Means of Communication available between Two Stations, Train and Station and between two Trains .

-Arpit Gupta IRTS (P) 2018

A) Between Two Stations

- Block instrument /Axel Counter/ Track Circuit
- Telephone attached with block instrument.
- Station to Station telephone.
- Railway auto telephone (BSNL/MTNL).
- Control telephone.
- VHF headset with SM. Open Air Range of 15 Kms. Frequency set between two stations and setup done by S &T department. (In case of passenger train VHF should be accompanied by some other from the above but in case of freight trains it may be allowed with prior permission)
- Line concurrence register/group telephone - to interact between SM and Cabin man at big station where many SM are there.
- Train Signal Register.

Note:

- Rule 14.04 -All means of communication should be used in sequence.
- When except 1 and 2 any other means of communication is used then both station masters exchange private numbers to verify each others authenticity.
- When all the above fail then we have total communication failure.

B) Between Station and train

- Different signals like warner, outer, home, starter, advance starter, shunt, calling on, lunar light.
- Signal post telephone (In case of emergency).
- Gate signals is always between two stations. These are of two types:
  - Open for road traffic we have “G” marker
  - Where road cum rail bridge is there we have non G marker.
- Tangible (paper line clear / token / tablet) and intangible authorities (off position of last stop signal).
- Detonators (270-10 + 45 mt FSS in case of fog) + (500-250-10 in case of failure of communication and protection of line)
- Train Intact Register.
- Walkie-Talkie with LP. Open Air range of 3-5 km. (Walkie Talkie is caliberated with VHF so when SM speaks on his VHF, all LP in particular range are able to hear)

Continued..

- Engine Flasher light in case of abnormality (Rule 6.03)
- Horn (Rule 4.50) Eg continuous long whistle while approaching a tunnel.
- Hand flags + LED torch light + Tri Color Flashing lamp.
- Tail Board & Tail lamp.
- Use of cellphone for LP while driving the train is prohibited. But in case of accident or extreme emergency it can be used as a last measure when everything else is not available.
- Use of red / green hand signals by SM/LP/Guard. (Exchange of alright between the three).
- Side Light at both sides of brake van. (In night its white as seen by LP and red as seen from behind. If its white then the guard is in brake van and if its red then guard is not in brake van).

C) Between two trains

- Hand signals- Flag / LED torch light / Tri Colour Flashing lamp.
- Flasher light of engine.(Rule 6.03) Eg danger / inability to proceed.
- Head light (used in case of Flasher light failure by keeping it at High/Low)
- Detonators (10 with the guard) + (600-1200-10-10 in case of obstruction at broad gauge, 400-800-10-10 in case of narrow gauge)
- Horn (Rule 4.05)
- Side light in brake van. (if the ongoing train stops, then to give signal to the train at behind this is turned white but normally its red).
- Walkie-Talkie.
- CUG phone

Failure of Communication

Failure on Double absolute block system.

- Station master to give T/C 602 to Loco Pilot. (APWLC + T369(3B) + Caution Order) LP to start with flasher light on.
- SM to start next train after 30 mins.
- If a train is delayed due to any reason then it should be protected from back by placing detonators at 250-500-10 mtr.
- After restoration of normal working both SM should exchange T/I 602 and private number and return to normal condition of working.

Failure on Single Line

Vehicle should be sent to next station to open communication in following order:

- Train engine detached from train.
- Tower wagon motor trolley
- Hand push trolley/Mixed trolley/Cycle trolley
- Rail motor car/ EMU/DMU rake without passenger.

While going to next station, **SM of First station** will give:

- **T/B 602** authority **(APWLC + T-369(3b) + Caution order**)
- **T/E 602**-line clear inquiry message for train waiting at our station (A),
- **T/F 602**- line clear for the vehicle to come back.

Continued..

The **next station master** will issue to the returning vehicle:

- **T/G 602 (up direction)** or **T/H 602 (down direction)** line clear ticket
- **T369(3b)** + Caution order
- **T/E 602** line clear inquiry message at station B for 2nd train.
- **T/F 602** Conditional line message for train awaited at station A.
- Exchange of **T/I 602 + private number** when normal working is restored.

Train Parting:

- **T-609** issued by the guard to LP.
- Only T-609 is the authority which is Issued by the guard, rest all are by SM.

Failure on Automatic Block System

- SM to issue **T/A-912** for all signals
- **T/B -912**- Authority to proceed without line clear to start upto next station.
- Caution order of 25/8/15 kmph.
- Second train to be started after 15 mins with some authority.
- SM to maintain TSR, with help of **T/B -912**.
- Exchange of **T/I 602 + private number** when normal working is to be restored.

Double line working as Temporary Single Line-

- **T/D 602** is given.

For Shunting Purpose

- **T-806** is given.

Obstruction on line

SM will appoint two employees, one is **45 mtrs before the obstruction with red stop signal** and other is **45 mtrs before the facing point with calling on signal**:

- In this case **T 509** will be issued by SM to the LP.
- If the train in above case is being received on non functional line then **T-510** is given.
- During dispatch if the authority is tangible (Paper line clear/token/tablet) the SM will send an employee to LP which will pilot the train out.
- If the authority is intangible then **T-511** will be given.
- If in this case there are multiple lines but one common starter then **T-512** will be given.

Thank You!