

ACCESSING WATER COLUMNS UNDER AI CONTROL ON S&C ROUTES IN TS2009 AND TS2010

The water columns used in S&C routes have a very short fixed track length that makes advanced detection of them by AI Drivers difficult. Changing the detection radius of the water column trigger points does not improve this. As a result, an AI Driver commanded to drive to a water column to load the locomotive tender will often overshoot the water column. To combat the problem, alterations outlined below have been made for the S&C TS2010 Service Pack. TS2009 users would have to complete the alterations themselves.

COMMON EDIT TO ALL WATER COLUMN LOCATIONS THAT REQUIRE ACCESS UNDER AI CONTROL

- Add a track mark adjacent to the join of the water column's fixed track and the splined track, located on the splined track (see hand drawing in appendix). There are 2 such joins, and a track mark is required on the EXIT side from the water column for locomotives using the water column. If locomotives are likely to approach the water column from both sides, as would more likely to be the case in a yard rather than a double main line, then track marks are required on both sides of the water column.
- If the location abbreviation is 'AM' (Appleby) and the water column's numeric sequence number is '3' (e.g. 'ApplebyWaterColumn3'), then the name of the track mark is 'AMwc3'. If there are 2 track marks for the water column, directional suffixes 'n' and 's' are used to distinguish them. Hence, 'HNwc2n' and 'HNwc2s'.

In addition, a NEW DRIVER COMMAND IS REQUIRED

- **Load Passengers**, <kuid2:192081:5:2>

The LOAD PASSENGERS rule is required where a locomotive of a passenger train is stopped by the platform LOAD command when the tender is at or beyond the platform-end water column. LOAD PASSENGERS replaces LOAD and is used in conjunction with DRIVE/NAVIGATE TO TRACKMARK to replace DRIVE/NAVIGATE TO Station-name, where the track mark is located so as to stop the locomotive in front of the water column (this is the same track mark discussed above under the heading "Required Common Edit..." – this track mark serves dual purposes). See also **Standard case 2** listed below.

AI COMMANDS TO ACCESS A WATER COLUMN

Standard case 1: Passenger train stops at station before passing water column

Examples: Hellifield up and down platform-end water columns

AI Command sequence:

```
DRIVE / NAVIGATE TO station-platform-name
LOAD
DRIVE / NAVIGATE TO water-column-track-mark
WAIT 5 (may not be required in cases where engine is very close to water
column)
DRIVE / NAVIGATE TO water-column-name
LOAD
```

Standard case 2: Passenger train where AI Driver using the platform LOAD command partially or fully passes water column before stopping

Examples: Appleby up and down and Settle down platform-end water columns

AI Command sequence:

```
DRIVE / NAVIGATE TO water-column-track-mark  
LOAD PASSENGERS  
DRIVE / NAVIGATE TO water-column-name  
LOAD
```

Standard case 3: Goods train to take water from a main line water column

AI Command sequence:

```
DRIVE / NAVIGATE TO water-column-track-mark  
WAIT 5  
DRIVE / NAVIGATE TO water-column-name  
LOAD
```

In high-speed track sections the goods train would have to be slowed as per a stopping passenger train using the Invisible Speed-Signals provided on all routes as part of the Service Pack (see separate document **Using Invisible Speed Signal in sessions for SnC in TS2009 and TS2010 v3.pdf**).

Standard case 4: A locomotive takes water in a yard or MPD

AI Command sequence:

```
DRIVE / NAVIGATE TO exit-side water-column-track-mark  
WAIT 5  
DRIVE / NAVIGATE TO water-column-name  
LOAD
```

Special case: Main line access to water columns at Blea Moor

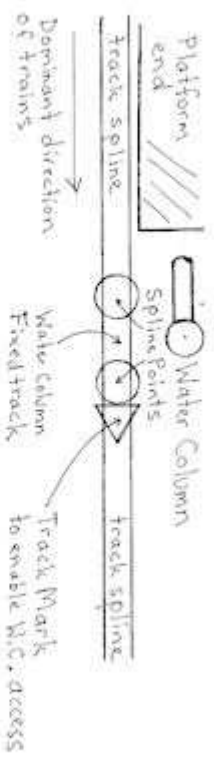
To allow for slowing of a train for use of the dual-track water columns from the main lines at Blea Moor, an approach Invisible Speed-Signal on the down main and up main has been provided. The IS-S are located just past the loop-entry junctions. Use the IS-S in conjunction with **Standard case 3** outlined above.

A session **Accessing water columns demo for Carlisle Skipton** is provided to illustrate the various standard cases likely to be useful to session creators.

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January 2010

ADDING TRACK MARKS TO ENABLE ACCESS TO INTERACTIVE WATER COLUMNS BY LOCOMOTIVES UNDER AI DRIVER CONTROL.

1. Station platform-end water columns



2. Yard water columns

