KiwiRail

Local Network Instructions:

L3.1 Hamilton - Waikanae

Publication date 18 Dec, 2024

Table of Contents

1. General Instructions

Heat Sheets

The Daily Heat Sheets for Te Rapa to Palmerston North can be found here.

1.1 Bulletins

Terminals must be supplied with **all** bulletins for the areas shown:

Terminal	All Bulletins affecting
Wellington	• Palmerston North–Wellington • Palmerston North–Woodville • Woodville–Wellington • Johnsonville Line
Palmerston North	• Taumarunui–Wellington • Whareroa–Marton • Wanganui Branch • Castlecliff Branch • Napier–Palmerston North • Woodville-Wellington
Te Rapa	• Te Rapa–Waiouru

1.2 Automatic Signalling

Trains between **Waikanae** and **Hamilton** are signalled by Train Control under Automatic Signalling Rules.

Switchlock locations:

- Winstone Pulp Siding
- Waikato Lime Siding

1.3 Shunting Trains and Light Locos

1.3.1 Arrangements

The area, hours, and work of shunting trains will be arranged and advised by the Team Leader. Work required by the Access Provider is authorised by the Team Leader, in conjunction with the Train Controller. Shunting trains and light locomotives may run as arranged by each Team Leader within their respective area and directed by the Train Controller.

1.3.2 Crewing

When shunting trains and light locomotives are running under ATC conditions, the Train Controller must be advised.

The Train Controller must endorse the train control diagram alongside the plot line for the intended movement.

1.4 General Operating Instructions

1.4.1 Brake Tests on Milk Trains

As the consist of milk trains are only changed occasionally, brake tests need only be carried out in the following situations:

1.4.2 Terminal Test in Conjunction with Train Examination

- Before a train commences, the run from Whareroa and Longburn.
- On any wagons attached to the train enroute.

1.4.3 Intermediate Test

- After arrival at a terminating station, locomotives are changed or reversed to the other end of the milk train for the return journey. The exception is Whareroa, where it is necessary to carry out a terminal test.
- After a train consist is changed (i.e., wagons attached/detached).
- When any coupling hoses have been uncoupled for any reason.
- If the Operator of a train considers that the air brake is not functioning satisfactorily.

Rail Operating Code Section 5.3, 6.5.1 Terminal Test and **6.6 Intermediate Test** are modified accordingly.

1.5 Fuel Conservation for Milk Trains

- Both locomotives are to be started from Palmerston North.
- One locomotive to run off-line to Wanganui.
- At Wanganui, trail locomotive to be brought online.
- When there are only eight milk wagons travelling, and the trail locomotive is required to travel, the trail locomotive is to be shut down or taken off-line after ascending the steep grades north of Wanganui.

1.6 Maximum Speeds

1.6.1 Maximum Speed of Motive Power Units and Rolling Stock

Motive Power Type	Speed km/h
DC, DFT, DXB, DXC, DXR and EF	100
DL	80

1.6.2 North Island Main Trunk

Portion of Line	Kilometres per hour		
	Exp P	ExpF	F
UP TRAINS			
Waikanae-Palmerston North	**100**	**80**	**55**
EXCEPT			
Waikanae–Levin			
From 6368 Intermediate signal to 2RAB Up Home signal at Te Horo	..	70#	..
From 6932 Intermediate signal to 2RABC Up Home signal at Otaki	..	70#	..
Past Otaki Veranda for FIH wagons	..	55	..
Past Otaki Platform -TSF and 2.9m containers on HKK, IA, IAB, IAC, IH, IHR and UK type wagons	..	25	25
From 79.09 to 79.10 over Bridge 38A for DL and DXR Locomotives	40	40	40
From 8422 Intermediate signal to 4RABC Up Home signal at Ohau	..	70#	..
From 8910 Intermediate signal to 8RA Up Starting from Main signal at Levin	..	70#	..
Levin–Longburn			
Past 4RABC Home Signal at Koputaroa	..	70#	..
From 11748 Intermediate signal 4RAB Up Home signal at Tokomaru	..	70#	..

Portion of Line	Kilometres per hour		
From 12292 Intermediate signal to 4RABC Up Home signal at Linton	..	75#	..
From 12788 Intermediate signal to 2RABC Up Outer Home signal at Longburn	..	70#	..
DOWN TRAINS			
Palmerston North–Waikanae	**100**	**80**	**55**
EXCEPT			
Palmerston North–Levin			
From 13131 Intermediate signal to 18LABC Home Signal at Longburn	..	75#	..
From 12553 Intermediate Signal to 8LABC Home Signal at Linton	..	70#	..
From 11973 Intermediate signal to 8LABC Home Signal at Tokomaru	..	75#	..
From 10779 Intermediate signal to 8LABC Home signal at Shannon	80*	..	..
Past 10779 Intermediate Signal	..	70#	..
From 10075 Intermediate signal to 8LABC Home Signal at Koputaroa	..	70#	..
Past 9237 Intermediate Signal	..	70#	..
From 10LABC Down Outer Home signal to 8LABC Down Home signal at Levin	80*	..	..
EXCEPT			
Manakau–Waikanae			
From 8073 Intermediate signal to 8LABC Home Signal at Manakau	..	65#	..
From 79.09 to 79.10 over Bridge 38A for DL and DXR Locomotives	40	40	40
Past Otaki Veranda for FIH wagons	..	55	..
Past Otaki Platform -TSF and 2.9m containers on HKK, IA, IAB, IAC, IH, IHR and UK type wagons	..	15	15
Past 6581 Intermediate Signal	..	70#	..

Portion of Line	Kilometres per hour		
	Exp P	**Exp F**	**F**
Palmerston North–National Park	**100**	**80**	**55**
EXCEPT			
Palmerston North Station along Loop	25	25	25
CIMW Site between, 147.40 and 147.60km (Palmerston North and Feilding) Constant Speed required over site	..	70	55
Past Feilding Veranda for FIH wagons	..	55	..
Marton DOWN trains through turnout from East Main to Main	60	60	..
Between 219.40 km and 219.70 km for Electric Services	40	40	40
Between 240.20 km and 242.75 km	50	50	50
Past Taihape platform for RM31	25	..	..
Through Tunnel No.13 (at 259.2 km) for FC wagons	..	55	..
National Park–366.00 km (between Raurimu and Oio)	**70**	**70**	**55**
EXCEPT			
Between 351.235km and 357.878km	40	40	40
366.00 km–Owhango	**100**	**80**	**55**
Owhango–Kakahi	**70**	**70**	**55**
Kakahi–Okahukura	**90**	**80**	**55**
Okahukura–Te Kuiti	**100**	**80**	**55**
EXCEPT			
Waimihia-Porootarao			
Between 441.25 km and 441.50 km	40	40	40
Te Kuiti–Hamilton	**100**	**80**	**55**
EXCEPT			
526.00km to 537.00km Electric locomotives only	60	60	..
535.860km to 537.500km	60	60	..

Between Waikanae and Longburn, permanent speed restrictions with # apply to Express Freight trains approaching these stations as the spacing distance between signals is such that adequate stopping distance is not provided between these signals.

When an Express Freight train is approaching these stations, the train may resume normal line speed if the Home signal is displaying “normal clear speed”.

At Levin, where the speed restriction also applies to 8RA Up Starting from Main signal, “normal clear speed” must also be displayed on this signal before the train may return to normal line speed.

***** Applies to passenger trains stopping at the station referenced

1.7 Whistle Boards

Track Meterage		Locations at or Between	Warning for
For “Down” trains km	**For “Up” trains km**		
82.15	80.00	Manakau and Ohau	Private level crossing ##
154.37	153.97	Feilding and Maewa	Pedestrian crossing ##
174.62	174.37	Kakariki and Greatford	Private level crossing ##
..	227.60	Mangaonoho and Mangaweka	Private level crossing ##
244.70	244.00	Utiku and Taihape	Pedestrian crossing ##
341.797	341.274	Makatote and National Park	$$ Private level crossing for logging
344.428	343.868	Makatote and National Park	$$ Private level crossing for logging
406.63	406.06	Taumarunui and Okahukura	Private level crossing
455.47	-	Station Limits Kopaki	Level Crossing Warning
476.29	475.59	Station Limits Te Kuiti	Level Crossing Warning

Only applies between 07:00 and 22:30 hrs

$$ Only applies between 04:00 and 18:00 hrs

2. Level Crossings

2.1 Automatic Alarms

Except where the name of the crossing is prefixed by a symbol, the standard equipment consisting of flashing lights and bells is installed at level crossings listed in this instruction.

Symbol	Meaning
A	Bell signals operate during restricted hours
B	Barrier arms also provided
C	Fitted with strobe lights
D	Fitted with Level Crossing Predictor
E	Bell signals and signs worded “TRAIN COMING” operates when a train is approaching
G	Pedestrian automatic gates also provided
H	Bell signals only
M	Manual Control instructions on following pages.
O	Equipped with control panel to switch alarms off
P	When a power failure occurs and Points Indicators have been illuminated or a signal cleared for a movement, these level crossing alarms will continue to operate for up to four minutes before cancelling. Under these conditions the Operator should approach the crossing with caution even if the alarms are operating.
R	Fitted with Remote Control for Hi-Rail vehicles
S	Fitted with special level crossing manual control panel
X	Enlarged white side lights.

