KiwiRail

# Emergency Procedures Manual:

## Otira Tunnel

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# Table of Contents

1. TARP 1 Tunnel Emergency ..... 4
Duty Card 1.1 Train Controller ..... 4
Duty Card 1.2 Network Control Manager ..... 5
2. TARP 2 Passenger Train Stopped/Parted/Disabled in Tunnel ..... 7
Duty Card 2.1 Locomotive Engineer (LE) (in front locomotive) ..... 8
Duty Card 2.2 Banker Locomotive Engineer (BLE) ..... 8
Duty Card 2.3 Passenger LE (PLE) ..... 8
Duty Card 2.4 Onboard Service Manager ..... 9
Duty Card 2.5 Train Manager ..... 9
Duty Card 2.6 Train Attendant ..... 9
Duty Card 2.7 Train Controller ..... 10
Duty Card 2.8 Network Control Manager ..... 11
Duty Card 2.9 KiwiRail Emergency Response ..... 12
3. TARP 3 Freight Train Stopped/Disabled/Parted Overdue In Tunnel ..... 14
Duty Card 3.1 Banker Locomotive Engineer ..... 15
Duty Card 3.2 Locomotive Engineer ..... 15
4. TARP 4 HRV/MTMV/Maintenance Vehicles Stopped/Disabled/Overdue in Tunnel ..... 16
Duty Card 4.1 Infrastructure ..... 17
5. TARP 5 Injury/Medical Event in Tunnel Infrastructure Activities ..... 18
Duty Card 5.1 Infrastructure Personnel ..... 18
6. TARP 6 Fire in Tunnel Passenger Train ..... 19
Duty Card 6.1 Locomotive Engineer ..... 19
Duty Card 6.2 Banker Locomotive Engineer ..... 20
Duty Card 6.3 Passenger LE ..... 20
Duty Card 6.4 Onboard Service Managers ..... 21
Duty Card 6.5 Train Manager ..... 21
Duty Card 6.6 Train Attendant ..... 22
7. TARP 7 Fire in Tunnel Freight Train ..... 23
Duty Card 7.1 Banker Locomotive Engineer ..... 23
Duty Card 7.2 Locomotive Engineer ..... 24
8. TARP 8 Fire in Tunnel Material or Work Site ..... 25
Duty Card 8.1 Infrastructure ..... 26
9. TARP 9 Fire in Tunnel HRV/MTMV ..... 27
Duty Card 9.1 Infrastructure ..... 28
10. TARP 10F and 10P Tunnel Ventilation System ..... 29
10.1 TARP 10P Tunnel Ventilation System ..... 30
11. TARP 11 Passenger Evacuation On Foot ..... 31
Duty Card 11.1 Locomotive Engineer ..... 31
Duty Card 11.2 Banker Locomotive Engineer ..... 32
Duty Card 11.3 Passenger Locomotive Engineer ..... 32
Duty Card 11.4 Onboard Service Manager ..... 32
Duty Card 11.5 Train Manager ..... 33
Duty Card 11.6 Train Attendant ..... 33
12. TARP 12 Re-entry Recovery ..... 34
Duty Card 12.1 Network Control Manager ..... 34
13. TARP 13 Passenger Support ..... 36
Duty Card 13.1 Network Control Manager ..... 36
14. TARP 14 CIMS Model ..... 38
Duty Card 14.1 Rail Incident Controller ..... 39
Duty Card 14.2 Incident Controller (CIMS) ..... 39
Duty Card 14.3 Operations (CIMS) ..... 40
Duty Card 14.4 Logistics (CIMS) ..... 40
Duty Card 14.5 Planning/Intelligence (CIMS) ..... 40

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Duty Card 14.6 Administration (CIMS) ..... 40
Duty Card 14.7 Portal Controller (x2 – Both Portals) ..... 41
Duty Card 14.8 Passenger Escort (x2 – Both Portals) ..... 41
Duty Card 14.9 Traffic Marshall (x2 – Both ICPs) ..... 41
Duty Card 14.10 Safety Officer ..... 42
15. Gas Tarps ..... 43
15.1 Locomotive Engineer ..... 43
15.1.1 In Cab Gas Level Response ..... 43
15.1.2 Out of Cab Gas Level Response ..... 44
15.2 Infrastructure ..... 45

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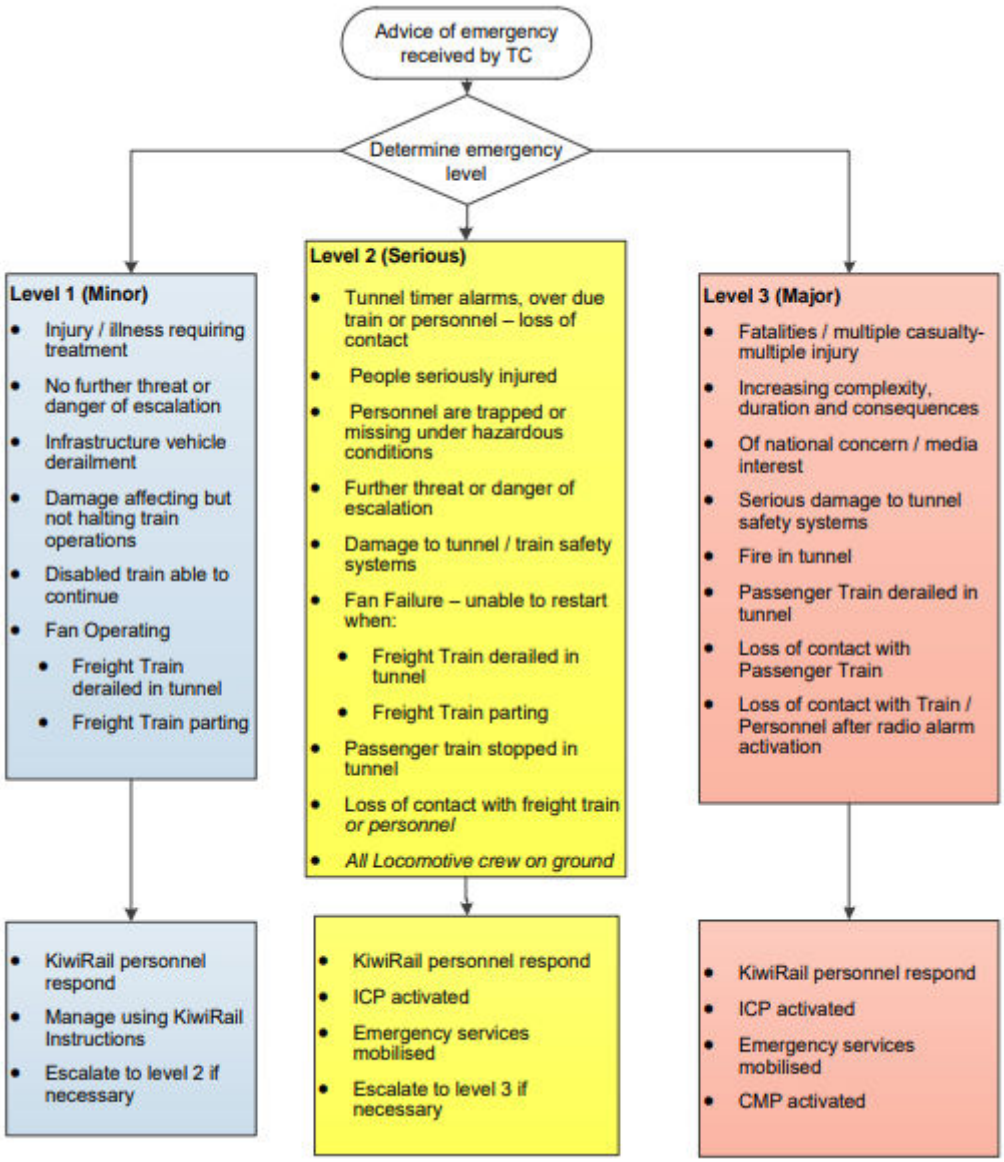
# 1. TARP 1 Tunnel Emergency




**IMPORTANT**

After a fire or earthquake has occurred in a tunnel, the tunnel must be inspected, and clearance given by the Infrastructure Manager before any trains can enter the tunnel. See TARP 12 for the re-entry/recovery process.

## Duty Card 1.1 Train Controller

**Level 1 Emergency declared**

1. Contact LE / BLE / Network Services personnel

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2. Advise NCM
3. Monitor situation and update NCM

**Level 2 Emergency declared**

As for Level 1 plus:

1. Contact 111 – ask for Police and request activation of KiwiRail Tunnel Emergency Response (A2 continuation exposure may require Oxygen treatment, local oxygen available).
2. Mobilise Infrastructure Personnel / Banker Locomotive Engineers / personnel to activate ICPs.
3. Secure main line with appropriate track protection.
4. Hazard from ventilation system failure, cable damage.
5. Look at air management in the tunnel:
   a. What are the gas levels?
   b. Is it possible to shut down locomotives not required?
6. If necessary, manage using Train Stopped / Parted / Disabled / Overdue in Tunnel Duty Card.
7. Monitor situation and update NCM.
8. Use RSL board if all locomotive crew on ground.
9. If Emergency Stations have been used re-entry with locomotive is only possible after HRV has restocked Emergency Station

**Level 3 Emergency declared**

As for Level 2.

**IMPORTANT**
When rail vehicles are left unattended in the Otira tunnel, Police must be requested to evacuate personnel in proximity to the railway at Otira Township down to Settlement Road.

# Duty Card 1.2 Network Control Manager

**Level 1 Emergency declared**

1. Liaise with the Train Controller
2. Tell the LSM
3. Tell affected managers of:
   - Infrastructure
   - Freight
   - Passenger Operators
4. Issue text advice to national rail alert list
5. Liaise with the Infrastructure Manager if repairs required
6. Monitor situation and update all concerned

**Level 2 Emergency declared**

As for Level 1 plus:

7. Ensure 111 notified and Tunnel Emergency Procedures activated. (A2 continuation exposure may require Oxygen treatment, local oxygen available)
8. Appoint Rail Incident Controller

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9. Advise KiwiRail Communications, Legal, Incident Investigators
10. Advise NZTA and WorkSafe
11. If necessary, manage using Train Stopped / Parted / Disabled / Overdue in Tunnel Duty Card
12. If evacuation of passengers is needed consider options in following order and plan accordingly (see Otira Tunnel Appendix):
    a. Relief passenger train from portal to nearest station
    b. Bus transfer from Arthurs Pass/Otira station or western side of Bridge 50 (Otira Portal)
    c. Helicopter transfer from Arthurs Pass station

**WARNING**
Western Portal and area have High Voltage power lines

**Level 3 Emergency declared**

As for Level 2 plus:

