

with satellite and radio technology. Communication among dispatchers and train crews is over a field proven communications segment, and is mainly by means of messages that are processed and converted into visual information. The dispatcher confirms or modifies the meet/pass locations and the system automatically incrementally generates and delivers the electronic enforceable authority and temporary speed limits for each train under CAS control. This information is delivered through the communications segment to the locomotive. Procedures are implemented to ensure the data received is complete and correct. Several modules within the locomotive segment manage authority limit enforcement, speed enforcement, switch monitoring, signal compliance and signal comparator functionality, track integrity, and wayside detector monitoring and enforcement. Failsafe design dictates that an undelivered message will stop the train at the end of

its active authority. The approaching locomotive interrogates wayside devices, including signals, and designated switches to ensure proper alignment and aspect for the route. The locomotive segment confirms the locomotive's location, via the location segment, and enforces movement and speed limits by monitoring the train's location and speed and applying the brakes to stop the train if necessary to prevent a violation. The crew is presented a graphical and textual view of the authorities, speed restrictions, and current location, and is alerted in advance to any upcoming restriction. Human reaction to the prompts issued by the system will prevent intervention by CAS. All on-board and dispatcher office information and human actions are recorded.

The CAS will be tested and demonstrated system wide on the ARRC in the State of Alaska on the subdivisions/branches shown in Table 1.

TABLE 1

Subdivision/Branch	Length (miles)
Seward: Anchorage to Seward	114.3
Whittier: Portage to Whittier	12.4
Anchorage: Anchorage to Fairbanks	356.0
Anchorage Intl Airport Branch: Anchorage to End of Track	2.45
Palmer Branch: Matanuska to Palmer	6.2
Suntrana Branch: Healy to End of Track	1.7
Fairbanks Intl Airport Branch: Fairbanks to End of Track	10.0
Eielson Branch: Fairbanks to Eielson	28.0
Total	531.05

The present methods of operation on the CAS territories are shown in Table 2.

TABLE 2

Subdivision/Branch	CTC	CTC 2 main tracks	Non-ABS	Rest/yard limits
Seward: Anchorage to Seward	4.8	0	106.1	3.4
Whittier: Portage to Whittier	2.7	0	5.6	4.1
Anchorage: Anchorage to Fairbanks	8.45	2.8	341.95	2.8
Anchorage Intl Airport Branch	0	0	0	2.45
Palmer Branch: Matanuska to Palmer	0	0	0	6.2
Suntrana Branch: Healy to End of Track	0	0	0	1.7
Fairbanks Intl Airport Branch	0	0	0	10.0
Eielson Branch: Fairbanks to Eielson	0	0	0	28.0
Total (531.05 miles)	15.95	2.8	453.65	58.65

The CAS production system will enforce the General Code of Operating Rules (GCOR) rules governing the movement of trains. Operating Rules changes required to support the CAS will be identified and documented during testing and evaluation.

The waiver is requested for a testing period commencing September, 2003, and extending to the conclusion of the test phase. The testing period will terminate December, 2005 unless AARC notifies FRA of an earlier termination date.

The following are the specific waiver requests and their justifications. References are to Chapter II, Subtitle B, Title 49 of the Code of Federal Regulations.

Section 216.13

Special notice for repairs—locomotive. During development, demonstration, and test, waiver is requested for CAS locomotives to the extent that non-operation of CAS

equipment installed on-board, whether through malfunction or deactivation, shall not be construed as an unsafe condition requiring special notice for repairs. Waiver is also sought for non-CAS-equipped locomotives operating in the CAS test territory to the extent that the absence of CAS equipment on-board shall not be construed as an unsafe condition requiring special notice for repairs.

Justification: With or without CAS equipment operating on-board the controlling locomotive, a train remains subject to applicable railroad operating rules. CAS tests require flexibility in installing, removing, turning on, and turning off the on-board equipment. The initial CAS tests will equip only a small subset of locomotives operating in the pilot territory or test bed.

Section 217.9

Program of operational tests and inspections; recordkeeping. Waiver is requested exempting operation of CAS

equipment and procedures from the requirements for operational tests, inspections, and associated recordkeeping during the test phase.

Justification: During the CAS test program procedures for using CAS equipment and functions will be refined and modified. Until such procedures are defined, they cannot be addressed in the GCOR.

Section 217.11

Program of instruction on operating rules; recordkeeping; and electronic recordkeeping. Waiver is requested exempting operation of CAS equipment and procedures from the requirements for instruction and associated record keeping during the test phase.

Justification: During the CAS test phase procedures for using CAS equipment and functions will be refined and modified. Until such procedures are defined, they cannot be addressed in the GCOR.