Unless otherwise stated, level crossing alarms will start and cancel automatically for the passage of trains.

In signalled areas the alarms will operate in conjunction with the signals leading over them. If it is necessary to pass a signal at “Stop”, all or some of the alarms in the section ahead may not operate correctly. In a number of cases alarms will operate in conjunction with signals controlled by a local panel. Pressing the “Clear” button will initiate the alarms and after a short delay the signal will clear. Pressing the “Stop” button will restore the signals to Stop and after a time delay the alarms will stop.

Crossings fitted with Level Crossing Predictors do not have a fixed starting point; rather the warning time for the automatic alarms is computed from the speed of the approaching train.

Therefore through movements approaching the crossing should not accelerate but maintain constant speed after passing a point approximately 500 metres from the crossing. If a movement stops on the approach to the crossing, provided it is not within 15 metres of the crossing, the alarms will cancel. When the movement restarts, the alarms will also restart automatically but the warning time may be reduced. The Operator must observe that the alarms are operating before proceeding over the crossing.

To avoid excessive operation of alarms when shunting, or for non automatic operation, manual controls consisting of “Start” and “Cancel” buttons are provided as shown below. Alarms started manually will cancel automatically when the train clears the crossing unless otherwise stated. Once the alarms have been manually cancelled all subsequent operations must be manually operated until the train leaves the area. Under manual control the Operator must check the alarms are operating before proceeding onto the crossing. Where barrier arms are provided the Operator must wait until the barriers are fully down before proceeding onto the crossing.

When manually cancelled or cancelled automatically after the train has passed over the crossing, if the train remains in the track circuit controlled area for a prolonged period the alarms may reactivate and should be manually re-cancelled.

Manual controls must not be used to cancel alarms operating due to fault conditions.

2.2 North Island Main Trunk

Km	Feature	Crossing	Locations at or between
59.94	D	Hadfield Road	Waikanae and Te Horo
62.68	B R S	Marycrest Road	Waikanae and Te Horo
77.56		South Manakau Road	Otaki and Manakau
79.57	A B P S	Mokena Kohere Street	Manakau
80.57		North Manakau Road	Manakau and Ohau
83.73		Kuku Beach Road	Manakau and Ohau
87.20		McLeavy Road	Ohau and Levin
87.93	B R S	Kimberley Road (SH57)	Ohau and Levin
89.62	B P S	Tararua Road	Ohau and Levin
90.64	B P S	Makomako Road	Levin
91.33	B P R S	Bath Street	Levin
91.59	B P R S	Queen Street	Levin
92.32	B P S	Tyne Street	Levin and Koputaroa
93.18	D	Roslyn Road	Levin and Koputaroa
95.41	D	Heatherlea East Road	Levin and Koputaroa
98.79		Tavistock Road	Levin and Koputaroa
106.41		Vance Street	Shannon
106.91	B S	Sheehan Street	Shannon
110.02		Okuku Road	Shannon and Tokomaru
111.77	B S	Opiki Road (SH56)	Shannon and Tokomaru
118.14		Tokomaru Road	Shannon & Tokomaru
120.41		Tane Road	Tokomaru and Linton
124.60		Akers Road	Linton
130.44		Reserve Road	Longburn
133.43	A	Cloverlea Road	Longburn and Palmerston North
141.54	B	Roberts Line	Palmerston North and Bunnythorpe
143.81		Clevely Line	Palmerston North and Bunnythorpe
144.83	B R S	Kairanga-Bunnythorpe Road	Palmerston North and Bunnythorpe
146.71	B S	Newbury Line	Bunnythorpe
151.10	B S	Campbell Road	Bunnythorpe and Ravensdown Siding. and Ravensdown Siding.
152.13	B R S	East Street	Feilding
153.13	B R S	Kimbolton Road (SH54)	Feilding
153.54	B S	Grey Street	Feilding and Maewa
154.57	B S	North Street	Feilding and Maewa
156.06		Leithbridge Street	Feilding and Maewa
158.67		Leithbridge Road	Maewa
165.55	B S	Monteith Street	Maewa and Rangitawa
166.02	B S	Stanway Road	Maewa and Rangitawa
166.69		Godley Street	Maewa and Rangitawa
178.24	B S	Makirikiri Road	Greatford and Marton
180.53		Station Access	Marton
180.86	B S	Matai Street	Marton
190.76		Porewa Road	Marton and Porewa
196.20		Putorino Road	Porewa and Hunterville
204.76		Main Street	Porewa and Hunterville

Km	Feature	Crossing	Locations at or between
205.05		High Street	Hunterville
221.94	A	Onslow Street	Mangaonoho and Mangaweka
222.95	A	Otara Road	Mangaonoho and Mangaweka
231.23	B R S	SH1	Mangaweka
241.83		Toe Toe Road	Mangaweka and Utiku
243.96	A	Huia Street	Utiku
245.60		Gorge Road	Utiku and Taihape
250.33	A	Rauma Road	Taihape
253.05		Ruru Road	Taihape and Mataroa
290.63	A B S	Ngauruhoe Street	Waiouru
299.88		SH49	Tangiwai
347.26		Fisher Road	National Park
358.89	B S	Raurimu Road	Raurimu
371.14		Oio Road	Owhango
372.39		Kawautahi Road	Owhango
372.72		Owhango Road	Owhango and Kakahi
381.37		Dahlya Lala Road	Owhango and Kakahi
391.54	B S	Titoki Street	Manunui
392.42	E	Rata Street Pedestrian	Manunui
393.75		Racecourse Road	Manunui and Taumarunui
402.22		Ongarue Back Road	Taumarunui and Okahukura
410.66		Ongarue Back Road	Okahukura and Ongarue
420.42	B S	Ongarue Village Road	Ongarue
434.56		Ongarue–Waimiha Road	Waimiha
447.14		Waimiha Road	Porootarao and Kopaki
449.74		Bennydale Road (SH30)	Porootarao and Kopaki
475.45	A B R S	Awakino Road (SH30)	Te Kuiti
476.20	A B S	Ward Street	Te Kuiti
476.52	A B S	Rora Street	Te Kuiti
479.21		Te Kumi Station Road	Te Kuiti and Hangatiki
485.41	B R S	Mangarino Road	Hangatiki
498.83		Kio Kio Station Road	Otorohanga and Te Kawa
506.68	B R S	Te Kawa Road	Te Kawa
513.09		Te Mawhai Road	Te Kawa and Te Awamutu
517.45	B R S	Alexandra Street	Te Awamutu
527.65	B R S	Forkert Road	Ohaupo
533.49		Rukuhia Road	Rukuhia
538.38	B R S	Collins Road	Rukuhia and Hamilton
540.12	B R S	Kahikatea Drive(SH1)	Rukuhia and Hamilton
541.44	B R S	Killarney Road	Hamilton

3. Standing Room for Wagons

Location	Standing Room metres	Description of Siding
Te Horo	646	Loop
Otaki	1058	Loop
	420	No.1 Road
Manakau	570	Loop
Ohau	555	Loop
Levin	720	Loop
	278	No.1 Road
Koputaroa	568	Loop
Shannon	562	Loop (420 m clear of road crossing)
Tokomaru	570	Loop
Linton	630	Loop
Longburn	675	Loop
Palmerston North Station	608	Main South End
	232	Main North End
	608	Loop South End
	232	Loop North End
Palmerston North Yard	900	Arrival and Departure Road
	865	Branch Main
Bunnythorpe	750	Loop
Feilding	945	Loop
	487	No.1 Road
Maewa	900	Loop
Rangitawa	750	Loop
Greatford	750	Loop
Marton	915	East Main
	915	East Loop
	465	West Main No.1
	228	West Main No.2
	308	West Loop
	330	Branch Main
	390	Branch Loop
Porewa	750	Loop
Hunterville	900	Loop
Mangaonoho	900	Loop
Mangaweka	713	Loop
Utiku	900	Loop
	322	No. 1 Road
Taihape	908	Loop
	908	No. 1 Road
Mataroa	638	Loop
Ngaurukehu	923	Loop (east)
	945	Loop (west)
Hihitahi	900	Loop
Waiouru	750	Loop
	465	No. 1 Road
Tangiwai	938	Loop

Location	Standing Room metres	Description of Siding
	445	No. 1 Road
Winstone Pulp Siding	315	Siding
Karioi	750	Loop
Ohakune	900	Loop
	322	No. 1 Road
Horopito	900	Loop
Makatote	900	Loop
National Park	900	Loop
	900	No. 1 road
Raurimu	863	Loop
	285	No. 1 Road
Oio	802	Loop
Owhango	900	Loop
Kakahi	900	Loop
Manunui	900	Loop
	90	No. 1 Road
Taumarunui	900	North Main
	900	North Loop
	900	Main
	900	Loop
	915	No. 1 Road
Okahukura	900	West Main
Ongarue	900	Loop
Waimiha	900	Loop
Porootarao	938	Loop
Kopaki	908	Loop
Puketutu	900	Loop
Te Kuiti	908	Loop (699m clear of crossing)
	908	No. 1 Road (699m clear of crossing)
Hangatiki	908	Loop
	450	No. 1 Road
Waikato Lime Siding	158	Siding
Otorohanga	900	Loop
	338	No. 1 Road
Te Kawa	945	Loop
Te Awamutu	998	Loop
	435	No. 1 Road
Ohaupo	795	Loop
Rukuhia	750	Loop

4. Clearances – Sidings and Structures

The following sidings and structures are not to standard height and/or side clearance. Take care when working in these localities. Yard clearances are advised with the Workplace Safety Plan.

