

# {TESS+} recommendations on the phase-out of HF Radio as a Security Communications Systems tool

## - Strategy Paper -

This Strategy Paper was formally endorsed  
in the IASMN (Interagency Security Management Network) 33<sup>rd</sup> session (January 2021).

Version 2.3  
Dec 31, 2020

### 1. Background

For decades, the UN and NGOs have depended on radio technologies for security and operational communications. HF (High Frequency) radio was traditionally used for long-range communications between remote locations, vehicles and SOC (Security Operations Centres), where no other means of communication were available.

However, in the past two years of TESS assessment and support missions and remote support sessions, we have observed that while in many countries' SRM (Security Risk Management) HF radio is still officially listed as a main or backup SCS (Security Communications Systems) connectivity, in almost all countries HF networks are no longer operational nor functional:

- The use of HF radio for long-range connectivity, is gradually and de-facto being substituted by either Mobile Satellite Systems (MSS) or mobile phone connectivity. As such, nowadays HF radio is rarely used anymore;
- Despite repeated efforts over the years to re-train the UN personnel who were traditionally the main field users of HF radio networks (drivers, SOC assistants, UN/NGO personnel who regularly go on field missions), gradually these users lost the practice and basic understanding on how to operate an HF radio or use an HF network;
- Similarly, even though over the past years repeated efforts were done to overhaul the HF networks and physical installations in the field, HF radios (base or mobile) installations are generally not well maintained, are badly/wrongly configured, or are simply not working anymore;
- Gradually, despite repeated training efforts, the field technicians have lost the skills to configure, install or even maintain HF radios, and to design or support a functional HF network;

- The standardized UN callsign and selcall (selective calling) configurations of the HF radio networks are generally either badly adopted or incorrectly implemented, and the HF networks themselves (choice of frequencies, common/standard channel lists, common/standard channel scan lists) are poorly designed, maintained and are, in almost all cases, simply not functioning as an operational SCS system.

It is recognized that in theory, HF radio could have a role in SCS communications for certain areas and situations, in practice, alternative communications' means have become ubiquitous, are more cost effective, more reliable, easier to operate by end-users, and easier to install and maintain:

Mobile phones, complemented by portable/mobile satellite phones for areas without mobile phone network coverage, have become the de-facto preferred means of long-range communications. These solutions offering services similar to HF radio but at a lower capital investment cost, provide more reliable communications, are more intuitive to operate for the end-users and easier to technically support while noting that all suggested alternatives (satellite or mobile phone communications) have inherent recurrent costs. Dependent on the actual use of these alternatives, the Total Cost of Ownership (TCO) needs to be taken into account.

Consequently, while in many field operations *officially* the UNSMS might still rely on HF communications, *practically* those HF networks are not functional nor fit-for-purpose, which poses a security risk by itself. At the same time, AFPs (UN Agencies, Funds and Programs) and NGOs continue to invest in new HF radios for bases and vehicles, even though its use is often already replaced by other pragmatic and reliable means of communications, such as satphones or mobile phones.

## **2. Overall approach to phase out of HF radio as SCS**

Mobile phones, complemented by portable/mobile satellite phones, are to be considered as the logical and natural replacement for HF radio in the SCS for long-range communications.

As such, it is recommended that the UN and NGO community should adopt those alternatives formally and start phasing out the use of HF radio as an SCS tool, as of January 2021.

To ensure the smooth transition from HF radio towards a combined use of mobile phones and satellite phones for long-range communications we recommend the transition to start as of now. As of end 2025, HF radio will no longer be a standard SCS tool, with the exception of specific cases, identified further below.

During the transition period, with a clear deadline of end 2025, HF radio networks, mobile phones and satphones can still be equally recognised as SCS tools for long-range SCS communications in the field. As such, the SOCs will monitor and use these means for SCS related communications.

For all countries, minus the exceptional cases identified further below, the country UNSMS' (UN Security Management System), in collaboration with the country ICTWGs (ICT Working Groups), and through technical guidance and support of the {TESS+} team, in collaboration

with the AFP ICT teams, will actively work in phasing out the use of HF radio as a long distance SCS communications tool. During this phase out, alternative long distance communications tools will need to be phased in. These include satellite-based communications and the use of public mobile phone systems (included UN fleet contracts or Closed User Groups).

