



SM.2015

Methods for determining national long-term strategies for spectrum utilization

THE RADIOCOMMUNICATION SECTOR OF THE ITU

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SM SERIES ITU-R REPORTS

SPECTRUM MANAGEMENT

(Radiocommunication Study Group 1)

TABLE OF CONTENTS

	Page
Rep. ITU-R SM.2015 Methods for determining national long-term strategies for spectrum utilization....	1

METHODS FOR DETERMINING NATIONAL LONG-TERM STRATEGIES FOR SPECTRUM UTILIZATION

(Question ITU-R 205/1)

(1998)

TABLE OF CONTENTS

	Page
CHAPTER 1 – Long-term planning process	2
1 Introduction	2
2 National long term planning process	3
2.1 Spectrum requirements definition	3
2.2 Spectrum availability	3
2.3 Spectrum planning options.....	3
2.4 Spectrum planning implementation.....	3
2.5 The iterative process	3
3 The management or administrative body.....	4
Annex 1 – Influencing factors	4
CHAPTER 2 – Evaluation of scenarios.....	5
1 Introduction	5
2 The consultative approach	6
2.1 Inquiry into future spectrum/service requirements	6
2.2 Interaction among/with representative groups	7
2.3 Analysis of usage trends	7
2.4 Example	7
3 The analytical approach.....	8
3.1 Introduction.....	8
3.2 Steps for the analytical approach development.....	8
3.3 The use of the analytical technique in the long-term spectrum requirements planning process	9
CHAPTER 3 – Appropriate procedures for transition from present spectrum utilisation to long term objectives	10
1 Identification of long-term spectrum management objectives.....	10
2 Evaluation of current spectrum management process	10
3 Transition procedures	11
3.1 Encourage effective spectrum utilisation	11
3.1.1 Efficient use of new technologies for improved frequency re-use	11
3.1.2 Channel splitting	11
3.1.3 Service displacement.....	11
3.1.4 Service overlay and frequency band sharing.....	11
3.1.5 Shared radio systems.....	12
3.1.6 Use of the unused spectrum.....	12
3.1.7 Maximise the use of wireline distribution networks	12

	Page
3.2 Enhance spectrum use flexibility	12
3.3 Maximise the social and economic benefits that can be achieved by appropriate spectrum management	13
3.4 Ensure that the spectrum is used in all regions of the country where it is needed	13
3.5 Build a skilled work force and develop proper spectrum engineering tools	13

CHAPTER 1

Long-term planning process

1 Introduction

Recommendation ITU-R SM.1047 “National Spectrum Management” adopted in 1994 recommends “that the Handbook on National Spectrum Management be used as a guide for developing national spectrum management programmes...”. Chapter 3 “Spectrum Planning” of the Handbook defines “long-term planning” and describes “forecasts”, *inter alia*, but does not propose specific procedures for Administrations to follow. This Chapter is intended to fill this gap.

At present, much spectrum planning is relatively short-term. However, if spectrum resources are to adequately support national goals and objectives, long-term planning is essential. It can provide a basis for effective spectrum management to ensure that spectrum is efficiently allocated and assigned to accommodate constantly evolving spectrum requirements by new systems and their applications. It also facilitates decision-making by providing a basis for the practical consideration and evaluation of alternative courses of action.

Long-term planning should endeavour to:

- make today’s decisions on spectrum planning strategies in view of their consequences for the future,
- identify the impact of past decisions on the future,
- periodically adjust decisions to changing circumstances.

It should be sufficiently comprehensive to accommodate the national spectrum requirements of both known and anticipated radiocommunication systems.

It also leads to:

- revision of the national table of frequency allocations,
- the development of national positions on international radio conference agendas, and
- revisions to spectrum regulations, policies and standards.

2 National long-term planning process

The development of long-term strategies for national spectrum use will require the implementation of a national long-term spectrum planning process. This process should include the following phases:

2.1 Spectrum requirements definition

Spectrum requirements definition determines future broad-based national spectrum requirements for all radio services and technological, political and economic factors (see Annex 1 to this Chapter) which may influence spectrum use.

Spectrum requirements can be defined on the basis of the evaluation of potential scenarios (see Chapter 2). Traditionally, spectrum use scenarios have been evaluated on the basis of consultative inputs from concerned parties including national spectrum planning organisations within governmental departments or agencies, individual user requests, and the public.

Recently steps have been taken to perform scenario evaluation based on analytical modelling techniques (see Chapter 2, also applicable to the spectrum availability and spectrum option phases).

2.2 Spectrum availability

The objective of this phase is to assess the availability of spectrum across all national radio services and to accommodate the spectrum requirements identified in the requirements definition phase. Inputs are primarily derived from within the administration itself but also can come from the ITU International Frequency List, ITU allotment Plans and any existing regional spectrum planning studies.

2.3 Spectrum planning options

The aim of this phase is to develop suitable spectrum planning options to satisfy spectrum requirements on the basis of the data from the two preceding phases. Any analysis for the development of spectrum options would need to take account of technical, political and economic factors. The analysis would also assess the various opportunities for services given existing and projected radiocommunication environments and/or allocations. Recommendations regarding those service requirements unable to be accommodated within current national allocations will be based on these analyses and any available spectrum monitoring results. Allocation options are developed and the relative costs of any reallocation to and/or movement of existing spectrum users assessed.

2.4 Spectrum planning implementation

This phase would provide for the implementation of various spectrum planning strategies (see Chapter 3) and could be expected to be an on-going process. The introduction of new services may require changes to national spectrum allocation tables and revisions to ITU regulations. Revisions to international regulations would be undertaken at the various ITU World Radiocommunication Conferences (WRCs).

2.5 The iterative process

Previous decisions can be re-evaluated periodically or triggered by specific events and, if necessary, modified on the basis of the updated information. The planning process is therefore a continuous process of exploration and data processing rather than a linear process.

A record of all changes can be maintained to provide a history of developments in the long-term plan.