Rolling stock must not be shunted past or through any structure without first ensuring that clearances are adequate.

An asterisk (*) alongside the name of the lines or siding means that the distance shown in the column "Side Clearance from Centre Line of Track" is the distance between the centre lines of the two tracks and is substandard.

Location	Siding or Line	Structure	Height above rail level mm	Side clearance from centre line of track mm	Remarks and rolling stock prohibited from passing structure
Taihape	Main Line	Veranda	2765	1855	
Ohakune	Main Line	Veranda	2920 to 3075	1160	
			3075 to 3530	1495	
Manunui	No.1 and No.2 Roads*		..	3200	

5. Radio Channels

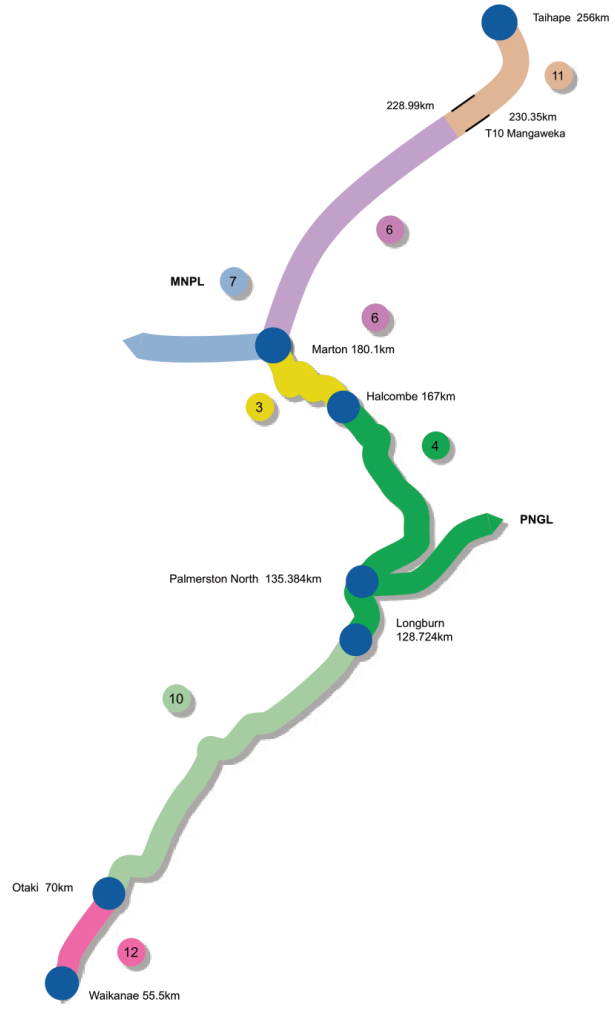
5.1 Hamilton - Waikanae

From Km / location	To Km / location	Channel
0.00 - Wellington Station (includes tunnels 1 – 7)	70.00 - Otaki	12
70.00 - Otaki	128.72 - Longburn	10
128.72 - Longburn	166.88 (before Rangitawa)	4
166.88 (before Rangitawa)	181.1 - Marton	3
181.10 - Marton	228.99 (includes Tunnel 10 Mangaweka tunnel)	6
228.99 (includes Tunnel 10)	256.00 (North of Taihape)	11
256.00 (North of Taihape)	280.50 (North of Hihitahi)	13
280.50 (North of Hihitahi)	309.50 (North of Karioi)	8
309.50 (North of Karioi)	336.13 - Makatote	9
336.13 - Makatote	396.38 - Taumarunui	14
396.38 - Taumarunui	453.75 - Kopaki (includes #18 Porootarao tunnel)	12
453.75 - Kopaki	541.645 - Hamilton Station	7
Hamilton Station – 191ABC Up Home NIMT & 181ABC Up Home ECMT	Te Rapa - 3ABC Down Home	6

5.2 Snake Diagrams

5.2.1 Waikanae - Taihape

NIMT Waikanae to Taihape
Train Control Radio Network



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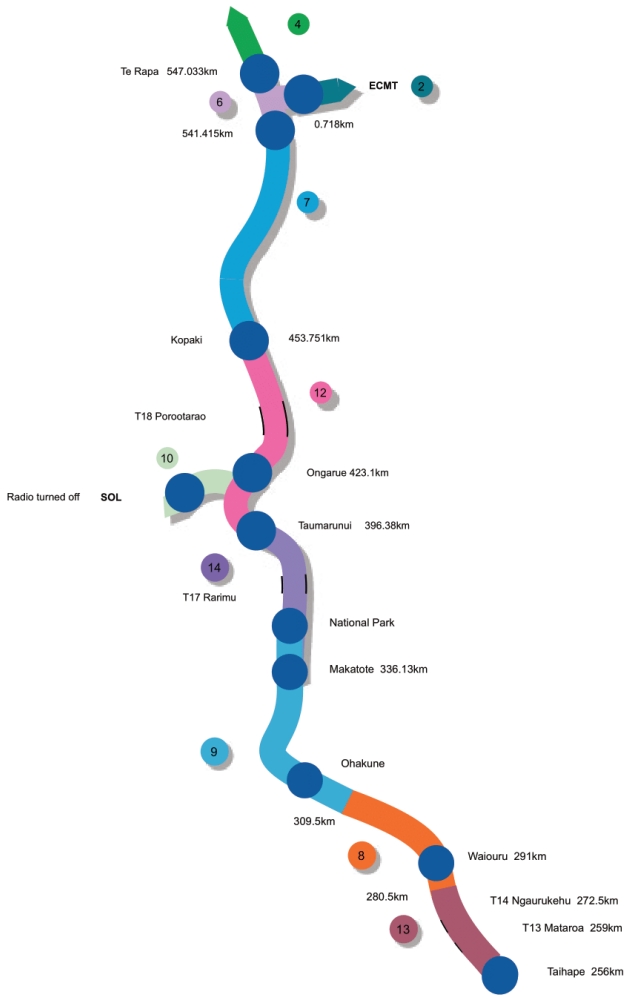
5.2.2 Taihape - Hamilton

NIMT Taihape to Hamilton
Train Control Radio Network



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6. Electrification Te Rapa – Palmerston North

All parts of the North Island Main Trunk electric traction overhead equipment must be treated as live at all times.

In the event that the Emergency Pushbutton found on the Realflex Panel fails to operate, Transpower can be contacted to operate their Emergency Pushbutton on any of the following telephone numbers:

- Haywards Regional Operating Centre: 04 563 5087
- Otahuhu Regional Operating Centre: 09 274 8736

A call to either of these will result in the operation of the pushbutton that will isolate the entire NIMT. If there is a problem then the public number may be used:

- Public Emergency Number: 0800 843 4743 (0800 THE GRID)

6.1 Damaged Overhead

Any rail personnel observing any damage to the overhead or bonding or bonding must advise the Train Controller and the Traction and Systems Controller at Palmerston North. If between Palmerston North and Te Rapa, trains should be stopped if the damage appears as if it will affect them.

6.2 Cut-Off of Overhead Power

The cut off of overhead power is specially arranged by the Traction and Systems Controller who liaises with the Train Controller before carrying out isolation of specific areas of the electric overhead with exception in non-interlocked, freight yard or locomotive depot areas then the Traction and Systems Controller will liaise with the person in charge or the Signal box for the area concerned.

For the overhead power to be cut off the following arrangements will apply:

Planned Work Usually for planned work on the main line(s), crossing loop or interlocked area, the area affected by the

Unplanned / Emergency Situations When the overhead power is required to be cut off in unplanned or emergency sit

Special Instructions

- All messages on the EF25 forms must be repeated back to the sender.
- All overhead power cut offs in a Train Control area must be drawn on the train control diagram. When a Signal box is affected, a note must be made in the Train Register, in a yard/depot situation a note must be displayed where it can be read by Rail Personnel.
- The authority of the Train Controller must be obtained before the overhead power is cut off. The Traction and Systems Controller must advise the Train Controller when the overhead power has been restored.

NOTE
A similar arrangement will apply between the Traction and Systems Controller and Person in Charge / Signaller where a Train Controller is not involved.