13. Activate Crisis Management Plan
14. Direct RIC to secure site, if required

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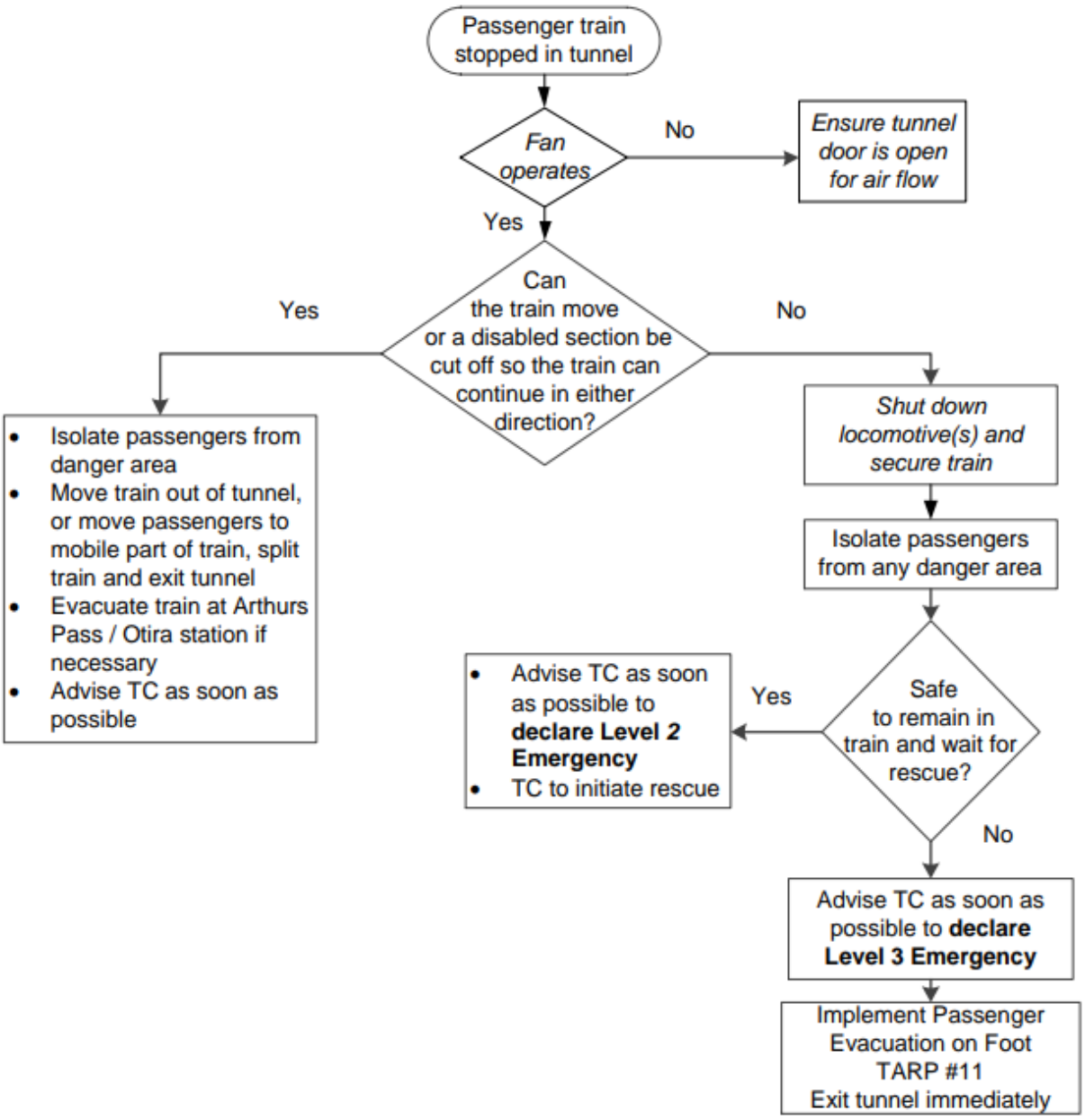
# 2. TARP 2 Passenger Train Stopped/Parted/Disabled in Tunnel

Use when:

- a Tunnel Timer Alarm is activated in Train Control
- derailment
- collision
- obstruction
- mechanical failure, or
- other event causing an unplanned stop in the tunnel.





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# Duty Card 2.1 Locomotive Engineer (LE) (in front locomotive)

**Passenger Train Stopped/Parted/Disabled In Tunnel**

1. Call the Train Controller (if a downhill movement, request fans to start)
2. Confirm location (meterage)
3. Liaise with the Train Manager, Banker LE, and Passenger LE in carriage
4. Establish the reason for stopping and rectify issues if safe to do so.
5. Monitor and communicate with the Banker LE and Passenger LE
6. Provide regular updates to the Train Controller
7. Continue to monitor tunnel gas levels
8. If required to leave the cab, advise the Train Controller of your intentions before exiting the cab:
   a. don PP Saver
   b. take a gas monitor, torch and portable radio.
9. If the ventilation system is not operating and the train is unable to exit, execute a locomotive emergency shutdown
10. Advise the Train Controller to initiate the response
11. If evacuation is necessary, liaise with the OSM according to Evacuation TARP 11 and Duty Card 11.1.

# Duty Card 2.2 Banker Locomotive Engineer (BLE)

**Initially in carriage**

**Passenger Train Stopped/Parted/Disabled In Tunnel**

1. Liaise with the Train Manager, LE and Passenger LE (PLE)
2. If required, exit the carriage to the rear locomotives (with PLE):
   a. don PP saver, carry out a self-check
   b. take a gas monitor, torch, and portable radio.
3. Confirm with the LE that you are leaving carriages
4. Confirm arrival at rear locomotives with LE
5. Consider Onboard Service Manager (OSM) options for exiting the tunnel
6. If work in the tunnel is required, then BLE and PLE don CABA
7. Working BLE maintains communication with PLE
8. If required to secure the train, apply park brakes, handbrakes and chocks to AKL and AKV carriages
9. If evacuation is necessary, manage with OSM and Train Crew according to Evacuation TARP 11 and Duty Card 11.2.

# Duty Card 2.3 Passenger LE (PLE)

**Initially in carriage**

**Passenger Train Stopped/Parted Disabled In Tunnel**

1. Liaise with Train Manager, LE and Banker LE (BLE)
2. If required, exit the carriage to the rear locomotives (with BLE)
   a. don PP Saver, carry out a self-check
   b. take a gas monitor, torch and portable radio.
3. Confirm with the LE leaving carriages
4. Confirm arrival at rear locomotives with LE
5. If work is required, don CABA and wait for further instructions from the BLE
6. Establish RSL Board and maintain communication with BLE and the Train Controller. If the BLE is incapacitated, advise the Train Controller, and initiate the search
7. Locate the BLE, render assistance and update the Train Controller

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8. As required, follow the directions of the BLE
9. If the ventilation system is not operating and the train is unable to exit, execute a locomotive emergency shutdown
10. If evacuation is necessary, manage with the Onboard Service Manager and Train Crew according to Evacuation TARP 11 and Duty Card 11.3.

# Duty Card 2.4 Onboard Service Manager

**Passenger Train Stopped/Parted/Disabled in Tunnel**

1. Liaise with the Train Manager and obtain an update on the current situation
2. Communicate with other onboard personnel to:
   a. ensure the safety of passengers and personnel
   b. identify any elderly, disabled or injured people
   c. administer first aid, if necessary
   d. seek assistance from medically trained passengers, if necessary
   e. consider asking able passengers to assist those less able.
3. Advise passengers of the situation and instruct them to remain in their seats until advised further
   a. use neutral, non-emotive words (e.g., situation or interruption).
4. Monitor tunnel gas levels in different parts of the train, regularly rechecking
5. Train Crew/passengers to remain on board and await further instructions:
   a. first alarm - investigate possible causes and rectify; if safe
   b. second alarm - move passengers to the least affected part of the train
   c. communicate with the Train Manager to check for an external source of fire.
6. If a fire is confirmed, proceed to TARP 6
7. If there is no fire, however, evacuation is still necessary, proceed to TARP 11 and Duty Card 11.4

# Duty Card 2.5 Train Manager

**Passenger Train Stopped Disabled in Tunnel**

1. Establish contact with Locomotive Engineer and Banker LE (BLE)
2. Determine the reason for the stoppage
3. Determine the estimated time of recovery
4. Confirm tunnel ventilation status/air movement
5. Communicate with the Onboard Service Manager (OSM)
6. Follow OSM directions and confirm park brake application, if required
7. If required to shut down the generator, wear appropriate RPE, take a gas monitor, torch, portable radio and additional gas canisters
8. Communicate with the OSM / BLE at agreed intervals
9. Monitor gas level exposure to crew/passengers
10. First alarm - investigate possible causes and rectify; if safe
11. Second alarm - communicate with LE, BLE and Passenger LE
12. Unless evacuating the train, all crew and passengers must remain on board
13. If a fire is confirmed, proceed to TARP 6
14. If evacuation is necessary and there are no signs of fire, proceed to TARP 11 and Duty Card 11.5.

# Duty Card 2.6 Train Attendant

**Passenger Train Stopped/Parted/Disabled in Tunnel**

Follow instructions from the Onboard Service Manager (OSM):

1. Liaise with the OSM
2. Communicate with passengers and always ensure their safety

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3. Administer first aid, if necessary
4. If evacuation is necessary, assist as directed
5. Assist with the distribution of onboard emergency supplies when directed
6. If evacuation is necessary, manage according to Evacuation TARP 11 and Duty Card 11.6

# Duty Card 2.7 Train Controller

**Train Stopped/Disabled/Overdue in Tunnel**

Use when:

- a Tunnel Timer alarm is activated in Train Control
- derailment
- obstruction
- collision
- mechanical failure, or
- other event causing an unplanned stop in the tunnel and the train is unable to continue.

