

PTC Implementation – The Operating Agency View

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LEGAL AFFAIRS SEMINAR //

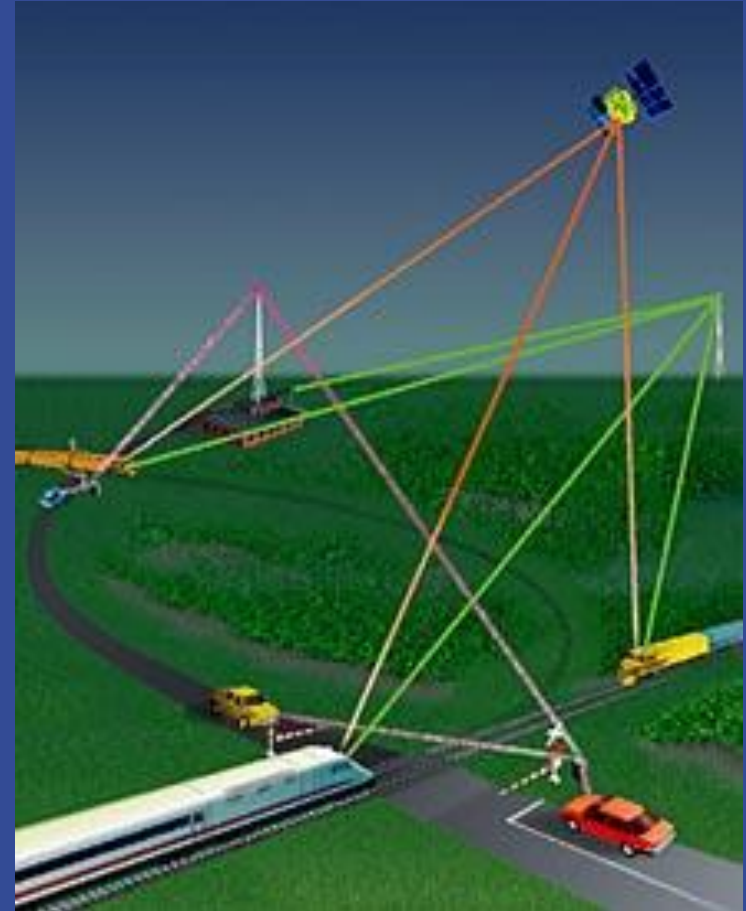


What's PTC?

HOW IT WORKS

Key components:

- Equipment on locomotive cars detects position and relation to other objects
- Equipment at control center – broadcasts authority for train movements
- Wayside interface units
- Wireless data line between train and control center



What's PTC?

Essential elements:

- Required of all passenger intercity and commuter railroads; Class I railroad freight main lines or those carrying TIH cargo
- Automatic control of train movements
- Interoperability
- Radio spectrum near 220 MHz (218-222 MHz)

To achieve:

- Train separation or collision avoidance
- Speed control



Statutes and Regulations

Rail Safety Improvement Act of 2008 (**RSIA**), Sec. 104: Positive Train Control (**PTC**) technology (49 U.S.C. 20157)

- Original implementation deadline: Dec. 31, 2015

Regulations: 49 C.F.R. Subpart I – part 236



Statutes and Regulations

Positive Train Control Enforcement and Implementation Act of 2015 – amended 49 U.S.C. 20157

- Extended implementation deadline to Dec. 31, 2018
- Alternative schedule deadline Dec. 31, 2020 – if sufficient completion of implementation in place by end of 2018

**ALL FREIGHT AND PASSENGER RAILROADS REQUIRED TO
INSTALL PTC HAVE MET 2018 DEADLINE OR QUALIFIED FOR
ALTERNATE SCHEDULE**



FRA Review

- FRA review – iterative:
 - PTC Implementation Plan (**PTCIP**) (49 C.F.R. § 236.1011)
 - PTC Development Plan (**PTCDP**) and Type Approval (49 C.F.R. § 236.1013) - Components
 - PTC Safety Plan (**PTCSP**) (49 C.F.R. § 236.1015) – Procedures
 - PTCDP and PTCSP need not be submitted simultaneously with PTCIP
 - FRA may require independent third-party verification and validation of product safety plan (49 C.F.R. § 236.1017; 49 C.F.R. § 236.913)



Implementation

Challenges:

- Novel procurement issues:
 - No off-the-shelf technology – hardware or software
 - Acquisition of radio spectrum in limited band
- Cost – unfunded mandate
- Coordination among railroads – at least one freight RR, and usually Amtrak



Implementation

- Contracting and procurement
- Internal coordination and communication
- Addressing the public and media
- Intense technical effort with FRA



Contracting and Procurement

- Scant negotiating leverage
 - Few off-the-shelf components – frequent sole source procurements
 - Interoperability requirements – choice of systems externally dictated
 - Spectrum – owned by consortium of Class I RRs
 - PTC 220 LLC
 - Radio vendor – owned by consortium of Class I RRs
 - MeteorComm



Contracting and Procurement

- Limited market
 - Small vendor ecosystem – supply chain bottlenecks
 - Turnkey solutions desired – not always achievable
- Vendors demanded uniform contracts
 - Sovereign immunity – vendors sought waivers
 - Difficult to allocate risk – vendors sought blanket indemnities
 - Insurance/indemnity issues
 - Vendor-specified venue – not always possible under state law



Contracting and Procurement

- Solutions
 - Sublease spectrum from Class I host
 - Use vendor's standard contract – negotiate amendments as riders
 - Allocate risk – each party responsible for its own
 - Cap liability using statutory \$295 million cap at 49 U.S.C. 28103 - insure



Internal Communication

- Close coordination among engineering, safety and executive teams = success
- Contracting and negotiating issues frequently complex
- Concise (but not cursory) updates to Board



Addressing Public and Media

- Frequent misunderstanding of what PTC is and can do
- Public interest – none to intense
 - Wide variation across US depending on history of incidents
- Engage your electeds!



Looking Ahead

- Effect on timetables
- Effect on fuel usage
- Staffing demands
- Interactions with freight railroads
- Metro-North – \$2.3 million FRA grant for communications test lab
 - Efficient spectrum utilization
 - Operational reliability
- Procurement cycle begins again in 5 years when radios require replacement . . .



Questions?

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