On the bulletin the overhead power cut off will be shown as follows (example only):

Cut Off of Overhead Power In connection with the work (work details will state the hours) the overhead will be cut off:

From:	Isolator 123 just north of Taumarunui
To:	Isolator 456 just south of National Park

WARNING
During the period the overhead power is cut off between the points specified on the bulletin or EF25 as the case may be, the movement of electric services with pantographs raised from the “live” area to the “dead” area is prohibited.

6.3 Emergency Overhead Cut-Off Pushbuttons and Freephone

Overhead Emergency Cut-Off pushbuttons on the Realflex panel in Train Control and at The Traction and Systems Controller, Palmerston North cut off all power to the traction overhead.

When the Emergency Cut Off system is operated by a Train Controller the following instructions must be observed:

- While a Traction and Systems Controller is on duty the emergency catenary cut off system should only be used in life threatening emergencies.
- When the emergency system has been operated by a Train Controller, the Traction and Systems Controller must be advised immediately of the situation to enable power to be restored to unaffected areas.
- If any doubt as to whether a situation is life threatening or not the emergency catenary cut off system should be operated.
- It is not safe to approach the overhead at any time unless Traction personnel have given a clearance to do so. If the Train Controller has advised they have a green indication and if it is a life-threatening situation the overhead may be approached up to the emergency rescue distance of 750mm.

Instruction for the use of the Emergency Overhead Cut Off Pushbutton

NOTE
The type of circumstances which might require this action includes an earthquake, fire or a level crossing accident.

- All traction alarms activate a telepager which will call out a Traction and Systems Controller. Operation of the Emergency Pushbutton will generate an alarm.
- The emergency freephone is based in Train Control. Telephone calls from the central North Island will be directed to 0800 808 400.
- Any request to the Train Controller to cut off power where life is threatened will result in the Emergency Overhead Cut Off Pushbutton being operated, regardless of whether the Traction Control Room is manned.
- Any request for the power to be cut off during normal working hours where lives are not threatened, should be passed on to the Traction and Systems Controller.
- After normal working hours the rostered Traction and Systems Controller should be called out for non-urgent calls by contacting Operations Support.

Time before Restoration of Power

- If the power is lost due to a fault during normal working hours then the system will automatically re-close the circuit breaker after five seconds.
- If the circuit breaker opens again because the fault is still present then the Traction and Systems Controller will wait five minutes before re-closing. This is to allow for any emergency calls to be made into Train Control or the Traction Control Room.
- If the circuit breaker trips again immediately after re-closing then the linesmen will be called out and the operator will try progressively energising sections of the line to locate the position of the fault.
- A fault locator machine in Traction Control may be used to pinpoint the problem more accurately.

Outside normal working hours there may be a period of twenty minutes or more before a call-out Traction and Systems Controller travels to the Control Room and attempts a re-closure.

Red and Green Indication Lamps located on emergency pushbutton consoles

The **Red** lamp is lit when **any** part of the overhead is alive. The **Green** lamp is lit when **all** track circuit breakers have tripped.

Emergency Freephone Line

An emergency telephone is also based in Train Control: 0800 808 400.

Cutting Power Off in an Emergency

When a phone call is received on the radio or on the emergency line outside normal working hours requesting power to be cut off, the Train Controller requests:

- the identity of the caller
- the nature and location of the emergency
- a contact phone number

before activating the Overhead Emergency Cut-Off Pushbutton.

The Train Controller must cut off the power if there is any confusion about whether life is threatened.

Hold the pushbutton down for 10 seconds or until the red indication light goes out and the green light comes on (usually within 5 seconds).

Should the Emergency Overhead Cut Off system not provide a green indication light after operating the pushbutton then the following action is to be taken:

- Contact Transpower’s North Island Control Centre, Grid Controller.
- Identify yourself to the operator.
- Request an emergency shut down the North Island Main Trunk (NIMT) electrified system.
- Wait for verification.

Phone Operations Support, who will call out the the Traction and Systems Controller and the rostered Traction Linesman for the area concerned.

The Traction and Systems Controller will initiate the prescribed procedures for the cut-off of power by completing the appropriate EF form.

6.4 Loss of Overhead Power

When the overhead power supply trips out, the Operators of EF class locomotives must advise the Train Controller of their operating condition just prior to losing power. A Mis.346 with the relevant information is to be forwarded to their Team Leader.

If the overhead power is lost the Operator must stop the train with the air brake as the regenerative brake does not work without the power supply connection. Loss of overhead power is indicated by a "volts out of range" alarm and the voltmeter reading "0" volts.

If the overhead power is not restored within 15 minutes the Operator must secure the train unless otherwise instructed by the Train Controller. The pantograph is to be left up and the Operator must if possible maintain radio contact with the Train Controller while securing the train.

When power is restored, indicated by the voltmeter the Operator must press the reset button and proceed as directed by the Train Controller. If radio reception is poor, the Operator must proceed to a position where the Train Controller can be contacted.

6.5 Advice of Power Failure

When the power fails, the Traction and Systems Controller will advise the Train Controller as soon as possible of the extent and duration of the failure; the Train Controller will inform the Operators of trains affected.

When it is necessary to isolate power, the Traction and Systems Controller must advise the Train Controller who will tell Operators affected that there will be a momentary loss of power while switching procedures are carried out.

6.6 Planned Cut-Off of Overhead Power

During the period the overhead power is cut-off between the points specified the movement of electric services with pantographs raised from the "live" areas to the "dead" areas and vice versa is prohibited.

6.6.1 Mondays Only

Due to changing train schedules, the actual time for the cut-off of overhead power below and the associated train arrangements may be modified on the Information Bulletin.

The 1st electric hauled service must not leave Te Rapa, Kopaki, Taumarunui and Karioi until authorised by the Train Controller.

The 1st electric hauled service must not leave Palmerston North and Tangiwai until authorised by the Train Controller.

The 25,000 Volt AC Overhead Power will be cut-off on as under: -

From	To
Hamilton traction substation at 541.14 km (between Hamilton and Rukuhia)	Mangapehi SP at 452.06 km (between Kopaki and Porootarao)
Hours – 05:30 hrs. (or on arrival of the last electric-hauled service at Porootaroa, whichever is later) to 15:00 hrs.	

From	To
Mangapehi SP at 452.06 km (between Kopaki and Porootarao)	Manunui traction substation at 392.55 km (within station limits Manunui)
Hours – 05:30 hrs. (or on arrival of the last electric-hauled service at Manunui, whichever is later) to 16:00 hrs.	

From	To
Manunui traction substation at 392.55 km (within station limits Manunui)	Tangiwai traction substation at 301.09 km (between Karioi and Tangiwai)
Hours – 05:30 hrs. (or on arrival of the last electric-hauled service at Tangiwai, whichever is later) to 16:00 hrs.	

From	To
Tangiwai traction substation at 301.09 km (between Karioi and Tangiwai)	Bunnythorpe traction substation at 144.51 km (between Bunnythorpe and Palmerston North)

From	To
Hours – 05:30 hrs. (or on arrival of the last electric-hauled service at Palmerston North, whichever is later) to 15:00 hrs.	

From	To
Bunnythorpe traction substation at 144.51 km (between Bunnythorpe and Palmerston North)	Termination, Palmerston North at 135.32 km (between Palmerston North and Longburn)
Hours – 05:30 hrs. (or on arrival of the last electric-hauled service at Palmerston North, whichever is later) to 14:00 hrs.	

Equipment should be treated as being alive at all times as circumstances may exist or arise where it is necessary for the equipment to remain or become alive during these periods.

WARNING
Do not approach without a ‘permit to work’.

Operators on services hauled by an EF class locomotive may experience a momentary cut-off of power while switching procedures are being carried out to isolate power and restore in the areas detailed on the Information Bulletin.

IMPORTANT
The authority of the Train Controller must be obtained before the power is cut-off.

The Traction and Systems Controller at Palmerston North **must** advise the Train Controller when the power has been restored.

7. Waikanae - Palmerston North

7.1 Station Platforms

Signage with either 1203 or 1206 has been placed at the following platforms to indicate the stopping position for locomotives on 1203 / 1206 passenger services:

- Palmerston North
- Shannon
- Levin
- Otaki

Operators must bring the locomotive to a stop at the signs to ensure the carriages are aligned correctly with the platform.

7.2 Otaki

7.2.1 Crossing Passenger Trains

When two through passenger trains are to cross at Otaki and it is necessary for both services to berth at the platform the following procedure will apply for the first train that is to berth at the platform.

After the first train has completed station work it will be necessary for it to set back outside station limits and to depart via the crossing loop. The setting back movement must be authorised by the Train Controller and must be piloted by the Train Manager in accordance with **TO09 Setting Back and Propelling**, **4**. **Propelling Hazards and Controls.**

The setting back movement outside station limits must not pass an intermediate signal.

7.2.2 Otaki River

When the Otaki River is in flood and Greater Wellington Regional Council (GWRC) have advised Train Control that they have closed the flood gates at (Winstones) Ballast Pit Siding Otaki.