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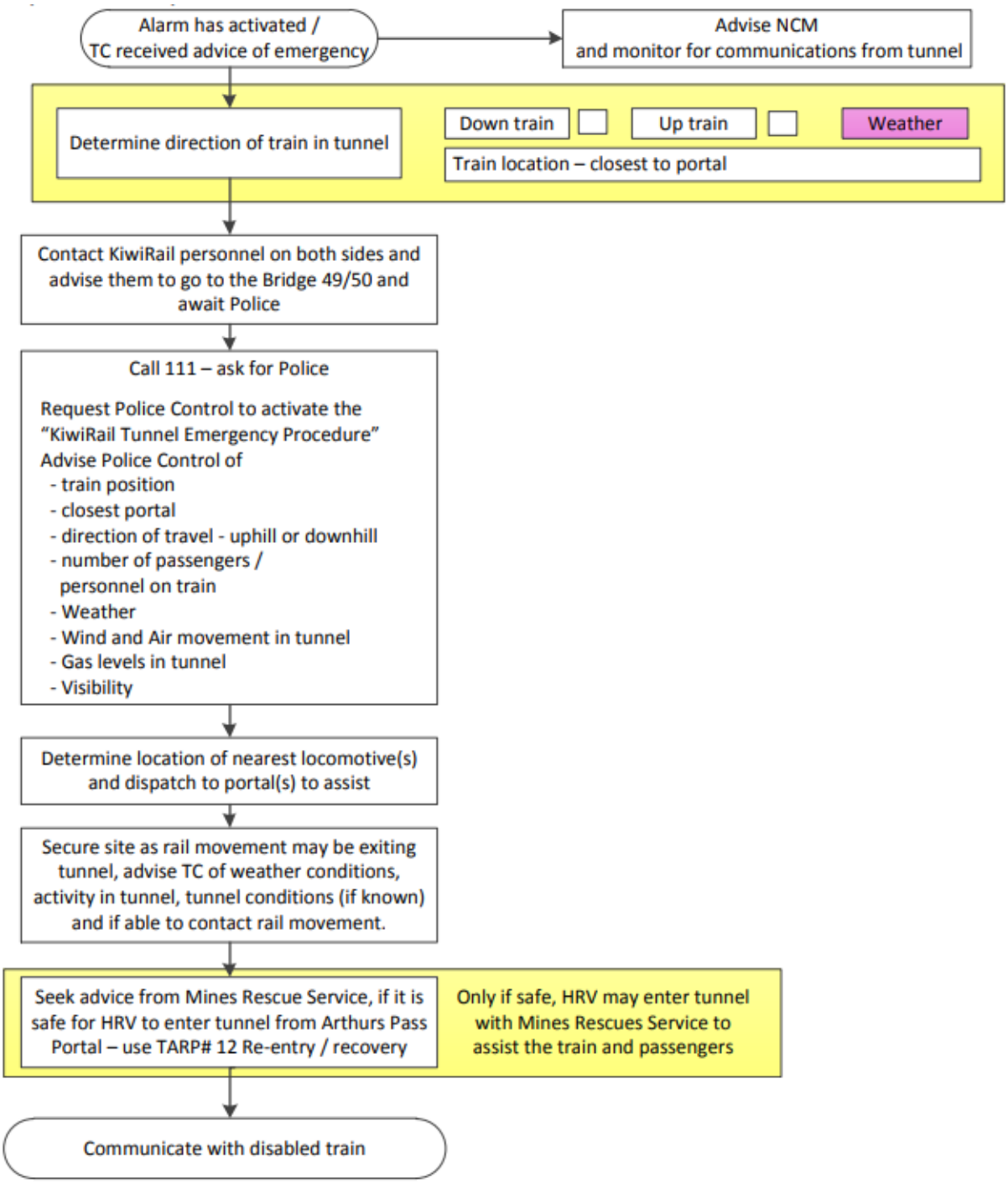
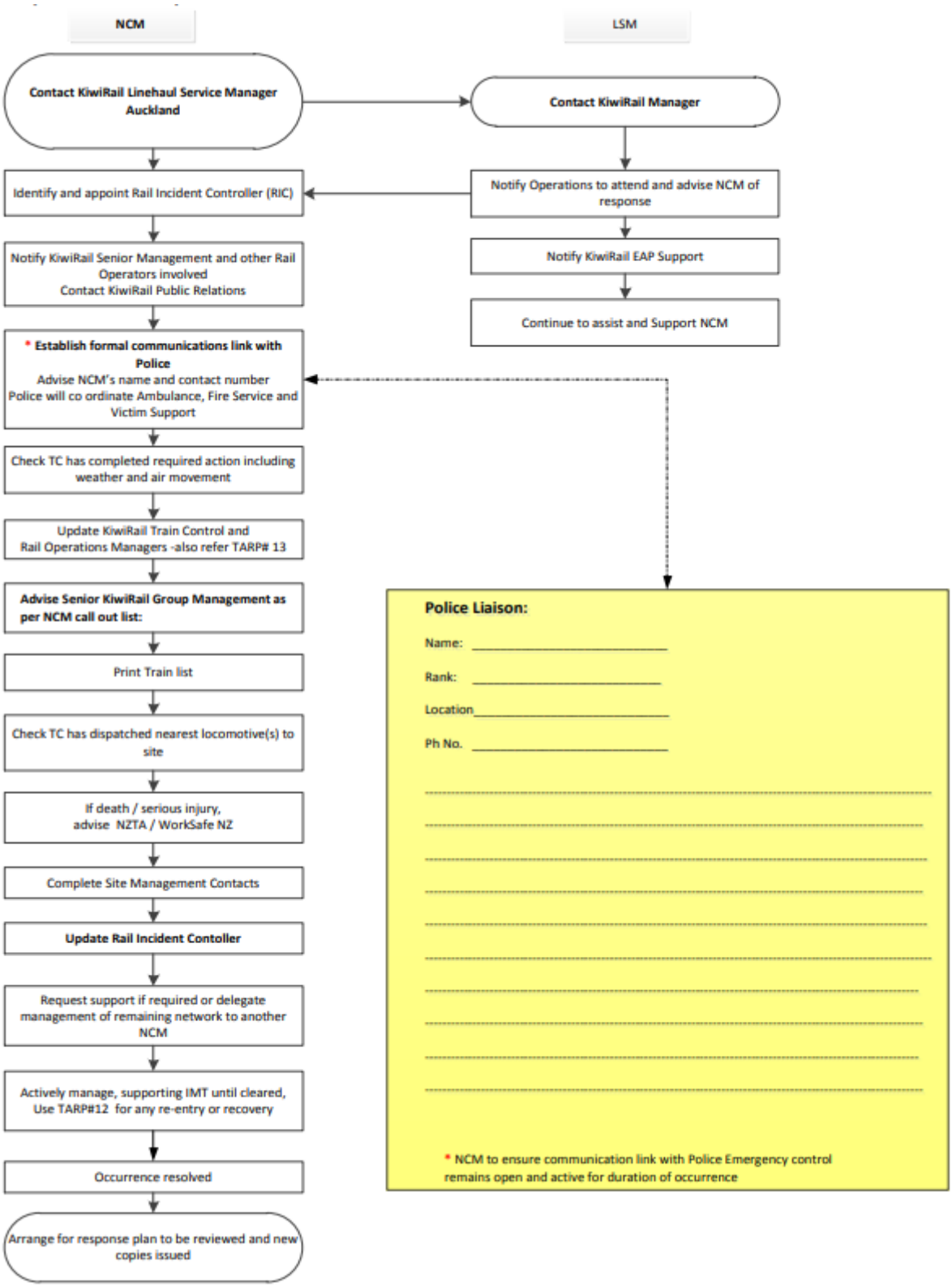



# Duty Card 2.8 Network Control Manager

**Train Stopped/Disabled/Overdue in Tunnel**

Use when:

- a Tunnel Timer alarm is activated in Train Control
- derailment
- obstruction
- collision
- mechanical failure, or
- other event causing an unplanned stop in the tunnel and the train is unable to continue.




# Duty Card 2.9 KiwiRail Emergency Response

Use when:

- a Tunnel Timer alarm is activated in Train Control
- derailment
- obstruction

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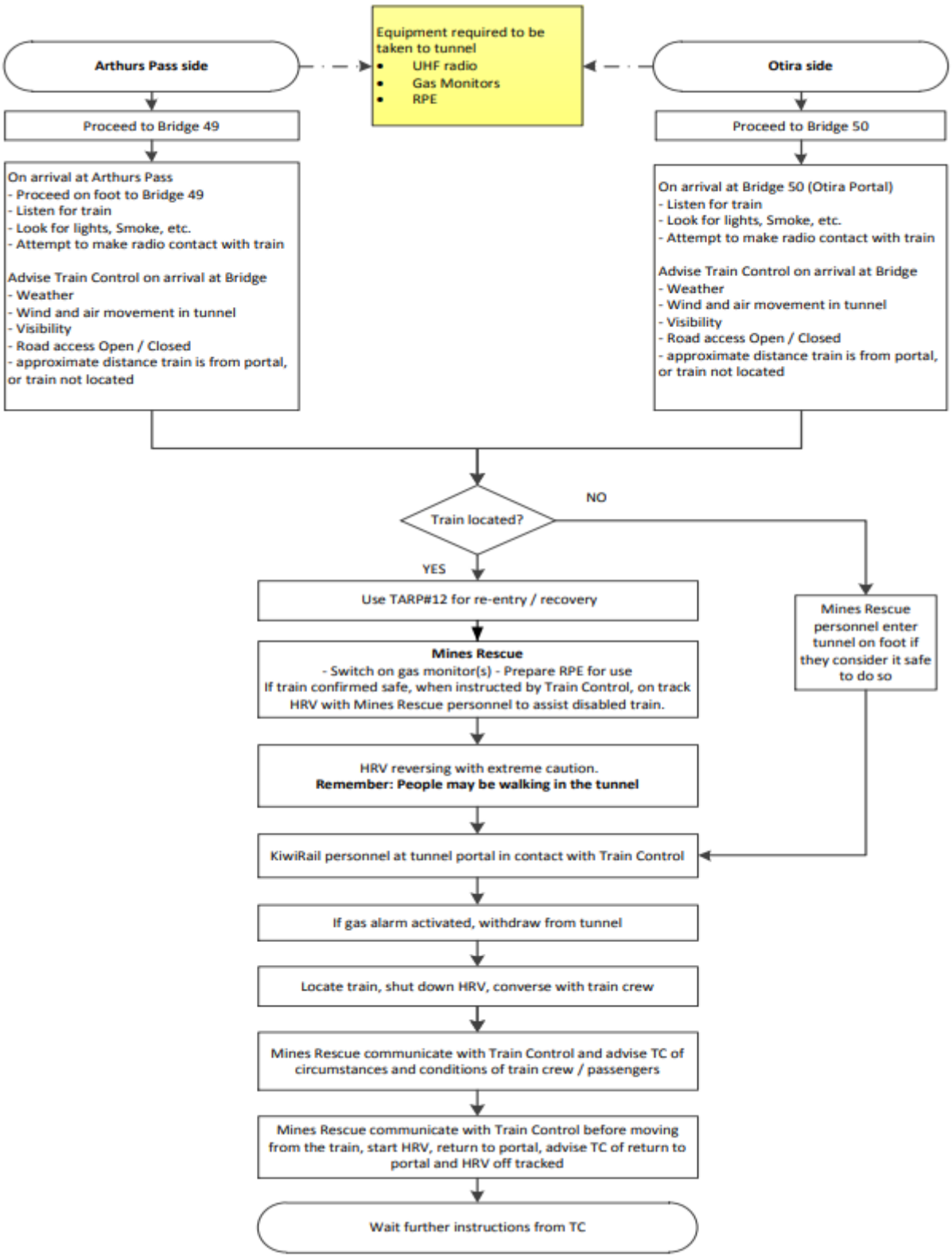
- collision
- mechanical failure, or
- other event causing an unplanned stop in the tunnel and the train is unable to continue.





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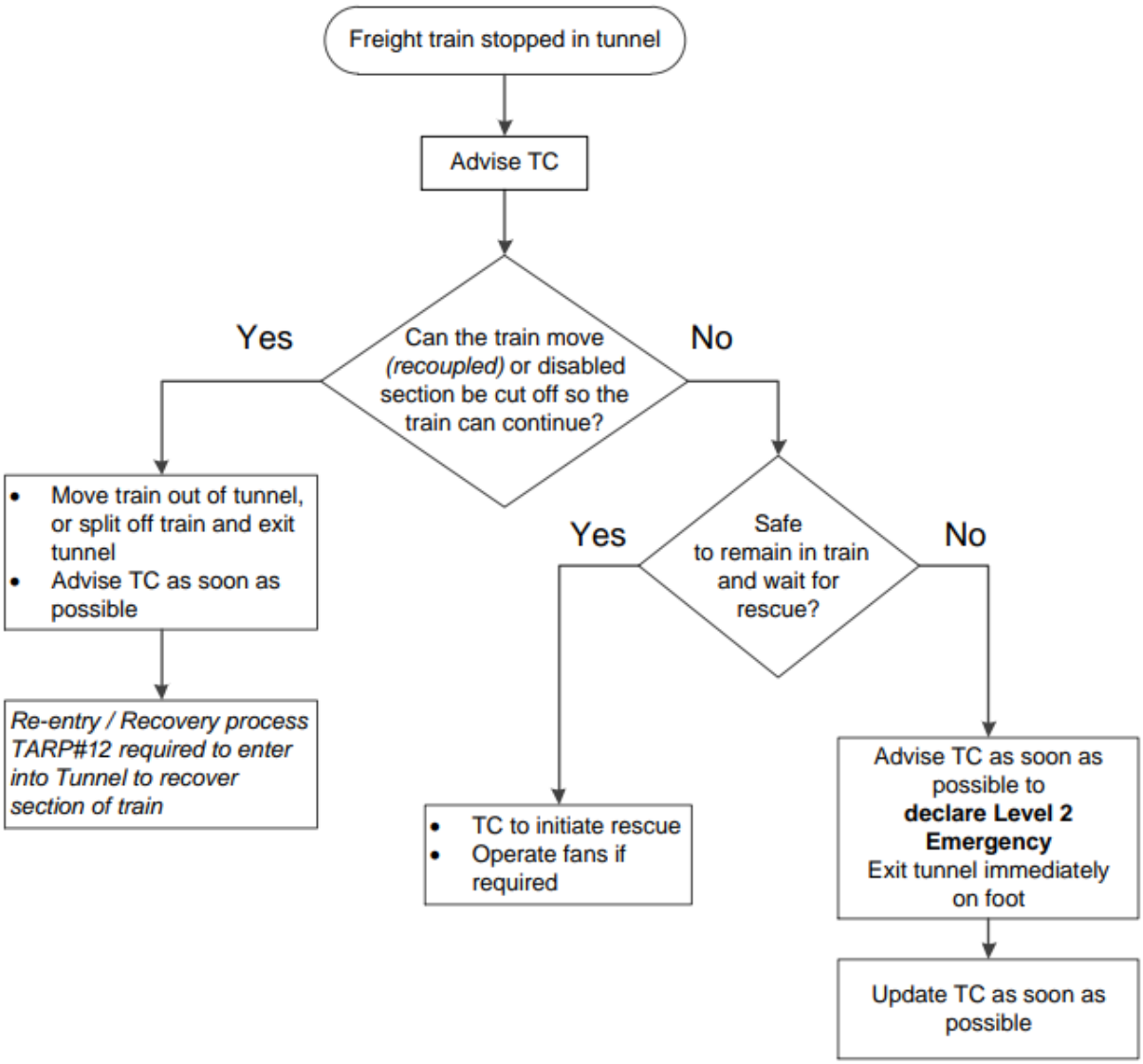
# 3. TARP 3 Freight Train Stopped/Disabled/Parted Overdue In Tunnel

Use when:

- a Tunnel Timer alarm is activated in Train Control
- derailment
- obstruction
- collision
- parting
- mechanical failure, or
- other event causing an unplanned stop in the tunnel and the train is unable to continue.





