TRAINING WORKSHOP OUTLINE

Title:	**Digital Dividend Review**
Dates:	**2nd – 6th November 2015**
Venue:	**Kigali, Rwanda**

COURSE OVERVIEW

In 1961 and 1989 the International Telecommunications Union (ITU) held the Regional Radiocommunication Conferences for broadcasting for Region 1 in Geneva referred to as RRC-61 and RRC-89 respectively. The RRC-61 and RRC-89 adopted Geneva 61 and Geneva 89 (GE-61 and GE-89) Agreements respectively. These agreements contained Radio Frequency (RF) Plans referred to as GE61 Plan and GE89 Plan for analogue terrestrial television broadcasting services in the Very High Frequency (VHF) band I (TV.CH 2-4): 47-68MHz, band III (TV. CH 5-12):174-230MHz and in the Ultra High Frequency (UHF) bands IV and V (TV.CH 21-69): 470-862MHz except the VHF band II: 88-108MHz, which was planned for analogue Frequency Modulation (FM) radio. For many decades, the GE61 and GE89 RF plans were used throughout the world to deliver analogue terrestrial television broadcasting signals to homes. The analogue terrestrial television broadcasting is a spectrum inefficient technology and uses large RF spectrum.
In 2006 the ITU also held the Regional Radiocommunications Conference for broadcasting for Region 1 in Geneva in 2006 (RRC-06) and adopted the GE06 Agreement. The GE06 Agreement contained the RF Plan called GE06 Plan for digital terrestrial television Broadcasting, in the VHF band III: 174-230MHz and UHF bands IV and V: 470-862MHz excluding the VHF band I: 47-68MHz. The digital terrestrial television broadcasting is the spectrum efficient technology; hence, it uses less RF spectrum than the analogue terrestrial television broadcasting and gains the RF spectrum efficiency referred to as the Digital Dividend. The Digital Dividend; therefore, can be defined as the amount of the RF spectrum made available by the transition of terrestrial television broadcasting from analogue to digital**.** Exclusion of the VHF band I: 47-68MHz in the GE06 Plan was due to the following reasons:

- Its long wavelength; hence, it requires large antenna dimensions;
- Its susceptibility to ionospheric interference; and
- It has high levels of man-made noise.

Therefore, the VHF band I: 47-68MHz could be considered as the Digital Dividend too.
Finally, the GE06 Agreement specified the deadline for use of the analogue terrestrial television broadcasting signals and subsequent switch over to the digital terrestrial television broadcasting signals in the VHF and UHF bands on 17th June 2015, except some developing countries, which were given an extension to continue using the analogue terrestrial television broadcasting signals in the VHF band only to 17th June 2020.

In 2007 the ITU held the World Radiocommunication Conference 2007 (WRC-07) and identified 790-862MHz as the Digital Dividend 1 (DD1) and approved it during the WRC-12. The same

WRC-12 the ITU identified 694-790 MHz as the Digital Dividend 2 (DD2) and will be approved during the next WRC-15, which is scheduled to be held in Geneva in November, 2015.

Both DD1 and DD2 in the UHF band are extremely valuable spectrum under the present technological and economic conditions due to its sweet spot combination of propagation of radio waves as follows:

- Travels at long distance and covers large areas at relative low costs;
- Travels inside buildings and gets good in door coverage; and
- Gets enough bandwidth for carrying broadband data services.

The ITU allocated the DD1 and DD2 to the 4th Generation (4G) mobile technologies called International Mobile Technologies (IMT) family and its evolution of the IMT to offer mobile broadband services within the IMT standardization framework. The most favoured IMT family technology internationally is the Frequency Division Duplex (FDD) Long Term Evolution (LTE) technology. FDD-LTE offers a natural upgrade path from GSM and W-CDMA technologies which are already implemented widely in the world. The FDD-LTE technology offers with maximum speed of 100 and 50 Mbps downlink and uplink respectively. The main reason for allocating the Digital Dividend to the IMT services is for economic efficiency; that is, allocating the spectrum to its best use for social-economic development. The economic efficiency can also be achieved by releasing the Digital Dividend at market value through auctions. The spectrum auctions are a step toward a Market Led Approach (MLA) that allocates efficiently and transparently resources (RF spectrum) to bidders who can use them most valuably.

Target Audience

Telecommunications and broadcasting regulators, operators, and government policy makers.

Pre-requisite/s

Basic knowledge of analogue terrestrial television broadcasting theory and practice.

Pain Points

The transition of the terrestrial broadcasting from the analogue to the digital technology is a new and a complex phenomenon that requires deep understanding of the conceptual framework for the transition itself. Unless the governments and regulators understand well the concepts of the transition of the terrestrial television broadcasting, it will be difficult for them to implement it correctly as per GE 06 Agreements as it is witnessed now most of the African countries failed to meet the ITU deadline on the Analogue Switch off (ASO) date.

Value Proposition

At the end of the course, participants will have deep understanding of the conceptual framework for the transition of the terrestrial broadcasting from the analogue to the digital technology. The concepts for the transition are needed to be understood well by countries in order to meet effectively requirements of the GE 06 Agreement as well as the GE 06 Plan.

Workshop Objectives

- Understand well conceptual framework for the transition of the terrestrial television broadcasting from the analogue to the digital;
- Define correctly the Digital Dividend and its application;
- Calculate and establish the Reserve Price (RP) for auctioning the Digital Dividend;
- Design auctions of the Digital Dividend; and
- Release the Digital Dividend at market value by using the Market Led Approach through auctions.

Workshop methodology

The workshop includes presentations by the facilitator, country presentations and interactive sessions.

Workshop Contents

Overview of the transition of the terrestrial television broadcasting from the analogy to digital

- The GE61 and GE89 Agreements and Plans for the analogy terrestrial television broadcasting;
- The GE06 Agreement and Plan for the transition of the terrestrial television broadcasting from the analogy to digital;
- The GE06 Agreement on the ASO deadline; and
- Status on implementation of the GE06 Agreement on the ASO deadline: country presentation.

Review of the Digital Dividend

- Definition and its application;
- Allocation of the Digital Dividend to the IMT and its evolution to the IMT;
- The IMT standardization framework; and
- Deployment of the IMT networks in Africa: country presentation.

Dimensioning of the Digital Dividend

- The GE06 Plan;
- The WRC-07 decisions;
- The WRC-12 decisions;
- The DD1 and DD2 channelisation plan;

The Digital Dividend Release Strategy

- **Regulator Led Approach**
  - ✓ First come and First Served; and
  - ✓ Beauty contest.
- **Market Led Approach**
  - ✓ Reserve Pricing; and
  - ✓ Auctioning.

BANK DETAILS

Account Number: **4002200232452**

Account Name: **EACO (East African Communications Organization)**

Branch: **EQUITY BANK-RWANDA**

Intermediary bank: **Equity Bank Kenya Ltd**

Swift Code: **EQBLKENA**

Correspondent bank: **Citibank N.A. New York**

Swift Code: **CITIUS33**

Payment can be made directly at the venue before course start.

For more information, please contact us at:

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