Doc T-22/20-4

STATUS REPORT

Organisation:	Television Broadcasts Limited		
Period:	September 2021 to October 2022	Date of Report:	November 8, 2022

PART A

Technical Developments during the past year:

- System upgrade / replacement to improve quality / efficiency
  - Continue improvement of security measures for delivery, contribution, and ransomware threat.
  - Continue Transcoding Facilities enhancement to support file-based HD and 4K/UHD TV signal conversion.
  - Due to the official launch of LTO-9 in late 2021, Production / Programme deep archive medium will start to change from LTO-5 to LTO-9.
  - Enhancement of Sobey HDNLE Media Asset Management to a DOCKER platform.
  - Production Run Down System Development to streamline data exchange during Production.
  - Adopting Face Recognition Technology to streamline tagging and reporting operations.
  - Continue to provide customized SCTE commands with program information to 3rd parties advertisement system for the achievement of advertisement insertion on OTT client side.
  - Continue OTT low latency solution study, CMAF approach, that is to reduce OTT typical long video latency. Implementation proposals from different Suppliers are being studied for a best workable solution.
  - The on-air commercial NAS storage solution has been changed from standalone HP storage server to EMC Isilon H400 storage system.

- New Services/new projects initiated
  - IP - based signal router system over ST 2110 standard to replace the obsoleted HD SDI signal routing matrix system in variety studio.
  - Continue migration to enhance HD Production by using Cine Camera and 10-bit production, with color grading.
  - Content Security, anti-piracy and anti-cyber-attack measures enhancement
  - Launch of in-house developed program preview system which uses same logic as of Android STB and streaming technology. Information such as username, will be superimpose on screen after logged in. Moreover, on the fly scrambling is also applied to further enhance content security.
  - Continue experiment on Next Generation Master Control Room which utilizes IP technology, Cloud (Public / Private) Storage and latest operation workflow, has been initiated.
  - Mini workgroup editing environment to improve agility on different editing need.

- Research projects
  - Continue the study of transcoding and cross conversion between SDR and HDR material
  - Continue SD HDR and 4K/UHD HDR study

- Internet and Mobile Broadcasting Services
- New DTTB Standard Study
- 5G HPHT TV study

			Radio	Television
Coverage %			NA	99%
Programme Channels			NA	5 HD
Studios	File-based Set-up	R/N/D		
	SDTV	R/N/D		
	HDTV	R/N/D		
	UHDTV			
	IP Based Set-up	R/N/D	NA	
Transmitters	HF	R/N/D	NA	
	MF	R/N/D	NA	
	FM	R/N/D	NA	
	TV	R/N/D	NA	29 sites
	OTT/IBB/Internet Services	R/N/D	NA	
	Mobile Services	R/N/D	NA	

R = Replacement/upgrade N = New D = Discontinued

PART B
CURRENT ACTIVITIES

	Activities	**Area**	**Brief Details:** **1. Objectives** **2. Progress to date**	**Challenges/Problems Faced:** **1. Lack of resources** **2. Lack of know-how** **3. Others (e.g. up-skilling)**	**Solutions Implemented/Type of assistance requirement from ABU**
1.	**Development projects/Upgrading facilities/Training**				
2.	**Participation in ABU Activities**	**Area**	**Level of Participation**	**Reasons for not participating (though interested)**	
		LEVEL-2 Training Course on Engineering Fundamentals for Broadcasters	Engineer, update and acquire knowledge (On-line)		
		Technical Bureau Mid-Year Meeting	Chief Engineer, (On-line Meeting)		
3.	**Suggestions for New ABU Activities e.g. study topic projects, workshops, symposiums etc, spectrum activities, new technology information flows**	**Activity 1**			
		Activity 2			
		Activity 3			