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**IMPORTANT**
After a train parting has occurred in the tunnel, the track must be inspected by Infrastructure Personnel using (banker) locomotives. Clearance must be given before the next train can enter the tunnel.

# Duty Card 3.1 Banker Locomotive Engineer

**Freight Train Stopped/Disabled/Parted in Tunnel**

1. Contact the Train Controller, confirm location (meterage), advise the reason for the stop and rectify if safe
2. Down trains to call the Train Controller to start fans
3. Consult work order for the location of dangerous goods
4. Consider setting back or cut-and-run options
5. If the ventilation system has failed and the train is unable to exit, secure the train and shut down all locomotives
6. Monitor tunnel gas levels (see LE Gas TARPs)
7. Exiting the cab with the ventilation system running:
   a. for locomotive failure only - mask and filter or CABA
   b. for all other work beyond the locomotives - CABA only. Gas level awareness must be always maintained.
8. In all circumstances, RPE checks are to be carried out before exiting the cab
9. Take a gas monitor, torch, portable radio and additional gas canisters
10. Maintain communications with the LE and Train Controller of location and status
11. Secure train to prevent movement, if required
12. If the BLE is incapacitated, notify the LE and conserve air if possible
13. If danger is imminent - consider self-evacuation from the tunnel on foot, using the emergency stations en route.

# Duty Card 3.2 Locomotive Engineer

**Freight Train Stopped/Disabled/Parted in Tunnel**

1. Liaise with the Banker LE (BLE)
2. If the BLE is required to exit the cab:
   a. carry out RPE checks
   b. initiate RSL board and monitor BLE
   c. maintain awareness of CABA set locations
   d. regular updates to the Train Controller.
3. If the BLE requires assistance, advise the Train Controller and relay RSL board details
4. Exiting the cab with the ventilation system running:
   a. for locomotive failure only - mask and filter or CABA
   b. for all other work beyond the locomotives - CABA only. Gas level awareness must be maintained at all times.
5. In all circumstances, RPE checks are to be carried out before exiting the cab
6. Don CABA and be ready to start up. Take a gas monitor, torch, portable radio and additional gas canisters
7. If safe, wait with the train for rescue. Otherwise, exit the tunnel on foot.

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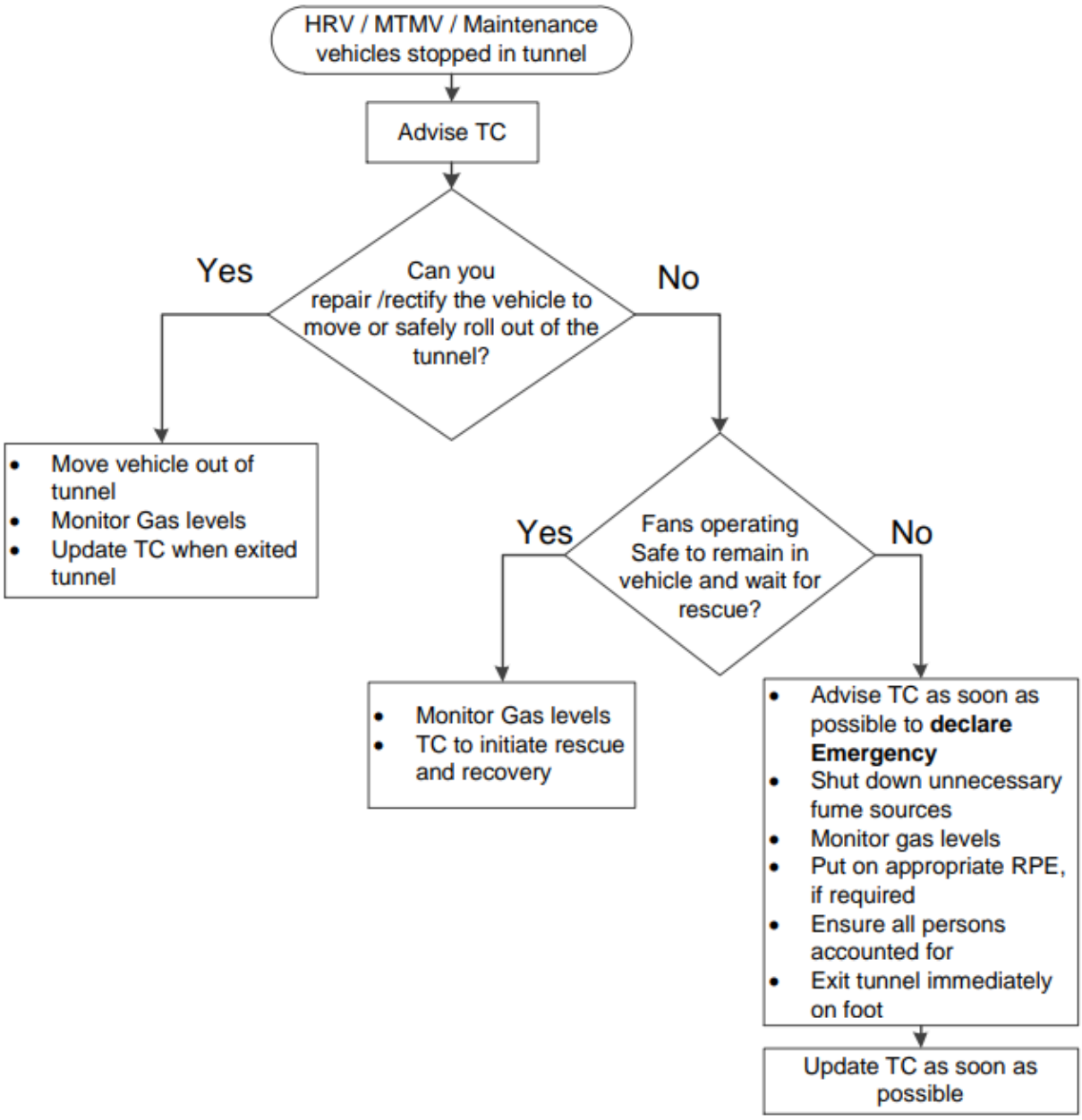
# 4. TARP 4 HRV/MTMV/Maintenance Vehicles Stopped/ Disabled/Overdue in Tunnel

Use when:

- a Tunnel Timer alarm or Worker Overdue alarm is activated in Train Control
- derailment
- collision
- obstruction
- mechanical failure or
- other event causing an unplanned stop in the tunnel.

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# Duty Card 4.1 Infrastructure

**HRV/MTMV/Stopped/Disabled Overdue in Tunnel**

1. Advise the Train Controller (if there is no initial response, use an emergency call)
2. Update the Train Controller with your ventilation requirements.

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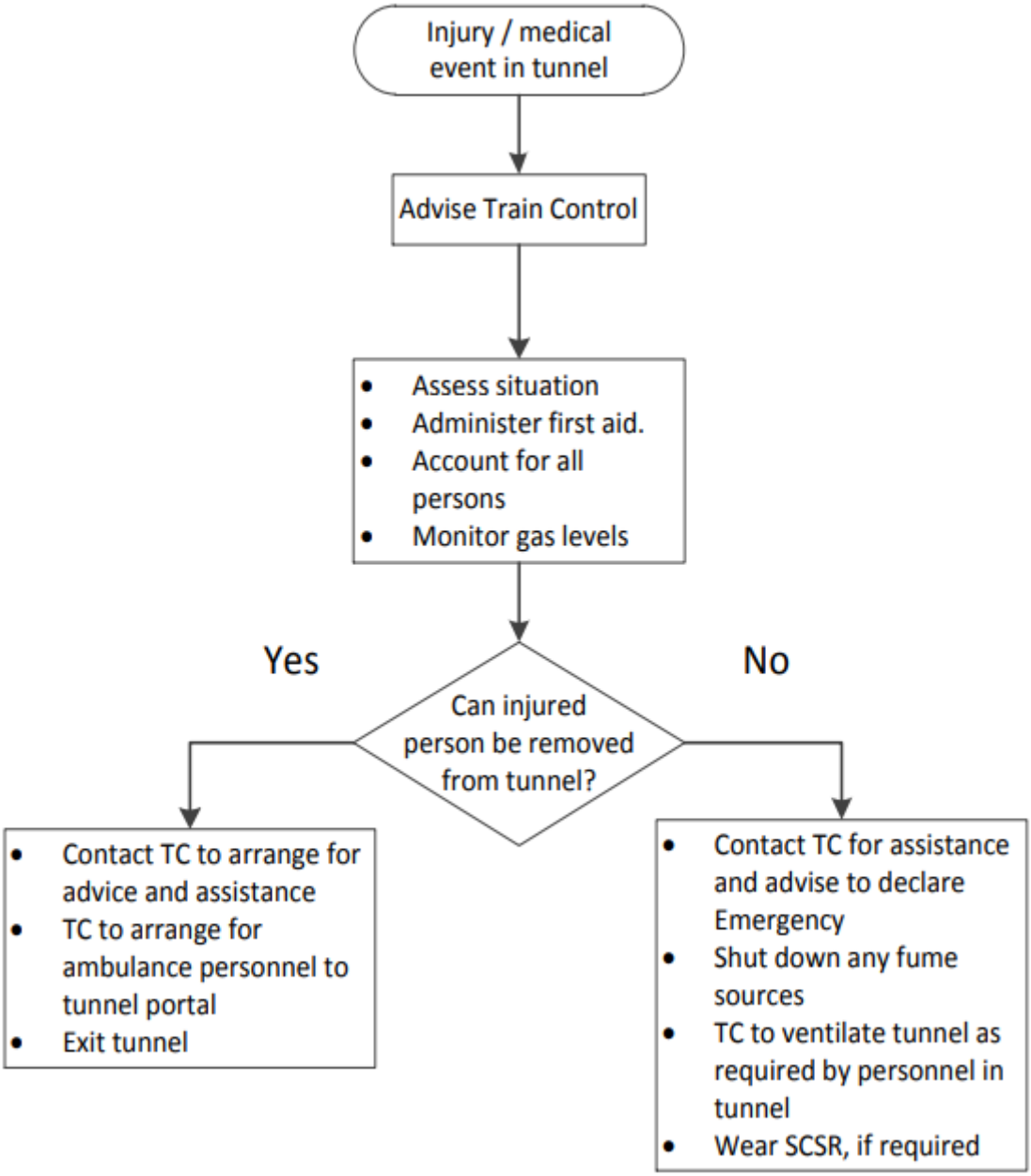
# 5. TARP 5 Injury/Medical Event in Tunnel Infrastructure Activities




