# Report on Issues Related to Weather Radars and Wind Profiler Radars

## Introduction

This document provides a status update on issues affecting radars that may be of interest to SG-RFC members in particular regarding:

* Outputs of last WP 5B meeting on ITU-R recommendations revision on radars
* Outputs of last WP 5A meeting on issues related to Wind Profiler Radars
* Radars interference in C-band.

## ITU-R recommendations

*Rec. ITU-R M.1849-1*

At the last WP5B meeting (November 2016) Japan proposed to include six new radars in a revision of Rec. ITU-R M.1849-1 (see document [5B/168](http://www.itu.int/md/R15-WP5B-C-0168/en)).

It has to be noted that these radars are solid state technology, already in use and mainly operating in the 5250-5370 MHz. Only one of them is declared in the 5300-5850 MHz

Due to the technical characteristics of the radars added, this revision could have an impact on future studies on WRC19 AI 1.16 (a liaison statement with these radars characteristics was sent to WP 5A leader of AI 1.16).

However, at this stage, Japan does not aim to have this kind of radars incorporated by reference in the Radio Regulation, hence no impact is foreseen regarding WRC19 AI 9.1.5.

*Rec. ITU-R 1851*

The revision of Rec. ITU-R 1851 (Mathematical models for radio-determination radar systems antenna patterns for use in interference analyses) is ongoing. It has to be noted that some theoretical antenna directivity patterns, in particular for some of them which are included in Rec ITU-R 1849-1, are proposed to be modified.

It is then proposed to SG-RFC members to have a more in depth look on these modifications under discussions and, if agreeable, to take the opportunity of the revision of the Rec ITU-R M.1849-1 to align these theoretical antenna directivity patterns.

## Wind Profiler Radars (WPR)

At its November 2016 meeting, WP 5A in charge of WRC-19 agenda item 1.1 sent a liaison statement to WP 5B in order to obtain any comments or additional elements regarding the extracted parameters from ITU-R Recommendation ITU-R M.1226 on “Technical and operational Characteristics of Wind Profiler Radars in the Bands in the Vicinity of 50 MHz” and Report ITU-R M.2013 on “Wind profiler radars”.

This liaison statement also mentioned that no information about frequency assignments to WPR in the 50-54 MHz frequency band has been registered in the MIFR which could be understood that WPR are deployed in a very limited number, a consideration that could facilitate sharing with the amateur service.

In order to ensure the protection of WPR SG-RFC members are requested to verify that the parameters which will be used in the oncoming sharing studies are appropriate and also to provide any information regarding existing or future deployment of WPR.

## Radars interference in C-band

At the beginning of 2016, EUMETNET initiated a questionnaire in order to elaborate a summary of the situation (number of interference cases during the year 2015, knowledge of the regulation by each National Regulation Authority, solution provided, …) and propose relevant actions if needed.

A high level of responses was received (23 over 25 Eumetnet members), relating to 148 radars operating in the 5600-5650 MHz band.

Without enter in the detail of the answers, the high level of interference (80% of radars) and a trend of an increased situation compare to the previous years were confirmed. Furthermore, the responses show the lack, in one hand of the knowledge of the existing regulation and, in the other hand, of the appropriate solution to solve the interference cases.

Actions from Eumetnet members were agreed in particular:

* the initiation of a high level (director to director) communication to NRA informing them about the questionnaire outcomes and asking for action over interference monitoring enforcement and market surveillance
* to send a letter to the European Commission (which also provides the opportunity to link with RLAN extension band (under WRC-19 agenda item 1.16) to avoid similar difficulties in other bands, 5350-5470 MHz in particular (as used in both Switzerland and China)
* to contribute to CEPT appropriate working groups requesting actions on this issue

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