The timeline of this transition period to fully phase out the use of HF radio as a standard SCS communications tool is aligned with the routine replacement of AFPs' field vehicles based on their normal life cycle of five years. This means that, as of now, when a new vehicle is acquired, instead of installing an HF radio, a mobile satphone should be installed.

As for any major transition, {TESS+} will support the country UNSMS, in collaboration with its Interagency Steering Group and including all stake holders, to produce a matrix capturing all items inherent to the suggested phase-out and transition keeping the overall aim of ensuring the integrity of SCS system resilience.

### **3. Exceptional cases**

While these recommendations represent an overall guidance, it is recognized that in few exceptional cases, the use of HF radio might still be justified: These exceptional cases are those SRM Areas (SRMAs) where there are no alternative long-range SCS communications available (e.g. mobile phone or satphones are not working, or can't be used, due to e.g. limited network coverage or licensing issues), as certified by the {TESS+} team.

### **4. {TESS+} recommendations**

{TESS+} recommends the following process to replace HF radio as an SCS tool:

- As of 2025, HF radios will, by default, no longer be considered as an official UN SCS communications tool, with the exception of those cases as described above.
- While 2025 remains a deadline, AFPs may introduce shorter transition cycles depending on their procurement cycles, and/or strategic stocks and/or funding and/or adoption of the satphone or mobile phone technology.
- This end date has been set to align with the average operational lifecycle of field vehicles and HF radio equipment, which is five years. This will allow the AFPs to gradually replace HF communications with an alternate means during the normal cycle of the replacement for vehicles and existing communications equipment, and without any additional capital cost.
- By default, it is recommended that as of Jan 2021, newly procured vehicles should no longer have an HF radio installed anymore, with the exception of the cases as listed above AND if it is proven that the current HF SCS network is still actively used and properly designed/configured.
- As of now {TESS+} will no longer invest in efforts to support, resurrect or rectify non-functional HF SCS networks in the field during this transition period, unless if the SRMA is a recognized exception case (see above).

### Prior to the transition

- To initiate the transition, the local ICTWGs (ICT Working Groups), supported by the {TESS+} team, will propose a plan to the UNSMS with the procedures to be implemented during the transition (including coexistence of the old and new communication system and the supporting security procedures), to be approved by the UNSMS. {TESS+} will support the local ICTWGs and the UNSMS' to identify and formalise the means of communications to replace HF radio in each operational area ensuring this is reflected in the SRM. In most cases the alternative means of SCS communications will be mobile phones, complemented by satphones.
- The {TESS+} team will ensure the AFPs' fleet managers are aware of this transition and change the standard configuration of communications in field vehicles to adopt the new SCS standard.

### During transition period

- During the transition phase both HF and the replacement SCS tools can operate in parallel, ensuring all field vehicles and offices can access the SCS.
- Where HF networks are proven to be fully functional, UN common SOC's will maintain the ability to monitor and use HF radio as a SCS until it is generally and formally disbanded, i.e. by latest end 2025.
- The HF network, if it should be kept as an SCS tool during the transition period, must be verified to be fully operational and meet the requirements of an SCS. This includes:
  - A common frequency and channel list must be available and implemented by the UN and NGO community throughout the operational areas where HF systems are still used;
  - Verify and ensure that the common configuration is implemented for all HF stations, both fixed (SOC's and offices) and mobiles, including e.g. the use of ALE (Automatic Link Establishment);
  - Ensure that staff operating HF radios continue to be trained on the use of HF radio
  - Ensure HF systems are part of the annual maintenance plan, and budget, until all field-based HF stations and the use of HF radios as an SCS tool have been demobilised.

### Final demobilization of HF

- Based on the confirmation from the ICTWG that HF radio is no longer in active use, the UNSMS will take the necessary steps to formally remove HF as a SCS tool from the SRM.
- HF equipment still deployed in SOC's must be disposed of through the appropriate processes.
- In the few exceptional cases, identified above, the use of HF radio can be, on an exceptional basis, continue to be used and supported as an SCS tool.

### Non SCS use of HF radio

These guidelines are only applicable for common SCS systems, and do not relate to the use of HF radio for the internal operational purposes within an AFP or NGO.