## Duty Card 5.1 Infrastructure Personnel

**Injury/Medical Event in Tunnel**

1. Advising the Train Controller as early as possible will allow emergency services to be on their way or onsite when you exit the tunnel
2. Update the Train Controller with your ventilation requirements.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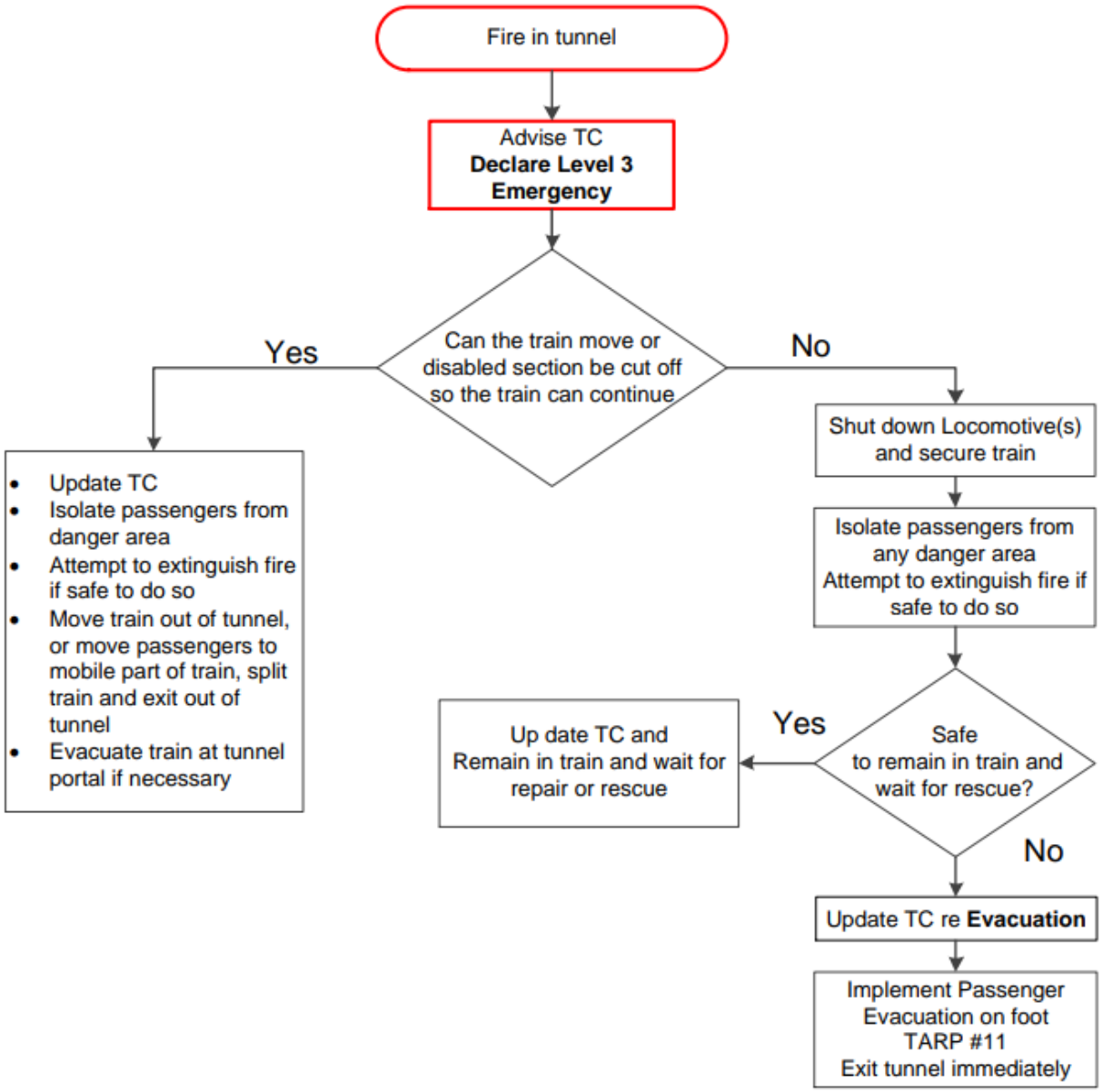
# 6. TARP 6 Fire in Tunnel Passenger Train




**IMPORTANT**
After a fire in a tunnel, the tunnel must be inspected and clearance given by the Infrastructure Manager before any trains can enter the tunnel.

## Duty Card 6.1 Locomotive Engineer

**Fire in Tunnel - Passenger Train**

1. Keep the train moving if possible and exit the tunnel.

2. Advise the Train Controller.
3. If the train is immobile, liaise with the Onboard Service Manager (OSM), Banker LE (BLE) and Passenger LE (PLE) about:
   a. separating carriage from the train and exiting the tunnel, or
   b. the OSM will advise action required for passenger safety
   c. if evacuation is necessary or unable to separate carriages, shut down locomotives and secure them if safe.
4. If the LE is required to exit the cab:
   a. don Saver PP
   b. carry out self-checks
   c. take a torch, gas monitor and portable radio
   d. maintain awareness of CABA supplies
   e. provide regular updates to the Train Controller
   f. communicate with the PLE.
5. If evacuation is necessary, liaise with the BLE. Refer to Evacuation TARP 11 and Duty Card 11.2.

# Duty Card 6.2 Banker Locomotive Engineer

**Initially In Carriage**

**Fire in Tunnel - Passenger Train**

1. Liaise with the Onboard Service Manager (OSM), LE and Passenger LE (PLE) if required to exit carriage to rear locomotives (with PLE):
   a. don Saver PP
   b. carry out self-checks
   c. take a torch, gas monitor and portable radio
   d. maintain awareness of CABA supplies
   e. provide regular updates to the Train Controller.
2. Confirm with the LE that you are leaving carriages
3. Confirm arrival at rear locomotives with the LE
4. Consider OSM options for exiting the tunnel
5. If work in the tunnel is required, then the BLE and PLE don CABA
6. The working BLE maintains communication with PLE
7. Communicate tasks with the OSM considering:
   a. moving passengers
   b. separating the train and exiting the tunnel
   c. evacuation.
8. If required to secure the train, apply park brakes, handbrakes and chocks to AKL and AKV carriages
9. Confirm with the OSM reapplication of park brakes
10. If evacuation is necessary, liaise with the OSM. Refer to Evacuation TARP 11 and Duty Card 11.2.

# Duty Card 6.3 Passenger LE

**Initially In Carriage**

**Fire in Tunnel - Passenger Train**

1. Liaise with the Onboard Service Manager (OSM), Banker LE (BLE) and LE
2. If required to exit carriage to rear locomotives (with BLE):
   a. don Saver PP
   b. carry out self-checks
   c. take a torch, gas monitor and portable radio
   d. maintain awareness of CABA supplies

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   e. provide regular updates to Train Control.
3. Confirm with the LE that you are leaving carriages
4. Confirm arrival at rear locomotives with the LE
5. If work in the tunnel is required, then the BLE and PLE don CABA
6. Establish the RSL board and maintain communication with the BLE and Train Controller
7. If required, secure and shut down locomotive(s)
8. If the ventilation system is not operating, liaise with the Train Controller
9. If evacuation is necessary, liaise with the BLE. Refer to Evacuation TARP 11 and Duty Card 11.3.

# Duty Card 6.4 Onboard Service Managers

**Fire in Tunnel - Passenger Train**

1. Establish the location of the alarm via the Train Management System
2. Advise the Train Manager of the situation:
   a. keep the train moving wherever possible, and exit the tunnel
   b. advise Onboard Personnel of the situation
3. If safe, proceed to the location of the fire and use the nearest extinguisher to put out the fire
4. If possible, evacuate passengers to another carriage before using the fire extinguisher
5. If the train is not mobile:
   a. consult with the Train Manager (LE/PLE) about splitting the train or separating the carriage from the train and exiting the tunnel (LE/PLE to secure vehicles; Train Manager to assist if required)
   b. if the ventilation system is not operating and can split, consider shutting down the generator.
6. Monitor tunnel gas levels (see Duty Card 2.4)
7. Consider air movement in the tunnel and the direction of the smoke
8. Liaise with the Train Crew and communicate with passengers
9. If the fire is not extinguished, move passengers away from the danger (evacuate the carriage)
10. Administer first aid, if required
11. If evacuation is necessary, manage according to Passenger Evacuation on foot, TARP 11 and Duty Card 11.4
12. Ensure the safety of all passengers and check that they are accounted for
13. Advise the Portal Controller that you have checked the train and supply to emergency services a list of any persons (names and locations) unable to be moved from the train.

# Duty Card 6.5 Train Manager

**Fire in Tunnel - Passenger Train**

1. Establish contact with the LE and advise the situation
2. Keep the train moving wherever possible and exit the tunnel
3. Liaise with the Onboard Services Manager (OSM)
4. If the train is not mobile:
   a. consult with LE/PLE
5. Advise OSM, who will advise the action required regarding:
   a. splitting the train, or
   b. separating carriages from the train and exiting the tunnel, or
   c. if evacuation is necessary.
6. Follow OSM directions
7. The OSM will advise which portal passengers are to be directed to
8. Accompany the OSM and the last passengers from the train
9. If evacuation is necessary, manage according to Passenger Evacuation on Foot, TARP 11 and Duty Card 11.5.

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# Duty Card 6.6 Train Attendant

**Fire in Tunnel - Passenger Train**

Follow instructions from the Onboard Services Manager (OSM):

1. Proceed to the carriage in question
2. Use the nearest extinguisher to put out the fire
3. If possible, evacuate passengers to another carriage before using the fire extinguisher
4. Fire Extinguishers are located at each end of the AK carriages, at the end and behind the café counter in the AKC carriage
5. If evacuation is necessary, manage according to Passenger Evacuation on Foot, TARP 11 and Duty Card 11.6.

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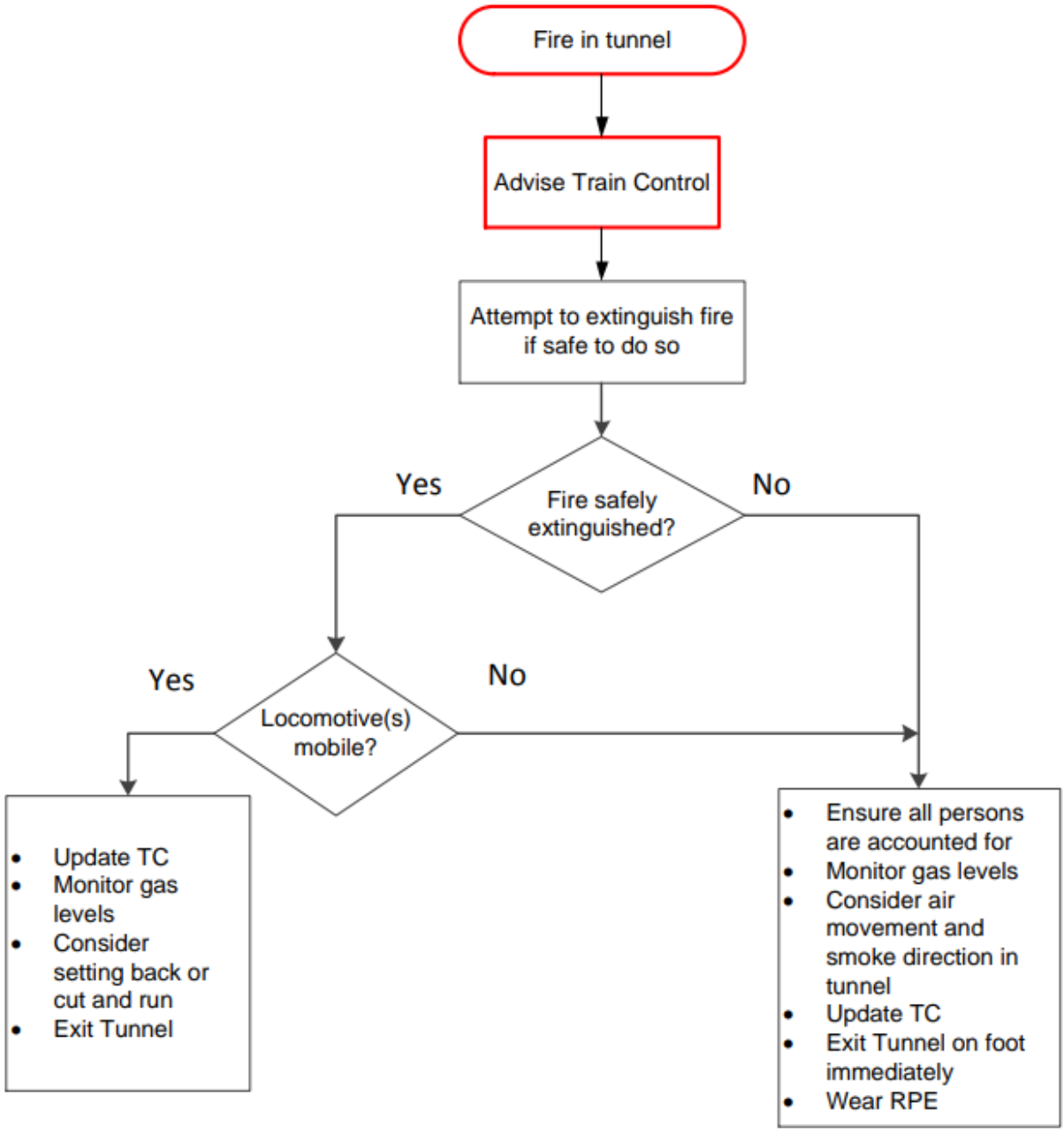
# 7. TARP 7 Fire in Tunnel Freight Train




**IMPORTANT**
After a fire has occurred in a tunnel, the tunnel must be inspected, and the Infrastructure Manager gives clearance before any trains can enter the tunnel.

