licensing approach for DTT:

Proposal 2.9:
STAR supports the "separate licensing" approach and agree with the consultation paper's proposal to allow parties interested in the provision of program service and the operation of multiplexes to apply for both types of licences.

STAR also points out that the definition of data services should be further clarified. For data services which are embedded within the television services, e.g. shopping data services on a home shopping channel, they should be regulated under the Broadcasting Ordinance, along with the channel itself, rather than under the Broadcasting and the Telecommunications Ordinances simultaneously. To avoid confusion, there may be a need to be a distinction between separate licensing and regulation to allow flexible operation.

Licensing Regime for DTT:

Proposal 2.10:
We support ITBB's approach.

Proposal 2.11:
We support ITBB's proposal to categorise multiplex licences as a carrier licence. We also agree that the licence term should be 15 years, to keep it in line with that of the Fixed Telecommunications Network Services (FTNS).

Proposal 2.12
Whilst STAR fully understands the need to establish competition, the proposal appears arbitrary and gives little consideration to the quality and the diversity of services which are essential to the viewer and the development of the industry. STAR believes that the grant of licences should be considered against a set of assessment guidelines such as the quality and the diversity the services offers. Ultimately, the Government should let market forces establish the number of multiplex operators that it can support.

Proposal 2.13:
We support ITBB's proposals.

Proposal 2.14:
We have concerns about restricting the DTT multiplexes to domestic free and domestic pay television services. There are a sizable number of non-domestic services, such as sports, movies or financial programmes, that appeal to local interests. The inclusion of these services on multiplexes would significantly promote the adoption of DTT and would support the technology's eventual success. We urge the Government to permit access to all to encourage diversity of the services and to foster the development of DTT.

Proposals 2.15 and 2.16:
We support ITBB's proposal.

Proposal 2.17:

We point out that limiting a licensee to a bit rate capacity of one multiplex limits the licensee to offer a maximum of 5 channels. To promote competition, we suggest removing the proposed limitation and in its place determining the appropriateness of the licensee by the quality and diversity of services being offered to the viewer.

If DVB-T is adopted, there will be 14 multiplexes in operation. This proposal will thus arbitrarily allow the presence of at least 14 programme service licensees in the market and may prove to be counterproductive to market development.

Proposal 2.18:
We support ITBB's proposal.

Proposal 2.19:
Initially, the 6 multiplexes can only provide a maximum of 30 channels of which 4 are reserved for existing terrestrial services. The allocation of bit rate capacity of up to 6 channels for additional services appears to be rigid and artificial. Separately, we note that delays in approving Profile 3 of the DVB interactive MHP standard will defer the emergence of products allowing full Internet access until 2002.

To promote diversity and choice, we recommend setting a minimum reserve capacity of additional services to 10%. Then market forces will drive operators to allocate more capacity if and when demand exists.

Proposal 2.20:
We support ITBB's position to regulate an EPG service under the competition provisions in the Broadcasting Ordinance.

On top of that, we believe that the framework and principles to be used in regulating EPGs should be published along with clear statements on fair, reasonable and non discriminatory access to EPG by viewers and programme service providers alike.

Once again, STAR wishes to draw the Government's attention to our general comments on pages 1 & 2 of this document and in particular those relating to CA and STB middleware.

Transition from Analogue to Digital:

Proposal 2.21
We support ITBB's proposal to reserve a total of four SDTV digital television channels for the two existing terrestrial broadcasters.

Proposal 2.22:

STAR believes that whether the two multiplex licensees will carry the existing analogue terrestrial channels free should be left for negotiation between ITBB and the multiplex operators in question.

Proposal 2.23:
From a business point of view, STAR believes that the Government and existing analogue terrestrial broadcasters should negotiate to determine if the channels can be simulcast on guaranteed digital channels. However, for the simulcast to be effective, STAR agrees with the present proposal.

Proposal 2.24:
While giving our support to the proposal, STAR once again wishes to draw the Government's attention to our general comments on pages 1 & 2 and in particular those relating to CA and STB middleware.

Digital Audio Broadcasting:

Proposals 2.25 to 2.38
STAR supports in principle the Government's policy and regulatory proposals on DA broadcasting as set out in the consultation paper.

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