The Train Controller will:

- immediately place a Temporary Speed Restriction (TSR) of 10 km/h between 68.00 km (between Te Horo and Otaki) and 2LA & 2LB signal Otaki.
- request all Operators must be requested to observe track conditions and report back to the Train Controller, once clear of the TSR limits.
- contact the Wellington Area Structures Inspector and request an urgent inspection to be undertaken (within 3 hours).
- apply signal blocking to the sidings road at Otaki to prevent movements entering the Ballast Pit Siding.
- request an Infrastructure Maintenance Representative to erect TSR boards at 68.00 km (between Te Horo and Otaki) and 2LA & 2LB signal Otaki.
- Contact the Infrastructure Manager or delegate who will arrange for a roster to be created to provide inspections on an 8-hour basis to ensure continuity of rail safety and service.

NOTE

The TSR will remain in place until the flood waters have sufficiently receded and the Infrastructure Manager or their delegate is satisfied the TSR can be changed.

7.3 Tokomaru - Shannon

7.3.1 Suspension of Services during Windstorms

An anemometer to measure wind speed is at Opiki Road Shannon (Harvest weather site at 111.77 km).

The indications on the anemometer at Opiki Road Shannon are relayed automatically to the signalling panel in Train Control.

On receipt of an indication that a 90 km/h wind is blowing the Train Controller will contact an Infrastructure Maintenance Representative reponsible for Levin.

If it is confirmed that the wind velocity is approaching 90 km/h, the Train Controller must tell the Infrastructure Manager or their deputy immediately, who will advise as to suspension of services.

Mean Wind Speed	Permitted Train Speed
Up to 70 km/h	Normal Line Speed
71 km/h to 80 km/h	50 km/h
81 km/h – 90 km/h	30 km/h
Above 90 km/h	Trains not to run

7.4 Palmerston North

7.4.1 KiwiRail Scenic Journeys Sidings

In the Palmerston North station yard the old car storage sidings, accessed by switch locked points off the loop, are used by KiwiRail Scenic Journeys to store carriage services and locomotives. The carriage services and locomotive cabs must be kept locked and secured when unattended.

Radio communication during shunting or piloting by KiwiRail Scenic Journeys Personnel in these sidings must be on channel one.

KiwiRail Personnel and shunting movements must not enter these sidings until authority has been obtained from the KiwiRail Scenic Journeys Person in Charge at the station.

7.4.2 Trains Entering/Leaving Marshalling Yard

Trains will enter Palmerston North marshalling yard as directed by the Team Leader/Officer in Charge of the Yard, who will tell which road the trains will be berthed.

Before clearing 22LA low speed or 22LB shunt signals for trains to enter the yard, the Pilot must ensure that the route is correctly set.

The Team Leader/Officer in Charge must permit all movements leading into the marshalling yard beyond ATS boards and ensure the road is set correctly. All communication must be repeated and acknowledged before the intended move takes place.

When a shunt is required to pass 22LA or 22LB signal, the Remote Control Operator/Rail Operator must consult with the Team Leader/OIC and request berthing arrangements. Once a clear understanding of the intended movement is established, the Remote Control Operator/Rail Operator may clear the signal and pilot the movement into the yard.

Trains depart as directed by the Team Leader/ Officer in Charge, who must tell the Train Controller when trains are ready.

For trains departing from the north end, the Team Leader/ Officer in Charge must ensure that the route is correctly set up to 22R Shunt and Up Starting from the marshalling yard signal.

7.4.3 All Trains Stop Boards and Pilot Points

ATS boards are on the following roads:

- South arrival/departure at the south entrance to the marshalling yard (next to 16L signal).
- North end of the mechanical depot to marshalling yard connection road.
- North end arrival/departure at the pilot hut (turnout 142).
- South end east side CT before crossing.

The Team Leader/ Officer in Charge must permit all movements leading into the marshalling yard, provided the route is correctly set and movements must be piloted.

7.4.4 Locomotives To and From the Mechanical Depot

Locomotives must not depart from the marshalling yard until authorised by the Team Leader/Officer in Charge.

7.4.5 Locomotive Turntable

The turntable is located within the mechanical depot limits.

When Servicing Personnel are on duty, all movements to the turntable for turning will be under the authority of the Person in Charge Servicing.

For operational purposes, KiwiRail Operational personnel may access the turntable via the yard through turnout 122. The point lever for this turnout has been painted orange for easy identification.

Authority from the Person in Charge Servicing must be obtained before any rail movement through the turnout to the turntable, and:

- All movements from the turntable will be after the authority has been obtained from the Person in Charge Servicing.
- Access will be via the depot No.1 road when Servicing Personnel are not on duty.

The movement of locomotives to/from the turntable long hood leading must always be piloted.

7.4.6 All Locomotives Stop Board – Electric Locomotive Depot

All movements of electric locomotives past the ATS boards (red lettering on white background) on 2 and 3 roads at the entrance to the electric locomotive depot must be piloted by the Depot Foreman or his deputy.

7.4.7 Special Load Check on Through Trains

Checks of rod steel loads on open wagons (such as US wagons) being conveyed must be carried out.

7.4.8 Peter Baker Transport Siding

An EU wagon may be left unattended on the main line while shunting this siding under the following conditions:

- must have an operational handbrake
- all air must be exhausted
- must not be left unattended for longer than 10 minutes.

An EU wagon may also foul the main line outside station limits (south end of Palmerston North) if required when shunting this siding.

7.4.9 Crossing Loop – Unattended Motive Power Units

Motive Power Units may be left unattended on the crossing loop once permission has been obtained from the Train Controller. The Operator shutting down the Motive Power Units on the crossing loop must ensure that they are properly secured and the cab doors locked.

7.4.10 Signalling

All controlled signals are under the control of the Train Controller.

Switchlocks WL1A and WL1B are station switchlocks.

Signal Nos 2R, 14R, 14LA, 16L, 22R, 31, 32, 33, and 182, are permanently illuminated.

All other signals are normally unlit and will light on the approach of a train, the clearing of a signal or the releasing of a switchlock.

7.4.11 Loco Flyover

Signal Nos 31 and 34 will normally display “Caution Low Speed” and signal Nos 32 and 33 will display “Stop”. When a locomotive proceeds towards the locomotive depot and occupies the track circuit between 31 and 32 signals, No. 34 signal will revert to “Stop” and 32 signal will change to “Caution Low Speed”.

Similarly if a locomotive is proceeding from the locomotive depot signal No. 33 will be set at Proceed and signal No. 31 reverts to “Stop” when a locomotive is occupying the track circuit between 33 and 34 signals.

In the event of a failure of 32 or 33 signals to clear to proceed, a locomotive person may authorise the passing of the signal at “Stop” after checking that it is safe to do so.

Arrow Indicators:

- AAI will illuminate when “A” points are set for the South Yard backshunt
- BAI will illuminate when “B” points are set for the North Yard backshunt
- BAIA works in conjunction with BAI

8. Palmerston North to Hamilton

8.1 Train Crew Personal Protection Equipment

Operators must ensure they have the correct PPE and sufficient warm clothing before operating trains between Marton and Te Rapa due to the climatic conditions.

If leaving the cab in snow / ice conditions, the Operator must take the thermal blanket provided.

8.2 Feilding

At Feilding, there is a turntable on private railway property known as F&DSRS private railway. This turntable can be accessed by KiwiRail rail vehicles when authorised by bulletin.

Before the bulletin is issued, approval must be obtained from GM Engineering, GM Operations and NZ Transport Agency to ensure the infrastructure and operating standards are appropriate.

8.3 Bunnythorpe

A coupled in motion weighbridge (CIMW) is installed at 147.50 km.

Fault conditions are alerted to the Train Controller and broadcast locally by radio on Channel 1.

Operators hearing a warning message must:

- obey any message instructions to reduce speed or stop and
- immediately contact the Train Controller for further instructions.

8.4 Marton

8.4.1 Signalling Instructions

Signal Nos 2R, 12RD, 4LF, and 149 are permanently illuminated. All other signals will illuminate on the approach of a train or the Train Controller clearing the signal to proceed.

Route indicator installed on Signal No.12R (Up Directing from West Loop)

Indicates an electrified route has been set up and signalled.

Speed Indicator adjacent to 4RABC Signal

The speed indicator has been temporary disabled and will not display any speed indications until further advised.

8.4.2 Derusting West Main No.2

At least one train per day must be routed via the West Main No.2 to stop the build up of rust.

8.4.3 Vehicles left on the Loop

Vehicles may be left unattended on the West, East or Branch Loops at Marton provided:

- the train crew obtain permission from the Train Controller.
- the vehicles are secured with handbrakes to prevent movement in accordance **Rail Operating Code Section 5.1**, **2.6 Procedures for Securing Rail Vehicles.**

The train crew must advise the Train Controller of the number of hand brakes applied and chocks fitted (if required) before leaving the vehicles unattended. The Train Controller must record this information on the train control diagram.

TO08 Shunting, **7.3 Standing at Stations is modified accordingly.**

8.5 Testing of Tunnel Radio Systems

The following arrangements will apply to test the Porootarao, Raurimu, Ngaurukehu, Mataroa and Mangaweka tunnel radio system.