## Duty Card 7.1 Banker Locomotive Engineer

**Fire in Tunnel - Freight Train**

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1. Keep the train moving if possible and exit the tunnel.
2. Advise the Train Controller
3. If an in-cab fire is present, extinguish the in-cab fire, if safe to do so
4. If the train stops and BLE is required to exit the cab:
    a. don CABA, start-up and don a helmet
    b. carry out buddy checks
    c. take a gas monitor and portable radio.
5. Ascertain the location of any dangerous goods
6. Maintain awareness of the location of other CABA units and Emergency Stations
7. Provide regular updates to the Train Controller and LE
8. Monitor gas levels
9. If the ventilation system is not operating, liaise with the Train Controller
10. If it's safe to do so, consider the following:
    a. setting back
    b. securing train
    c. separating train (cut and run)
    d. provide regular updates to the Train Controller.
11. If evacuation on foot is required, refer to TARP 11, Duty Card 11.2

# Duty Card 7.2 Locomotive Engineer

**Fire in Tunnel - Freight Train**

1. Liaise with the Banker LE (BLE)
2. If an in-cab fire is present:
    a. extinguish in-cab fire, if safe to do so
3. Confirm location (meterage) with the Train Controller
4. If the train stops and the BLE is required to exit the cab:
    a. don CABA and prepare helmet (do not start up unless required)
    b. carry out buddy checks
    c. ascertain the location of any dangerous goods
    d. establish RSL Board and maintain communication with the BLE and Train Controller
    e. if the ventilation system is not operating, liaise with the Train Controller
5. The BLE is to indicate actions regarding any movement
6. If evacuation on foot is required:
    a. communicate with the BLE and Train Controller
    b. start up the CABA set and don a helmet
    c. take a gas monitor and portable radio
    d. if required, shut down and secure locomotive(s)
7. Maintain awareness of the location of other CABA units and Emergency Stations
8. Maintain communication outlining status, location, and direction of travel with the Train Controller
9. If evacuation is necessary, liaise with the BLE and refer to Evacuation TARP 11 and Duty Card 11.4.

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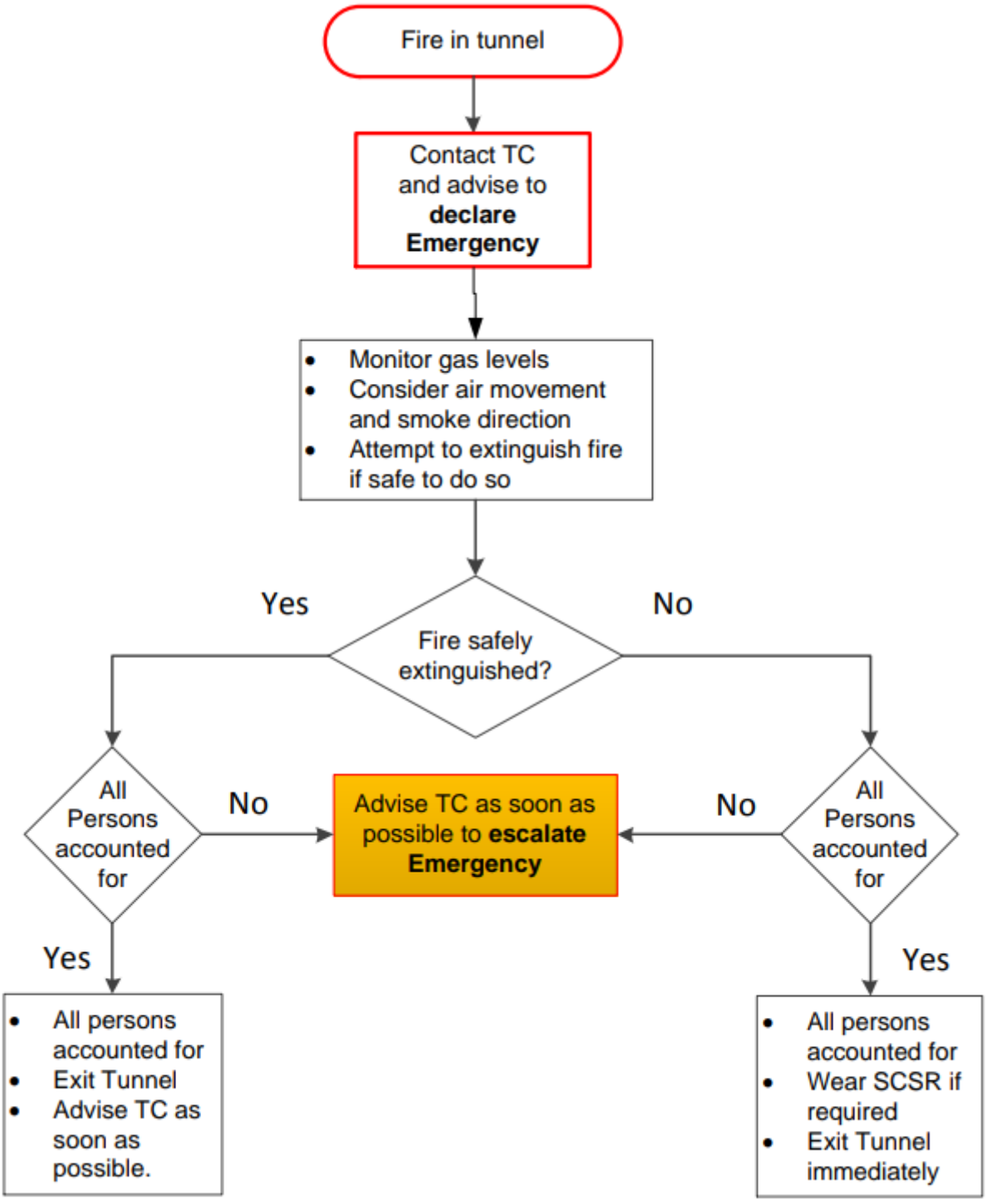
# 8. TARP 8 Fire in Tunnel Material or Work Site




**IMPORTANT**
After a fire has occurred in a tunnel, the tunnel must be inspected, and the Infrastructure Manager gives clearance before any trains can enter the tunnel.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# Duty Card 8.1 Infrastructure

**Fire in Tunnel – Material or Work Site**

If exiting the tunnel:

1. Advise the Train Controller before putting SCSR on
2. Monitor:
   a. tunnel gas levels
   b. air movement in the tunnel, and the direction of the smoke.
3. Update the Train Controller at the portal.

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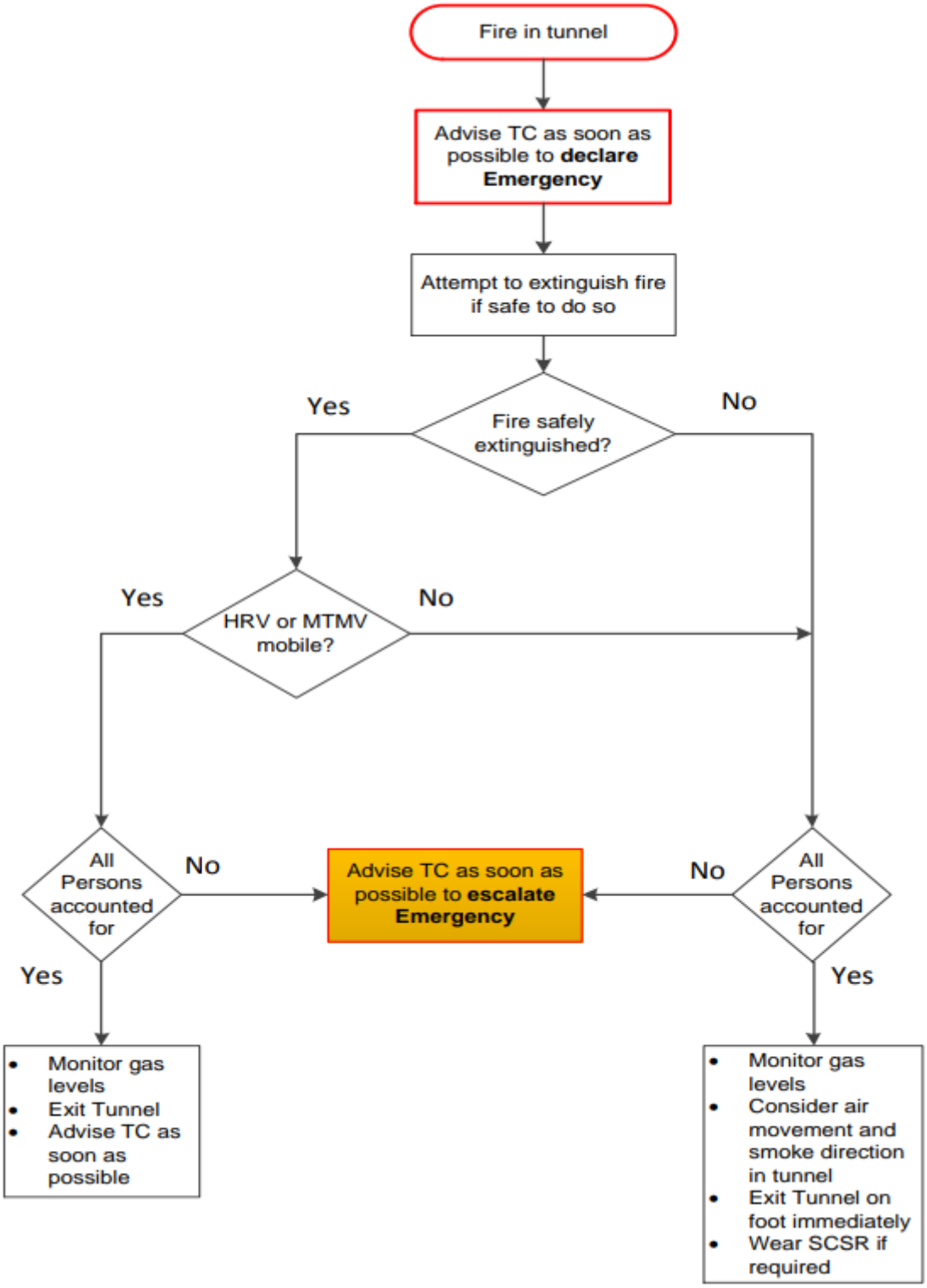
# 9. TARP 9 Fire in Tunnel HRV/MTMV

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**IMPORTANT**
All work is suspended until clearance to recommence is given by the Infrastructure Manager.

