

Train Handling Procedure

SMS-12-OS-0230

Purpose

This Operator-Specific (OS) Procedure is intended to provide guidance to Drivers of THNSW trains in the best practise for train handling, reducing the risk to equipment (couplers & draw gear) and passengers that can arise from sudden jerking movements or interrupted train dynamics.

Scope

This Procedure is approved by the THNSW Rail Operations Manager and applies to all trains operated by THNSW (Thirlmere Heritage Railway and main line).

Process Description

Safety Considerations

The safe operation of THNSW trains is of paramount importance, equally important is the handling of passenger trains, not just in regards to passenger comfort, but also in regards to fact that passengers can be moving through the train at any time and untoward movement of the train may increase the risk of passenger slips, trips or falls.

Additional care is to be taken with lengthy train consists (that are operated by from time to time), to ensure that trains operate as smoothly and as safely as possible.

Procedure

General Principles

1. Train stops should normally be made with the automatic brakes or a combination of both air and dynamic brake.
2. No element of braking can create train shock conditions more severe than improper use of the Locomotive Independent Brake.
3. The driver must consider buff and draft forces with due regard to run in/out of the train causing possible injury to passengers and damage to rollingstock.
4. Unnecessary use of the Locomotive Independent Brake should be avoided; the automatic and dynamic brake should be utilized for smooth train handling. Locomotive Independent Brake must not be solely used to control train speed. This causes excessive brake wear and burning of the locomotive

brake blocks and/or wheels, together with overheating which may lead to thermal cracking and possible wheel failure.

5. Coupling must be conducted in accordance with Section 10 of THNSW “SMS-12-OS-0214 *Shunting in THNSW Yards and Sidings*”. When coupling to hook & screw coupled consists, squeezing-up must be gentle and drivers of locomotives must be prepared to bring the locomotive to a stand upon receipt of the stop signal from the shunter.

Starting

1. The application of power from the locomotive should always be gradual, particularly when starting.
2. Drivers should consider the effects of transition when accelerating. Throttle power should be reduced temporarily whilst the diesel locomotives undergo transition.

En-route

1. Train speed is to be controlled in compliance with the applicable network rules and procedures speed restrictions, either permanent or temporary, applicable TOC manual, TOC waiver or THNSW requirements, whichever is the more restrictive
2. Drivers should plan braking technique to slow the train in a smooth manner with due consideration of the route and comfort of passengers.

Stopping

1. As far as practicable and when safe to do so, train brake applications should be gentle and gradual, with braking force reduced shortly before coming to a stand.
2. Trains should be stopped using the automatic brake, and in certain circumstances the dynamic brake may be employed in conjunction with the automatic brake. The Locomotive Independent Brake should not be solely used when slowing or stopping a passenger train consist.
3. In normal operating conditions, it is not appropriate to stop a train using solely the Locomotive Independent Brake, extreme care must be taken to prevent wheels from skidding/sliding.

Emergency Application and Release

An emergency brake application is normally initiated by;

- The automatic brake-valve

- The emergency valve in the cab
- Vigilance control equipment
- The emergency valve in passenger cars
- Failure of the brake pipe or hoses

The emergency application in each case normally results in rapid reduction of brake pipe pressure. This results in a rapid build-up of brake cylinder pressure resulting in extremely high buff and draft forces being introduced throughout the train.

No attempt should be made to release an emergency application from any cause until the train has been brought to a complete stop.

Distributed Power (DP) /Multiple Unit (MU) Working

It is permissible to distribute locomotive power throughout a train consist. As operational or network needs require, additional powering locomotives may be marshalled either; next to the lead powering locomotive (MU working), or away from the lead powering locomotive as a group within a train consist or at the rear of a train (DP working).

Both DP and MU worked trains must be driven from the leading locomotive in the direction of travel, except when shunting or yard working.

All distributed power & multiple-unit working must be conducted in accordance with the relevant network TOC manual.

4-wheel vehicles, vehicles with timber under-frame, and vehicles with non-automatic couplers must not be included in a distributed power train consist forward of the distributed power locomotives.

Distributed power/Multiple unit responsibilities

Driver of the leading locomotive

1. Has overall responsibility for the safe movement of the train, including starting, powering, slowing and stopping.
2. Must confer with the drivers of assisting locomotives as to the (known) stopping pattern, and likely additional powering and/or dynamic braking required from the assistant locomotives, prior to (and during if needed) the journey.
3. Must ensure radio communications are functional between locomotives, as per SMS-12-OS-0210 - Using Train or Handheld Radios.
4. Must (in the case of the lead locomotive being a steam engine) confer with the driver of assisting locomotive/s to ensure sufficient assisting power will be provided to ensure the safe

passage through single line tunnels, noting potential for steam locomotive loss of traction or train stall.

5. Must ensure control of train brakes from the leading locomotive at all times.
6. Must have full control of the automatic air brake throughout the train including the assistant locomotive(s) and may direct the driver/s of the assistant power locomotives, if crewed, when to apply and reduce power.

Driver of an assisting locomotive

1. Power the assisting locomotives in a gentle manner appropriate to the route conditions.
2. Follow all reasonable instructions from the driver of the lead locomotive, who is in charge of the train.
3. Consistently monitor train brake-pipe pressure to ensure they are not powering against a brake application.
7. Reduce power if it is suspected the train is approaching an over-speed, restrictive signals, or if unresolvable communication or technical problems with the lead locomotive are encountered.

Overall Responsibilities

Rail Operations Manager

Responsible for the planning of distributed power & multiple-unit trains in a manner compliant with THNSW operational procedures, draw gear capacity limits, and the relevant network TOC Manuals requirements. Assistant locomotives in distributed power consists are not counted in the train tonnage hauled weight, or as contributing to the weight against draw gear capacity.

Is responsible for ensuring that all relevant THNSW personnel receive instruction in this procedure and understand its application in the workplace. The Rail Safety and Operations Manager is also responsible for the development, implementation and testing of this procedure.

All Operations personnel qualified as Rail Safety Workers (RSW) qualified to perform as Drivers and Driver Training duties, are responsible for ensuring that this procedure is followed.

Fleet Maintenance Manager

Responsible for providing appropriate locomotives and couplings suitable for distributed power and multiple-unit working.

References

Shunting in THNSW Yards and Sidings - SMS-12-OS-0214

Using Train or Handheld Radios - SMS-12-OS-0210

Version Control

Version	Changes Made	Issue Date	Approved By	Comments
1.0	Upgraded to new corporate template, and roles	27/08/2019	SE&QM	
2.0	Minor update	18/06/2017	SE&QM	
3.0	Amended to include: All THNSW trains Procedures for operating trains with distributed power. Along with new template and changes in roles.	01/06/2020	ROM	