

Workshop on “National Spectrum Management: *Economic Aspects*”

5 - 7 Dec 2016

Tehran, Islamic Republic of Iran

Group Exercise: *Introducing Spectrum Liberalization and creating auction*

LEARNING OBJECTIVES

- Understand the concepts of technology specific, technology neutral and technology flexible licences
- Understand the elements of spectrum licences that permit technology and service flexibility.
- Understand the implications of moving from technology specific licences to more flexible licences

WORKING GROUP METHODOLOGY

Participants are expected to engage with other team members in active learning, in order to gain the most benefit from the case study workshop experience. Discussion should be:

- Interactive – all members have something to offer and should be involved;
- Dynamic – you need to deal with change;
- Work in groups – appoint a team leader and a scribe to help organize and document your group’s discussions.

Before exploring the task further, it is important that Working Group members understand the skills and experience that they have within their team.

INTRODUCTION

The Government of the Republic of Kashfar has just established an independent communications regulator, the Communications Commission (CommCo), combining the functions of the previous separate regulators, the Communications Authority of Kashfar and the Kashfaran Broadcasting Agency.

The Kashfaran Prime Minister had been dissatisfied with the progress of communications development in Kashfar. Prime Minister has announced that CommCo's first priority should be the spread of broadband communications throughout the country (to date, rollout of broadband has been slow and mainly confined to Kashfar's largest cities).

The Prime Minister has also established some general operating objectives for CommCo. CommCo is to regulate the information, communications and media (ICM) industries so as to:

- the development of efficient and competitive ICM industries;
- Promote access to ICM services for all citizens of Kashfar;
- Promote consumer choice;
- Provide transparent regulatory processes to facilitate competition and efficiency of ICM industries;
- Manage the radiofrequency spectrum so as to ensure its efficient use;
- Establish a fair and self-regulatory system of regulation for ICM industries;
- Facilitate and encourage investment.

For the introduction of new services in the country, Prime Minister has asked CommCo for an implementation plan for a transition to digital TV broadcasting and introduce auction plan for the spectrum releases as a result of DSO. The DSO of TV services is expected to be completed in 5 months and the related spectrum would be released accordingly.

KASHFAR COMMUNICATIONS SECTOR OVERVIEW

The Government of Kashfar has long recognized the importance that improved telecommunications infrastructure and service play in the economic and social development of the country. However, it has been dissatisfied with the pace of development in the ICM sector,

Information

Country setting: Kashfar

Geography: ITU – Region3

Key Stakeholders

- **Communications Minister**
- **CommCo:** Regulator for the information, communications and media (ICM) industries
- **Kashfar Telecom:** Incumbent Operator
- **DigiKashfar and AllTel:** Existing Mobile Operators
- **GogolTech and Neotel:** Potential New Entrant
- **CBAP:** Commercial Broadcasting Association of Kashfar

and this has led it to rationalise the regulatory structure by creating a new, independent, converged regulator, CommCo.

Kashfar has three mobile carriers, providing services across a large proportion of the country. The carriers — Kashfar Telecom, DigiKashfar, and AllTel — were subject to coverage requirements that required them to cover 95% of the country's population by 2015. All of the carriers have met this obligation.

Kashfar Telecom was the former monopoly telecommunications provider in the country, having evolved from the former government department responsible for posts, telegraphs and telephones (KTT). It is the dominant carrier in the market, with the greatest market share and the best network coverage. As well as its mobile network, the company retains its fixed network, and is also a major player in the emerging fixed broadband market.

The other telecommunications companies believe that Kashfar Telecom exploits its strong market position in order to restrict their ability to compete with it.

DigiKashfar and AllTel both entered the market in 2006 when the Government opened up its telecommunications market to competition. At that time, they acquired licences via a beauty contest to provide GSM and 3G services in the 900 and 1800 MHz band. These licences were subject to the network coverage requirement (of at least 95% of the population of Kashfar by 30 June 2015). The same condition was imposed on Kashfar Telecom, in order to put the three carriers on an equal footing.

Both DigiKashfar and AllTel are consortiums of foreign owned carriers and local business interests. However, AllTel is believed to be struggling in the market, with its take-up rate lagging behind the other two mobile carriers. There are indications that it may be interested in selling its network to one of the other mobile carriers.

Mobile phone penetration in Kashfar has been strong — much stronger than that for fixed broadband. Because of the high mobile penetration rates and high traffic levels, the carriers are interested in acquiring additional cellular spectrum to boost capacity. DigiKashfar also sees the prospect of using mobile broadband to capture a significant share of the broadband market. It believes that in Kashfar mobile broadband will be quicker and cheaper to roll-out than fixed broadband. On the other hand, Kashfar Telecom is rumoured to be ambivalent about mobile broadband, but to be interested in acquiring mobile broadband spectrum even if only as a defensive measure (to prevent it falling into the hands of a new entrant or its competitors. In other words it will not want to be locked out of the mobile broadband market.)

AllTel's position on acquiring mobile spectrum is also unclear. It would be most concerned if spectrum was acquired by a new entrant because that could put at risk its already low market share.

There is a mixed broadcasting sector in Kashfar, with a government broadcaster providing radio and TV coverage (analog) and two private sector companies providing analog TV in the major

cities using the VHF and UHF broadcasting band. The Government has announced that it plans to move to digital TV transmission, following an implementation report from CommCo.

Broadband services have been slow to develop in Kashfar. Fixed broadband is limited to the two largest cities in the country. Apart from some rollout of WiFi networks in the cities, there is currently no significant wireless broadband rollout. However, DigiKashfar has told the Prime Minister that it would like to establish a wireless broadband network using its existing spectrum. (The other two carriers are also contemplating the possibility of an upgrade to 4G wireless broadband, but may not be as keen to establish wireless broadband networks quickly.) Furthermore, a foreign owned company, GogolTech, has approached the Prime Minister with a proposal to build a wireless broadband network with significant regional coverage.

SCENARIO

After having considered the recommendation of CommCo:

1. The Government of Kashfar is favourably disposed towards liberalisation of existing spectrum allocations, allowing increased flexibility for the introduction of new services within existing spectrum allocations.
2. The government has issued a policy directive giving task to CommCo to Implement DSO and design auction for the spectrum released in 700MHz in accordance with regionally harmonized plan.

The Working Group exercise is to develop a detailed auction strategy including the information to be released for industry and investors and the steps by step actions.

The WG will present its views on these (and any related issues that it considers relevant) via nominated or elected representative(s).

GUIDELINES

The presentation should consider the following issues:

- a. What services should be allowed in the spectrum? E.g. PPDR also has roll outs in this band, Regional harmonization considerations etc.
- b. How should the band be allocated (what allocation method should be used, and why?);
- c. Should there be rollout (coverage) obligations imposed on the successful licensees;

- d. What should the license term be considering that long term license may block introduction of new technologies where as small term license duration would not attract investors to have favorable business case?
- e. What typical technical conditions should apply to the new licenses? Including mechanisms that might be considered to manage interference in the bands, and between the bands and other bands;
- f. Should licenses be trade-able? If so, what conditions should apply;
 - i. *If you propose that licenses be trade-able, how would interference be managed if the use of the band changes after trading;*
 - ii. *What responsibility should licensees in the bands have to manage interference, and what responsibilities should remain with CommCo?*
- g. Other specific License conditions including the issues related to
 - i. *License Term/duration*
 - ii. *License Changes including Modification, Restriction and Closedown*
 - iii. *Spectrum fee structure e.g. regular payments or pay as you go etc.*