AUTHORITY, CONTROL, and PROTECTION (A-C-P)

To Establish Safe and Efficient Railroad Movements
A mini-clinic by Rick Kang
Vegetable Northern Transportation Co.

Based on concept developed by
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Rules & Training Officer
Southern Pacific Trans. Co.
c1972
To Occupy MAIN TRACK

- The primary track BETWEEN and THROUGH stations/yards where trains and engines move at TRACK SPEED (potentially fast!)

You generally need AUTHORITY (permission) from the person who coordinates movements (Train Dispatcher)
The “HIGH IRON”
Track Speed depends on engineering of Right of Way
Train Dispatchers at work providing A-C-P on Main Track
AUTHORITY in form of

1. Clearance Card assigns train to move on a Timetable Schedule (NO 11)
2. Train Order authorizes train to RUN EXTRA or WORK EXTRA (creates EXTRA)
3. Interlocking or Absolute SIGNAL INDICATION (CTC/Interlocking limits) (NOT necessarily an Automatic Block Signal!)
4. Direct Traffic Control (DTC) block authority or Track Warrant Control (TWC) segment authority.
5. Timetable/Special Instructions: Staff Territory, D-251 Territory, Rule 97 Territory
6. Yard Limits in effect (Rule 93 Territory – our main clinic)
7. (You can always Flag your way out there, but inefficient and may be frowned upon!)
Clearance Card confirms orders received, and at initial station may assign physical train to timetable schedule.

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1. I have __________ orders for your train. Train order numbers delivered.
   Orders No.__________, No.__________, No.__________,
   No.__________, No.__________, No.__________,
   No.__________, No.__________, No.__________.

2. Manual block between ________________, and ________________ is ________________ by ________________.

3. Superior train due at ________________ by ________________ M have arrived or departed except ________________.

4. ________________ has arrived at ________________. Proceed.

Operator Time ________________

OPERATOR WILL PLACE AN X OVER UNUSED NUMBERED PARTS
CONTROL (Spatial and Temporal LIMITS)

1. For REGULAR TRAINS: Originating and Terminating Stations of a SCHEDULE, and Station Leaving Times (and RUN LATE T.O.)

2. For EXTRAS: Run/Work limits: RUN EXTRA ANNA TO CLOY, WORKS EXTRA EXTRA BETWEEN CLOY AND DORRIS 801 AM UNTIL 301 PM, also MEET, RIGHT OVER, WAIT orders.

3. Block and specified limits and restrictions included in DTC/TWC authority.

4. Authorizing signals from SIGNAL to NEXT SIGNAL or END OF CONTROL LIMITS

PROTECTION (against collisions – head, rear, conflicting route)

1. REGULAR TRAINS: Rules that specify protocols for SUPERIORITY (class and direction) and CLEARING times.
2. EXTRAS: Rules that specify protocols for SUPERIORITY (right and direction), and CLEARING times.
3. RULES to safely enter MAIN TRACK (10” wait, etc.)
4. FLAG PROTECTION RULES (Rule 99)
5. Compliance with SIGNAL INDICATIONS: INTERLOCKING (head on) and BLOCK (rear end)
6. SINGLE MOVEMENT on TRACK (staff territory)
7. RESTRICTED SPEED (moving prepared to stop within half the range of vision short of…) – restrictive signals, yard limits, joint time
Automatic Block Signal vs Interlocking (Absolute) Signal
SUMMARY of A-C-P

1. **AUTHORITY**: permission to occupy and move on MAIN TRACK

2. **CONTROL**: Limits specified on your movement: spatial, temporal

3. **PROTECTION**: Methods, Rules, Hardware to prevent collisions

- When you’re operating on the **MAIN TRACK**, consider and respect **ALL THREE ITEMS**.

- Proper implementation of A-C-P provides **SAFETY** of movements, and **EFFICIENCY** (minimizing delays).