

6. General Communication Requirements

6.1 General

It shall always be remembered that safety critical communication is formal communication and shall not fall into a chatty conversational style. Personnel shall know how to use the communication equipment provided.

6.2 Cell Phones and other wireless (radio) train authorisation systems

6.2.1 The use of cellphones or any wireless (radio) train authorisation systems including open channel radio authorities, shall only be considered, on condition that such systems are safe, taking into account the following:

- (i) The use of cell phone shall not be used as the primary means of VSCC and shall be restricted to be a secondary form of communication.
- (ii) The cell phones shall be used when the primary mode of mission critical communication has failed.
- (iii) The use of conventional cell phones for safety critical communication introduces significant operational risks and shall be avoided or prohibited. Embedded cell phone technology on the other hand may be used where applicable (e.g. train control systems)

6.2.2 Risks associated with use of permitted cellphones shall be considered adequately and mitigated, taking into account the disadvantages of full duplex (FD) audio transmission (e.g. cell phones) as compared to half duplex (HD) audio transmission (e.g. two-way radios / walkie-talkies),namely;

- (i) Concurrent transmission in a single time/frequency channel in the case of FD;
- (ii) Use of different time slots and/or frequency subbands in the case of HD;
- (iii) Cancellation of possible Self Interference (SI) in the case of FD;
- (iv) Minimisation and risk mitigation of End-to-End (E-to-E) delays, especially in the case of HD;
- (v) Minimisation and risk mitigation of Link Reliability (LR) in both cases.