Shortly after entering these tunnels the Operator must “Base Call” the Train Controller and note that an acknowledge ‘lock on’ is received (indicated by the flashing lamp becoming steady). The Operator should then obtain a verbal acknowledgment from the Train Controller that the base call was received on the tunnel system indication in Train Control.

Tuesday and Friday	**Tested by No. 200 or if it does not run a train as directed by the Train Controller.**

NOTE
When replying, the Train Controller may select the nearest hilltop repeater if it is thought the train has left the tunnel.

The ‘lock on’ of a base call is sufficient to confirm that the tunnel radio system is operational.

The Train Controller must note the results of the test on the train control diagram.

8.6 Slip Alarm (between Mangaweka and Utiku)

A Harvest Monitoring System consisting of a tilt sensor has been installed at the 242 km between Mangaweka and Utiku on the NIMT.

Upon receiving activation of the tilt sensor, the Train Controller will:

Yellow Alert level:

- Implement a Temporary Speed Restriction of 10km/hr
- Advise Operations Support to arrange Infrastructure personnel to complete a physical inspection. The inspection is to be carried out within 24 hours
- Infrastructure personnel will report to the Train Controller if train speed can be increased back to 25 km/h
- Upon receiving clearance from Infrastructure personnel, and if the alarm system remains operative in the field, the Train Controller will arrange a reset of the alarm by requesting Operations Support to contact the Harvest Engineer who will reset the alarm remotely

Red Alert Level:

- Advise Operators of the alarm activation and stop all train movements.
- Advise Operations Support (155) to arrange Infrastructure personnel to complete a remote or physical inspection.
- Infrastructure personnel will report to the Train Controller if train movements can be reinstated with speed restrictions.
- If a temporary speed restriction is required, the Train Controller must enter details into the Access Provider's Speed Restriction System and identify any trains to be advised.
- Upon receiving clearance from Infrastructure personnel, and if the alarm system remains operative in the field, the Train Controller must arrange a reset of the alarm by requesting Operations Support to contact the Harvest Engineer who will reset the alarm remotely.

- If the alarm mechanism has been damaged or fails and needs re-configuration:
  - the Train Controller will impose the above speed restrictions
  - the Field Asset Engineer will arrange for a technician to attend and report to the Train Controller when the alarm system is fully functional.

8.7 Taihape

8.7.1 Signalling

No.2 Up Outer Home Signal

When this signal at “Stop”, No.2R Up Outer Home signal will only clear to a proceed indication if the train when stopped at No.4R signal will not foul Rauma Road level crossing.

No.9 Points

Due to rusty rail conditions and the possibility that track circuits will not operate correctly, after No.9 points have been set for the route to/from the north back shunt, the points must not again be moved until it has been ascertained that the movement is clear of the points.

A “Limit of Electric Services” board

Has been erected adjacent to No.9, Sidings to Loop points leading to the Taihape Backshunt.

8.7.2 Turntable

This has been installed in the Taihape yard by the Taihape Rotary club. The land occupied by the turntable is leased from KiwiRail and the turntable and track leading up to the turntable are the property of Taihape Rotary. The turntable and associated track are covered by KiwiRail’s Safety Case.

Use and access

- The Turntable is dual locked with KiwiRail 100 and Rotary Club locks so either party can unlock.
- KiwiRail has free use of siding / turntable at any time, in return for providing safety case coverage.
- All other Rail Operators must obtain authority prior to use – refer contact details below.
- Use of the turntable is subject to a commercial arrangement between Rail Operators and Taihape Rotary.

Contacts:

- Chase Bradley (Taihape Engineering) day 06 388 0626, a/h 06 388 7117
- Colin Baird 06 388 0515 any time.

8.8 Taihape - Manunui Area: Weather Conditions

In accordance with **GR06 Conditions Affecting the Network**, **10.1 Notifications**, changes in weather conditions which may affect train operations in the Taihape - Manunui area must be notified to the Train Controller as they occur by rail personnel and Operators.

When severe weather and conditions that may affect the traction of Motive Power Units, in the area are such that the Network Control Manager considers a reduction in tonnage necessary, the Linehaul Service Manager, in conjunction with the Network Control Manager, will either authorise the reduction (no more than 10% of the maximum load) or arrange assisting Motive Power Units.

In icy or falling snow conditions, particularly during periods of infrequent train movements (e.g., weekends, holiday times) Train Controllers will obtain weather reports from public sources e.g., Police, Automobile Association. If there is doubt about the severity of conditions, track inspections are to be arranged through the Infrastructure Manager.

8.9 Waiouru

8.9.1 YR Signal

YR signal is controlled locally by pushbutton.

8.9.2 Rusty Rail

Due to rusty rail conditions, before any movement is signalled towards the north end backshunt, the Train Controller must ensure there are no conflicting movements and that all is safe and clear for the movement.

IMPORTANT

The speed of all movements over Ngauruhoe Street level crossing on the north end backshunt must not exceed 10 km/h as the alarms may not operate due to track circuits not working correctly.

8.10 Tangiwai

Tonnage may be left unattended on the crossing loop provided the wagons are properly secured with handbrakes applied.

TO08 Shunting, **7.3 Standing at Stations is modified accordingly.**

8.10.1 Winstone Pulp Siding

Winstone Pulp Industries operate a DSA locomotive between the mill loading site and the siding.

All trains shunting Winstone Pulp siding must have radio contact between the Locomotive Engineer and Shunting Personnel.

When an electric locomotive is part of the consist, the electric locomotive may be cut off and left unattended on the main line provided the spring park brake has been applied, and the cab has been locked.

Before any KiwiRail shunting occurs, the Shunter in Charge must visually check that it is safe to do so before the movement occurs.

8.11 Whangaehu River Flood and Lahar Warning System

Train Control Emergency Number – 0800 808 400

Bridge 158 located at 300.98 km on the NIMT (between Tangiwai and Winstone Pulp siding) and the surrounding embankment structures have been identified as being at risk to flood and Lahar events occurring in the Whangaehu River. There are currently two protection systems for the bridge:

1. the Whangaehu River Alarm which monitors the level of the Whangaehu River
2. the Eastern Ruapehu Lahar Alarm Warning System (ERLAWS) which detects the occurrence of a Lahar event.

8.11.1 Whangaehu River Alarm

This is a KiwiRail owned and operated warning system.

A high river level warning device is erected in the Whangaehu River bed 11 km upstream from Bridge 158. This alarm provides 20–30 minutes warning of a possible flood or Lahar reaching the rail bridge. Warnings are received through the Train Control signalling system.

8.11.2 Testing of River Alarm

Between the hours of 1700 hours and 2300 hours daily, the Train Controller will carry out a test of the system and record the results on the train control diagram.

8.11.3 ERLAWS

This is a Department of Conservation (DOC) owned and operated warning system.

ERLAWS consists of sensors, including a trip wire, on the top of Mt Ruapehu that measure ground vibration, sound, lake level and can detect a possible Lahar or volcanic event.

ERLAWS provides one to two hours advanced warning of a Lahar before it reaches the Whangaehu River Alarm. Warnings are received via text message and email to the following ERLAWS distribution list:

- Network Control Manager - text and email
- Operations Support Desk - text, email and pager
- Train Control Northern / Central - email
- Network Control Manager responsible for Operations Support - text
- National Network Performance Manager - text

8.11.4 Testing ERLAWS

An “ERLAWS TEST” message (as shown below) will be sent to the ERLAWS distribution list on Wednesday at 12:00 hours. The Train Controller is required to record that the message has been received on the train control diagram.

Group: ERLAWS

Tag : GROUP-PGR-TEST

Desc: PAGER TEST

Value: TEST

Event: *ALM*

Sev.: Low

8.11.5 Safe Working Instructions for Rail Personnel

- Personnel who are not in contact with the Train Controller

or

- working under the Winstone Pulp Mill Lahar Emergency Plan

must work under the “KiwiRail Working Alone process”

Ring the 155 KiwiRail Operations Support Desk (0800 288 000). You **must** be contactable by cell phone at all times.

8.11.6 Activation of Warning from River Alarm – No ERLAWS activation received

Levels	Actions
Level 1	1. Notify the Horizon Regional Council, Palmerston North. 2. Record the warning level and time on the train control diagram.
Level 2	Train Controller must advise all Operators of rail vehicles which must cross the bridge of the river level. Record the warning level and time on the train control diagram.
Level 3	1. The Train Controller must instruct all Operators to keep a sharp lookout, and reduce speed to 25 km/h over the bridge. 2. Record the warning level and time on the Train Control diagram. 3. **Initiate:** a. Notification Process b. Rail Personnel Response Activation
Level 4	1. The Train Controller must arrange for trains to be piloted over the bridge by KiwiRail Infrastructure Personnel. 2. Record the warning level and time on the train control diagram.
Level 5	1. **Stop all traffic from passing over the Bridge** until the bridge is Certified Safe for traffic by the Structures Inspector or Engineer. 2. Record the warning level and time on the train control diagram. 3. The Train Controller must immediately apply signal blocking to the Tangiwai–Karioi block section to ensure the: a. Up Departure signals at Tangiwai, and b. Down Departure Signals at Karioi are at "STOP". 4. **The Safe Zone Response is to be immediately activated**. 5. 155 Operations Support Desk is to be advised of Safe Zone Response activation. 6. **All Rail personnel are to leave the area between Tangiwai and Winstone Pulp Siding.** 7. **No trains are to enter the Tangiwai–Karioi Block Section until it has been confirmed that it is safe by the Infrastructure Manager.**

NOTE
It is important that any rail movements between Ohakune and Waiouru which must cross the bridge should be notified as soon as possible of the current level warnings.