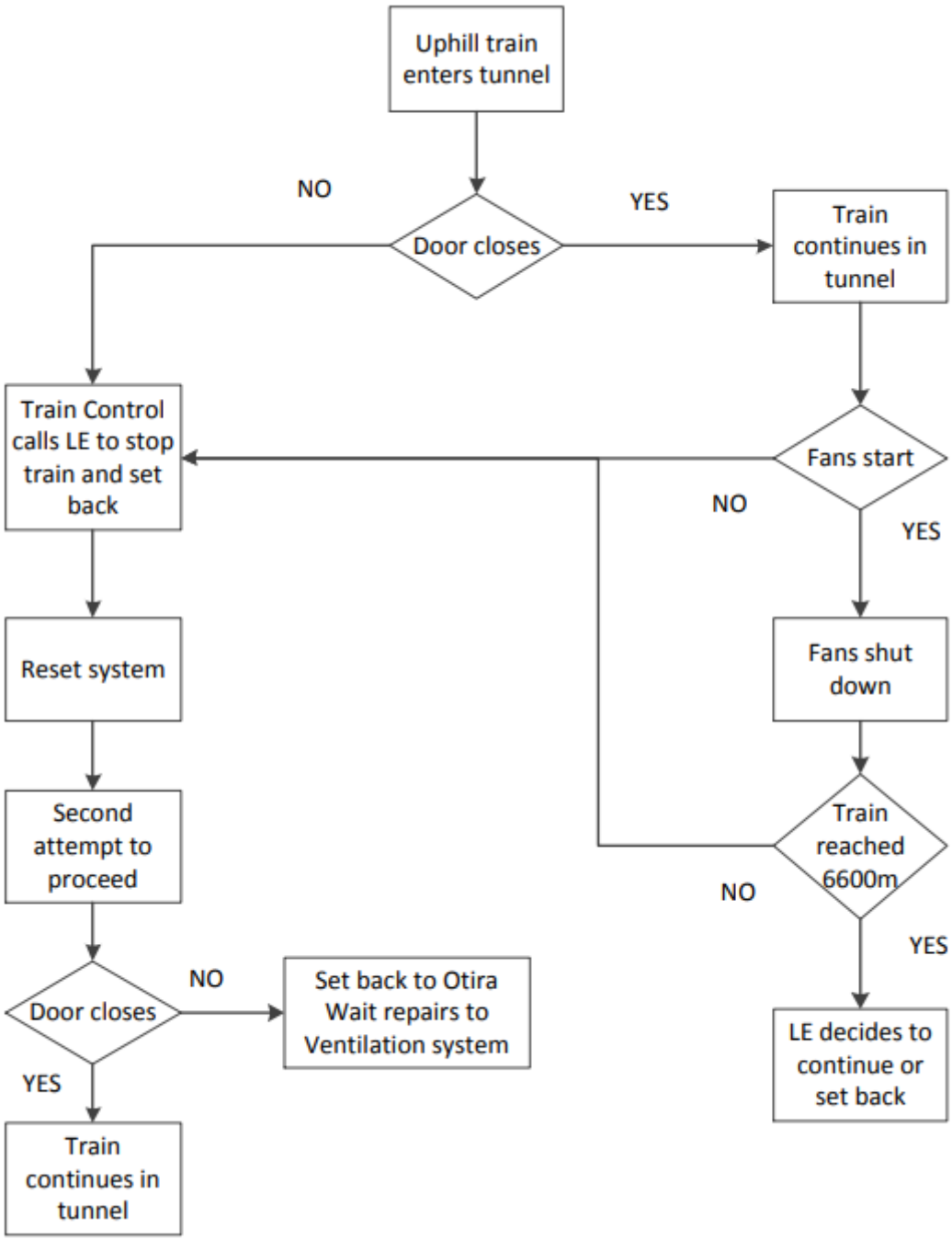
# Duty Card 9.1 Infrastructure

**Fire in Tunnel – HRV/MTMV**

1. Keep vehicles moving if possible and exit the tunnel
2. Advise the Train Controller (if no initial response use emergency call)
3. Use fire suppression systems on the vehicle
4. Use fire extinguishers located on the vehicle (if it is safe)
5. If exiting the tunnel:
    a. advise Train Control before putting SCSR on
    b. monitor:
        i. tunnel Gas levels
        ii. air movement in the tunnel and direction of the smoke.
    c. update the Train Controller at the portal.

 © KiwiRail

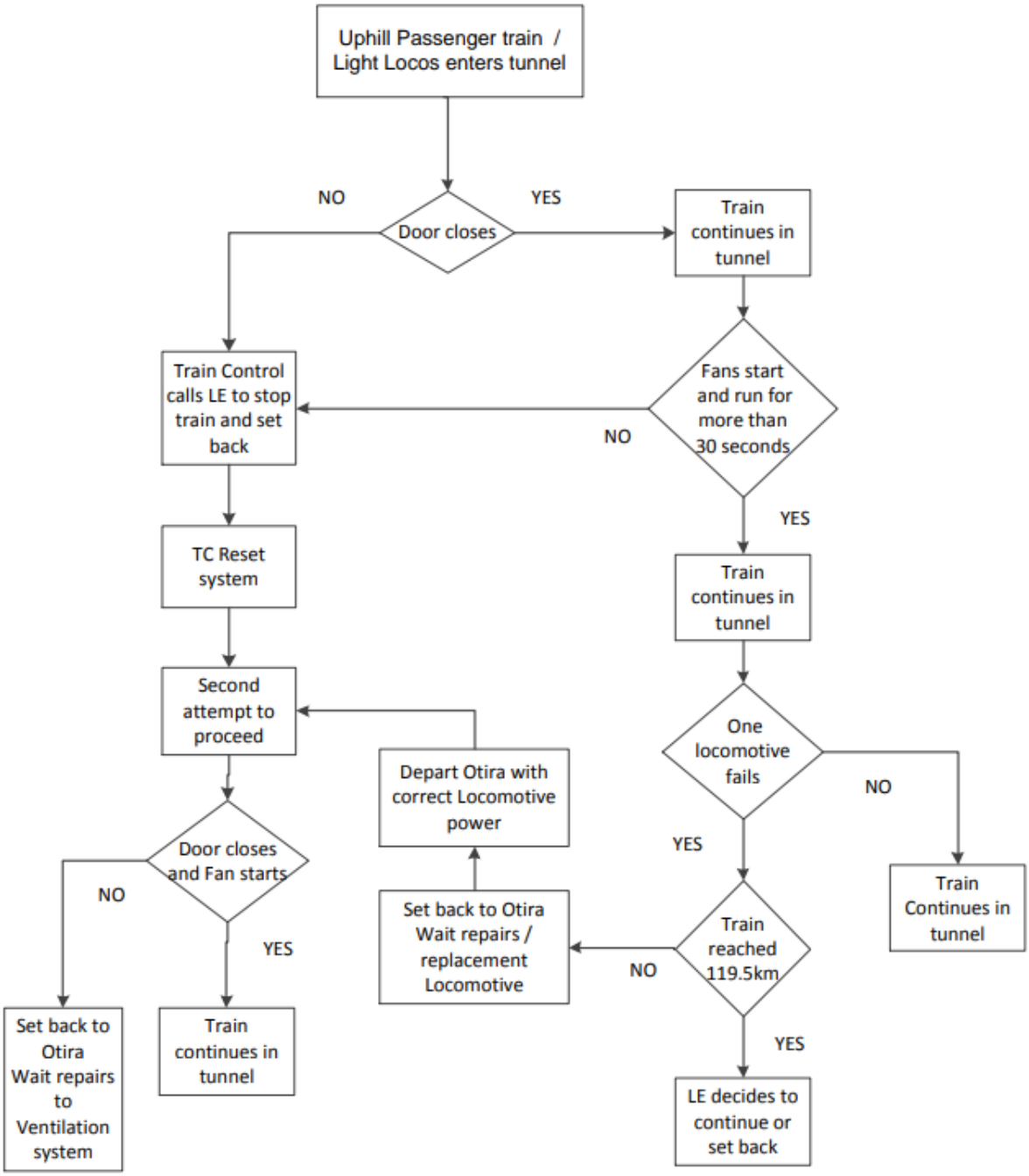
# 10. TARP 10F and 10P Tunnel Ventilation System



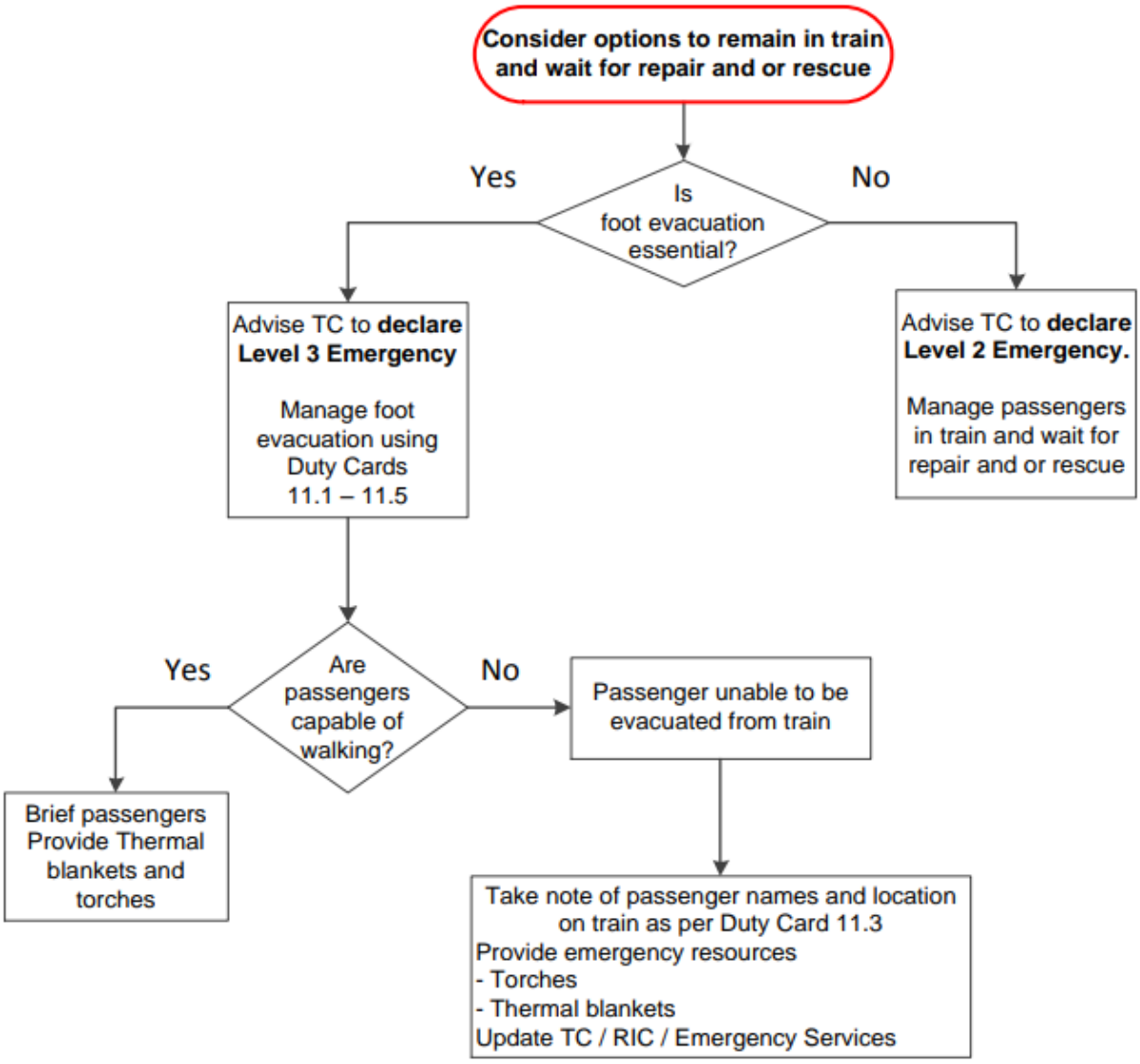


© KiwiRail

# 10.1 TARP 10P Tunnel Ventilation System



# 11. TARP 11 Passenger Evacuation On Foot




**CAUTION**
Evacuation should not occur unless necessary – the tunnel is extremely cold and wet and has uneven underfoot conditions.

## Duty Card 11.1 Locomotive Engineer

**Passenger Evacuation On Foot**

1. Advise the Train Controller
2. Shut down and secure locomotive
3. The Train Controller must be advised that the locomotive is secured

4. Consult with the Onboard Service Manager (OSM), Banker LE (BLE) and Passenger LE (PLE)
5. The BLE will advise on the direction of evacuation
6. Monitor tunnel gas levels (see Duty Card 2.1)
7. Take:
   a. gas monitor,
   b. torch
   c. portable radio
8. Evacuate and liaise with the OSM

# Duty Card 11.2 Banker Locomotive Engineer

**Passenger Evacuation On Foot**

1. Liaise with the Onboard Service Manager (OSM), LE and Passenger LE (PLE)
2. If required, exit the carriage to the rear locomotives (with PLE):
   a. don PP Saver, carry out a self-check
   b. take a gas monitor, torch and portable radio.
3. Confirm with the LE that you are leaving the carriages
4. Confirm arrival at the rear locomotives with the LE
5. If work (securing the train) in the tunnel is required, then BLE and PLE don CABA
6. The working BLE maintains communication with PLE
7. If required to secure the train externally, apply park brakes, handbrakes and chocks to AKL and AKV carriages
8. The BLE is to determine the direction of the evacuation route
9. Confirm the evacuation route with the OSM
10. Evacuate and liaise with the OSM.