8.11.7 Failure of River Alarm

Any failure or irregular operation of the flood warning device must be reported immediately to 155 KiwiRail Operations Support desk for a call out of Communication Personnel to be arranged.

The Train Controller must enter a 25 km/h speed restriction into the Access Provider's Speed Restriction System with an additional clause instructing Operators to keep a sharp lookout.

Once the Telecommunications Technician has certified to the Train Controller that the flood warning device is operating efficiently, the speed restriction can be lifted.

8.11.8 Activation of ERLAWS System

There are two types of alarm messages that will be sent via a text, email and pager to the ERLAWS distribution list.

ERLAWS Lahar Possible Activation

An “ERLAWS Lahar Possible” message (as shown below) will be sent to the ERLAWS distribution list when the ERLAWS system detects the possibility of a Lahar.

Group: ERLAWS

Tag : POSSIBLE

Desc.: LAHAR

Value: POSSIBL

Event: *ALM*

Sev.: High

The Train Controller must initiate the “Lahar Possible Response”.

IMPORTANT
All members of the ERLAWS distribution list must advise the Network Control Manager of the message.

- Test the Whangaehu River Alarm. If the test fails activate Safe Zone Response as shown below.
- Operators of rail vehicles which must cross the bridge must be advised that a Lahar Possible has been received and confirmation is pending.
- Rail movements are to reduce speed to 10 km/h over SH49 level crossing at 299.88 km (which may be blocked by road vehicles).
- Advise the Network Control Manager.
- Initiate Notification Process.
- Record the receipt of the text / email / pager message and the result of the Whangaehu River Alarm test on the train control diagram and the event in the Access Provider’s Incident Reporting System.

ERLAWS Lahar Probable Activation

An “ERLAWS Lahar Probable” message (as shown below) will be sent to the ERLAWS distribution list when the ERLAWS system detects the possibility of a Lahar.

Group: ERLAWS

Tag : PROBABLE

Desc.: LAHAR

Value: PROBABL

Event: *ALM*

Sev. : High

The Train Controller must initiate the “Lahar Probable Response”.

- Test the Whangaehu River Alarm. If the test fails, activate Safe Zone Response as shown below.
- Operators must be instructed to keep a sharp lookout and reduce speed to 25 km/h over the bridge.
- Rail movements must reduce speed to 10 km/h over SH49 level crossing at 299.88 km (which may be blocked by road vehicles).
- Advise the Network Control Manager.
- Initiate the Rail Personnel Response Activation.
- The Police Central Communications Centre will confirm that the ERLAWS telephone LAHAR message has been received.
- Any increase in river level detected by the KiwiRail Whangaehu River Alarm must be considered as a confirmed/valid Lahar event and the Safe Zone Response must be immediately activated.

- Record the receipt of the text / email / pager message and the result of the Whangaehu River Alarm test on the train control diagram and the event in the Access Provider's Incident Reporting System.

IMPORTANT
All members of the ERLAWS distribution list must advise the Network Control Manager of the message.

8.11.9 Safe Zone Response

If:

- ERLAWS system has been activated, and
- KiwiRail has received a confirmation that a Lahar has occurred when the Whangaehu River Alarm fails its test.

then 155 Operations Support Desk is to be advised of “Safe Zone response” activation.

All Rail personnel are to leave the area between Tangiwai and Winstones Siding.

Tains must not enter the Tangiwai–Karioi Block Section until it has been confirmed that it is safe by the Infrastructure Manager or the warning has been declared false by the Police Communication Centre.

8.11.10 Notification Process

The Network Control Manager must arrange for the following to be notified.

- **Winstones Pulp Mill** Ph: 06 385 8545 Reception Mon–Fri 0800–1700hrs Outside the hours above, ring the Control Room Ph: 06 385 8545 ext. 854
- **Infrastructure Central Manager**
- **Infrastructure Central Regional Manager**
- **Police Communication Centre Wellington**
- **Civil Defence Controller** Ruapehu District Council (Taumarunui) Ph: 07 895 8188
- **Emergency Management Duty Officer, Manawatu Wanganui (Horizon MW) Regional Council** Ph: 0508 434 727.
- **Horizons Regional Council Hydro Duty Officer** See the Network Control Manager’s call out book for Number.

NOTE
Police will advise the location and contact details of the Incident Control Point (ICP)

8.11.11 Rail Personnel Response Activation

- An Infrastructure Maintenance Representative is to be mobilised (from the north) to the bridge and should aim to be at a safe position to observe the bridge one hour after being called out and remain at the bridge until either the warning has been declared false, the Lahar has passed or otherwise advised by the Infrastructure Manager.
- If the Scada Traction system fails a Traction Lines Person is to be called to Tangiwai Sub Station (from Taumarunui or north) to assist with the isolation of Traction power from Ohakune to Waiouru.
- A Traction Lines Person is to be called to Tangiwai (from the south) to assist with recovery and earthing of Traction power if required.

- The Traction and Systems Controller is to be called to arrange for Tangiwai traction substation at 301.09 km (between Karioi and Tangiwai) to be isolated from network when electric locomotives are clear of the area between Ohakune and Waiouru.

8.11.12 Guidelines for Inspections during Lahar warning

Rail Personnel inspecting the rail bridge are advised that the Police may erect road blocks which may make it difficult to drive by road to the railway bridge. If called out the Rail Personnel should mobilise to the bridge as soon as possible.

The safest way to approach and observe the bridge is from the northern embankment about 100 m to 200 m from the river. The Rail Personnel should be prepared to retreat to higher ground if required.

The procedure must be maintained for a period of two hours after the flood level falls to ensure that the flood at the point 11 km upstream has reached the bridge before the precautions are relaxed.

8.11.13 Guidelines for Reopening Rail Corridor

The Network Control Manager must establish that

- The ERLAWS warning systems is working
- The KiwiRail River Alarm is working

  Any failure of either warning system a 25 km/h Speed Restriction over Bridge 158, will be required.

  No trains are to enter the Tangiwai–Karioi Block Section until Network Control Manager has received:
- Track Clearance from the **Infrastructure Manager**
  - Infrastructure Manager must contact Manager Structures Engineering or General Manager Engineering if further advice is required
  - This clearance is to be communicated to the Incident Control Point (ICP), if operational
- Clearance from the Incident Controller at the ICP.

8.12 Ohakune – Rusty Rail Conditions

9AI / PI are controlled locally by pushbuttons and used for movements to and from the scoria siding.

Owing to the build up of rust on the backshunt and scoria siding, trains could fail to operate track circuits between 6R Shunt from Loop and 6L Shunt from Backshunt signals, therefore the Train Controller must ensure that there are no trains between these two signals before signalling another train to or from the crossing loop.

8.13 National Park - Raurimu

8.13.1 National Park Backshunts

Wagons and Motive Power Units must not be left unattended on the North and South Backshunts as the trap points are PS padlocked in normal.

8.13.2 Slip Alarm (between National Park and Raurimu)

Slip monitoring systems (fences) have been installed at between the 357.177km and 357.404km NIMT, between National Park and Raurimu.

Upon receiving activation of slip warning Red Alert level, the Train Controller must:

- advise Operators of the slip alarm activation and stop all services approaching the slip site between National Park and Raurimu
- request an Operations Support Representative to arrange for a Track Maintenance Representative to complete a remote or physical inspection

Following inspection, the Track Maintenance Representative must report to the NCM or Train Controller and advise:

- if train movements can be reinstated, and
- if any temporary speed restrictions are required

If the alarm system remains operative in the field, the Train Controller must arrange a reset of the alarm by requesting Operations Support to contact the Harvest Support Team who will reset the alarm remotely.

NOTE
Contact 0800 HARVEST (0800 427 837), or support@harvest.com

If the alarm mechanism has been damaged or fails and needs reconfiguration, the Track Maintenance Representative must advise on interim controls (possible temporary speed restrictions) and arrange for a technician to reinstate the site. The Track Maintenance Representative must report to the Train Controller when the alarm system is fully functional.

IMPORTANT
If the alarm shows as failed on the RealFlex panel, either:

- purple - indicating a communications failure, or
- white - indicating a fault

the protocol for an alert activation must be followed.

8.14 Kakahi - Manunui

Due to unstable hillside conditions the possibility of earth slides exists between 386.00 km and 389.35 km between Kakahi and Manunui.

WARNING
Operators are warned to keep a sharp lookout for rockslides while proceeding through this area.

8.15 Ongarue - Ohahukura

Aspects displayed by Down Intermediate signals

The distance between 10LAB Down Outer Home from Main and 8LABC Down Home from Main is inadequate for normal braking.

41047 Down Intermediate signal will only display a "Yellow over Red" aspect when 10LAB Outer Home signal is displaying a "Yellow over Green" aspect.

On all other occasions 41047 Intermediate signal operates normally.

Network Signal, Indicators and Boards Manual, **3.5 Aspects Displayed by Signals and Indicators** is modified accordingly.

8.16 Waimiha

Poor radio coverage may exist near 4LA / 4LB signals at Waimiha.

Should a radio communication with the Train Controller not be possible, a fixed line dial telephone is located in the telephone annex to the main signals relay building at Waimiha.

This door is accessible with a 100 key. The contact number for Train Control is 43363 or 04 498-3363.

8.17 Te Kuiti

Signals 16R and 16L may also be controlled locally by pushbutton when release has been given by the Train Controller.

8.18 Waikato Lime Siding

8.18.1 Placing Wagons

When electric locomotive hauled down trains are required to detach wagons as arranged by the Team Leader, Te Rapa, the assistance of the Te Kuiti shunt locomotive when stabled in the siding will be necessary and the following procedure will apply:

1. Once the train has been stopped on the switch locked siding track circuit, the Shunter will obtain the switch lock release from the Train Controller.
2. After the train has been uncoupled and the rear portion secured the wagons attached to the locomotive will be taken forward until clear of the main line points then stopped.
3. When the points have been reversed the train Operator is to be advised that the shunt locomotive will proceed onto the main line and couple onto the rear of the rake of wagons attached to the train locomotive. The Waikato Lime wagons are to be uncoupled and then hauled into the siding clear of the main line.
4. Once the shunt locomotive has cleared into the siding the Shunter will then return the switch lock points to normal and give the release back to the Train Controller. The train locomotive can be authorised back onto the train, recouple, then the train can resume normal running.
5. The Te Kuiti shunt locomotive must not again enter onto the main line until the train has arrived at Hangatiki.

RP14 Operating Switch Lock Sidings is modified accordingly.

The speed of all Motive Power Units entering or departing this siding must not exceed 10 km/h.

8.18.2 Operation of Indicators and Motor Points

The ‘b’ end motor points will move to the reverse setting after a time delay when the ‘a’ end lever has been operated to the reverse setting. When the points have been detected in reverse, the points will display a purple indication.

Points indicators will display the following indications:

Colour	Meaning
Red	Points are in the derailing (normal) setting, or no detection of points *
Purple	Points are set for running (detected reverse)

***** Stop and check points. Movements may pass indicator and over points once any motor points have been isolated and hand operated and / or hand points visually inspected to ensure they are correctly set.

NOTE
RWLUI Points Indicator only illuminates when RWLA is released.

RWLDI Points Indicator shows a red aspect when the points are detected normal, as there is no route available.

8.19 Te Awamutu

Special Instructions for working the Fonterra Cool Store siding and the adjacent Dry Store siding (where a KiwiRail shunt locomotive is stabled) are contained in a joint Operating plan for Te Awamutu.

As there is a TR shunting locomotive (Fonterra) based at the Cool Store siding the following arrangement will apply:

- The Coolstore siding at the northwestern end of Te Awamutu is common territory for both KiwiRail and Fonterra locomotives. Before entering the Coolstore siding permission must be obtained from the Fonterra representative who in turn must ensure that the Fonterra locomotive is standing clear, and the Fonterra personnel are aware of the intended movements of the KiwiRail locomotive. Permission may then be granted for the KiwiRail locomotive to enter.
- When Fonterra personnel are not working the Fonterra locomotive will be stabled on the Cool Store Road and if the KiwiRail locomotive is required to enter the Cool Store siding the movement must be piloted in this area.

Main line trains may shunt from the main line when a Shunter or Rail Operator is present to assist. This is to enable the train when conveying a full load to depart for Te Rapa from the main line.

Tonnage may be left unattended on the crossing loop provided the wagons are properly secured with handbrakes applied. **TO08 Shunting**, **7.3 Standing at Stations is modified accordingly.**

Rail Personnel involved with the working of trains at Te Awamutu must be familiar with the arrangements in the Joint Operating Plan referred to in the first clause.

9. Signalling and Interlocking

9.1 Waikanae - Hamilton

Switch lock release – special Instructions Hunterville, Mataroa, Raurimu, Kakahi and Hangatiki

If the switch lock release is given to shunt off the loop and the main line points are in normal, it is not possible to signal a train through on the main line.

Ohaupo–Rukuhia

Current S&I Diagram No.3257

Te Kawa–Te Awamutu

Current S&I Diagram No.3180

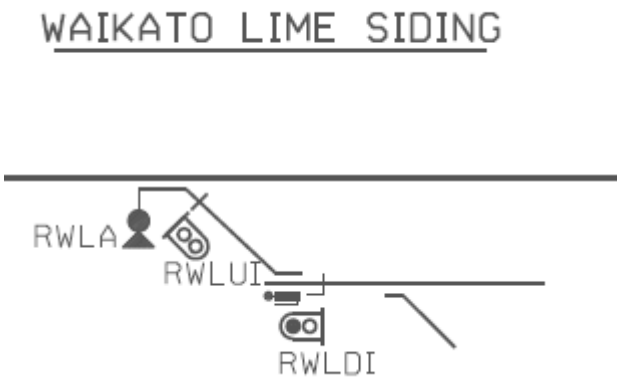
Amendments:

- “A” end of WL4C switch lock is still fitted with Frame Lever Points. Change meterage 2926 to 3009

Hangatiki–Otorohanga

Current S&I Diagram No.3086

Amendments:



- WL2A switch lock at Hangatiki named incorrectly, rename WL1B
- Change “McDonald Oamaru Lime Co Siding” to “Waikato Lime Siding”
- The following changes will be made to the signalling and interlocking at Waikato Lime Siding – installation of points indicators and motorising of ‘b’ points. RWLA will remain as Frame Lever Points until changed over at a later date to High Column Switch Stand.
- For operating instructions refer to instruction 8.5.1
- Change signal 49657 to 49649 and move above line
- Change meterages 1337 and 2926 to 1253 and 3009

Te Kuiti

Current S&I Diagram No.3050

Kopaki–Puketutu

Current S&I Diagram No.3087

Amendments:

- Change Intermediate signal No.45073 to 45075

Waimihi–Porootarao

Current S&I Diagram No.3088

Amendments:

- Move intermediate signals 43890 and 43905 to 43892 and 43907 respectively and the 3 aspect signal heads has been replaced with 2 aspect signal heads.

Okahukura–Ongarue

Current S&I Diagram No.3275 (replaces No.3051)

Taumarunui

Current S&I Diagram No.3052

Kakahi–Manunui

Current S&I Diagram No.3096

Oio–Owhango

Current S&I Diagram No.3105

National Park–Raurimu

Current S&I Diagram No.3053

Horopito–Makatote

Current S&I Diagram No.3104

Karioi–Ohakune

Current S&I Diagram No.3276

Waiouru–Tangiwai

Current S&I Diagram No.3095

Amendments:

- The frame lever points at Winstone Pulp Industries Sdg have now been replaced with a high column switch stand and switch lock. (13/4/15)
- 7A & 7B points Waiouru named incorrectly, rename 7A main & 7B loop.
- Remove RWLB Switchlock (Winstone Log Sdg) and replace with straight rail.

Ngaurukehu–Hihitahi

Current S&I Diagram No.3038

Taihape–Mataroa

Current S&I Diagram No.3054

Utiku

Current S&I Diagram No.3277

Mangaonoho–Mangaweka

Current S&I Diagram No.3455

Porewa–Hunterville

Current S&I Diagram No.3363

Marton

Current S&I Diagram No.3415

Maewa–Greatford

Current S&I Diagram No.3252

Bunnythorpe–Feilding

Current S&I Diagram No.3379

Palmerston North

Current S&I Diagram No.3233

Tokomaru–Longburn

Current S&I Diagram No.3255

Koputaroa–Shannon

Current S&I Diagram No.3108

Manakau–Levin

Current S&I Diagram No.3056

Te Horo–Otaki

Current S&I Diagram No.3380 (Replaces No.3285)

10. Signalling and Interlocking Out of Use

Points at the following stations or sidings are bolted in normal and secured with a PS padlock.

If it is necessary to shunt any of these sidings both the Signals and Track personnel for the area must be in attendance. Unless otherwise stated permission from the Train Controller must be obtained and if in a Track Warrant area a Track Warrant must be issued before the points are unlocked. The Officer from whom permission to unlock the points was obtained must be advised when the points are again padlocked.

Otorohanga

WL1A and WL1B switch locks have been secured in normal and are not available for use.

Manunui

WL1B switch lock has been secured in normal and is not available for use.

Raurimu

WL1A switch lock has been secured in normal and is not available for use.

Mataroa

WL1A and WL1B switch locks have been secured in normal and are not available for use.

Utiku

WL1A and WL1B switch locks have been secured in normal and are not available for use.

Levin

WL1A and WL1B switch locks have been secured in normal and are not available for use.