# Duty Card 11.3 Passenger Locomotive Engineer

**Passenger Evacuation On Foot**

1. Liaise with the Onboard Service Manager (OSM), LE and Banker LE (BLE)
2. If required, exit the carriage to the rear locomotives (with BLE):
   a. don PP Saver, carry out a self-check
   b. take a gas monitor, torch and portable radio.
3. Confirm with the LE that you are leaving carriages
4. Confirm arrival at rear locomotives with the LE
5. If work (securing the train) in the tunnel is required, then the BLE and PLE don CABA
6. Establish RSL Board and maintain communication with the BLE and Train Controller
7. Maintain communications with the BLE
8. Confirm the direction of the evacuation route with the BLE
9. Evacuate and liaise with the OSM.

# Duty Card 11.4 Onboard Service Manager

**Passenger Evacuation On Foot**

If evacuation is required:

1. Communicate with the LE, Banker LE (BLE) and Passenger LE (PLE) to determine evacuation direction:
   a. monitor gas levels and determine a clear air route
   b. communicate the decision to evacuate with the Train Crew
2. Notify the Train Controller of the intention/direction to evacuate
3. Notify all Train Crew to inform passengers that crew instructions must be followed

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4. Identify disabled passengers and assist with their evacuation
5. Carry out a final check of carriages, toilets, viewing carriage and luggage van for any remaining persons
6. Accompany the last passengers from the train and advise Portal Controller that you have checked the train and if any persons unable to be moved from the train remain
7. Confirm the Train Crew and passenger status with Portal Controller
8. Confirm whether the train is clear or the location and status of disabled/incapacitated persons.

# Duty Card 11.5 Train Manager

**Passenger Evacuation On Foot**

1. Confirm with the Banker LE that the train is secure
2. Follow Onboard Service Manager (OSM) directions; the OSM will advise on directions for evacuation
3. Arrange the issue of thermal blankets and torches with the crew for passengers
4. Ensure communication with passengers is carried out with clear instructions
5. Ensure first aid requirements are administered
6. Ensure assistance is provided to:
   a. disabled passengers
   b. the evacuation of injured and disabled persons.
7. Accompany the OSM and the last passengers from the train.

# Duty Card 11.6 Train Attendant

**Passenger Evacuation On Foot**

- Follow the OSM's direction of evacuation instructions:
  - lead passengers, ensuring their safety
  - take a torch, first aid kit, portable radio and gas monitor
  - place light sticks between the rails to mark the walking route.
- Monitor gas levels:
  - if gas levels increase, ensure passengers return to the least affected part of the tunnel while you check to see if it is safe to proceed.
- Liaise with the Portal Controller (if present). If the Portal Controller is not present, then maintain the safety and control of all passengers.

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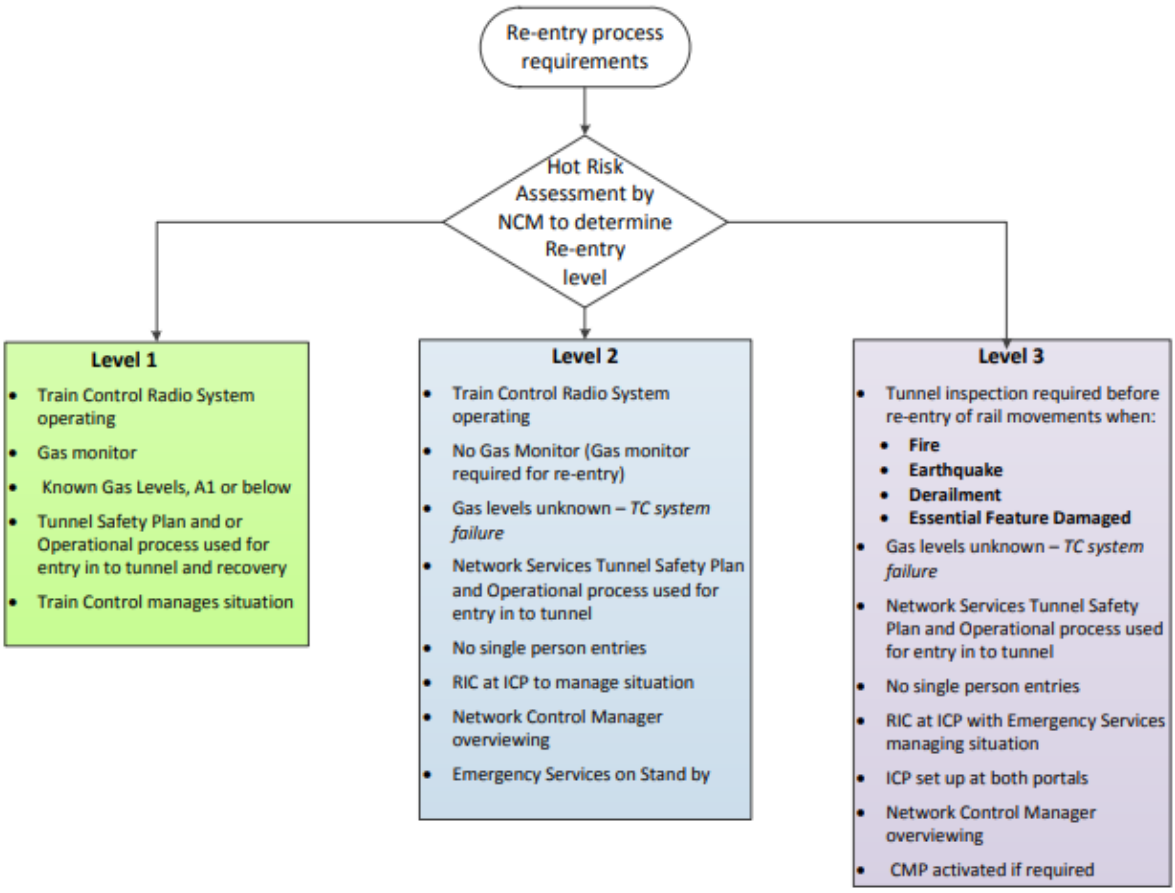
# 12. TARP 12 Re-entry Recovery




**IMPORTANT**

When Emergency Stations have been used, these are required to be replenished by HRV before locomotive re-entry.

When CABA has been used from the locomotives, these must be replenished by the Banker Locomotive Engineers at Arthur's Pass or Otira before re-entry.

## Duty Card 12.1 Network Control Manager

**Level 1 – KiwiRail Onsite Response**

KiwiRail personnel respond using standard operating procedures.

**Level 2 – Incident Management Team Response**

KiwiRail incident management resources mobilised with Infrastructure in attendance and Emergency Services.

**Level 3 – Crisis Management Plan Response**

External assistance and Crisis Management Plan activated.

- Infrastructure Gas TARP describes the re-entry process for gas alarms only
- Rail Incident Controllers appointed by the Network Control Manager, with support from Safety, Health and Wellbeing or Emergency Advisors
- Only Rail Personnel who are competent and trained in Tunnel Operations are to enter the tunnel for rail vehicle recovery and/or Infrastructure inspection purposes
- Level 3 – Additional risks will be managed by using the IMT using JSAs and Action Plans
- Communication Plan essential for entry into the tunnel
- The gradient of the tunnel must be factored into the re-entry process.

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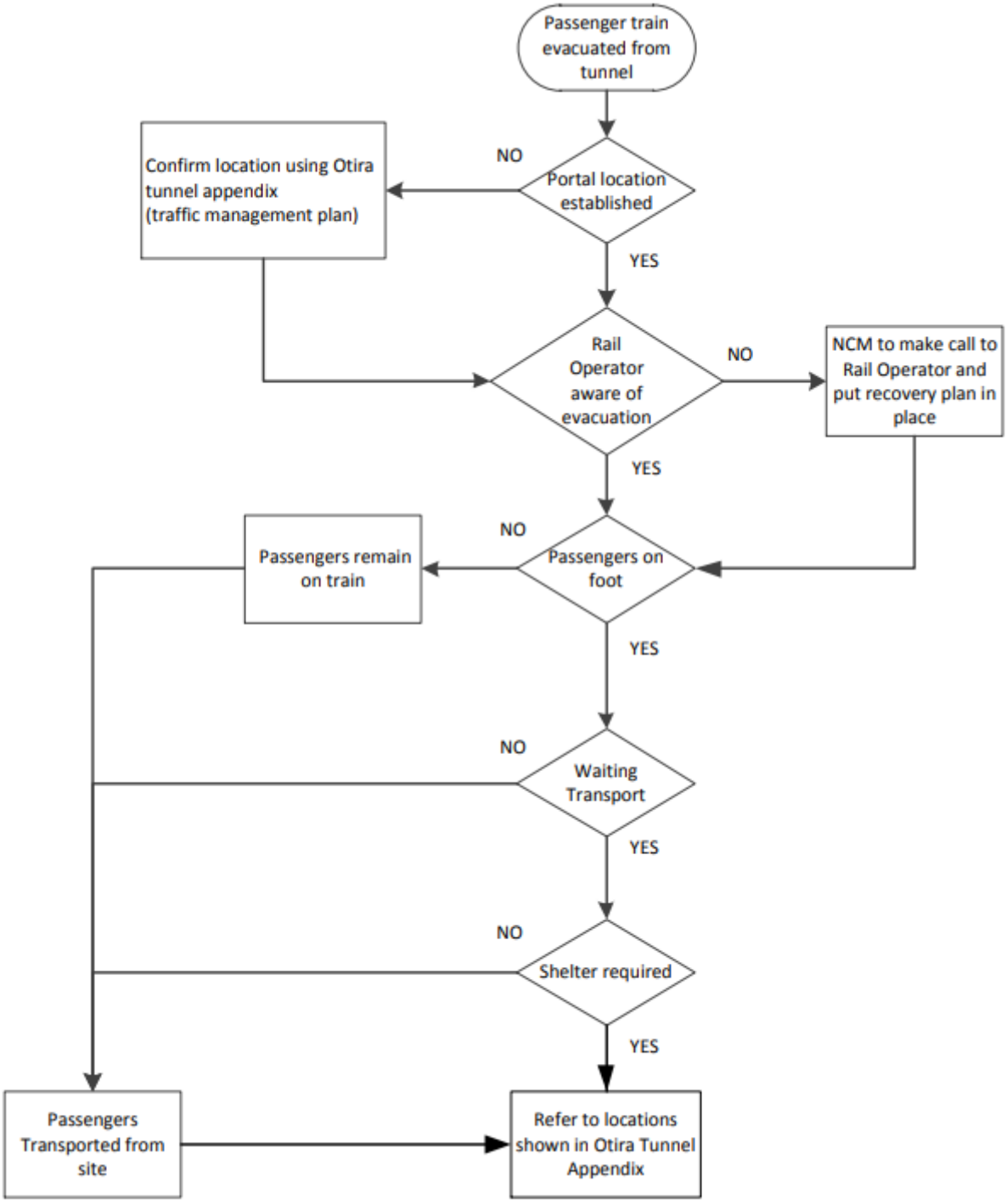
# 13. TARP 13 Passenger Support




## Duty Card 13.1 Network Control Manager

Once passengers are safe at the assembly locations, the Rail Operating Company is responsible for managing their welfare and arranging onward transportation. Onward transport from the assembly locations will be determined by the RIC after considering the following options:

- relief passenger train to the nearest station and/or thence to onward destinations

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- relief train with freight wagons to the nearest station (must be risk assessed) and thence to onward destinations
- bus transfer to the nearest station or onward destinations
- helicopter transfer to a ground transport location and thence to onward destinations
- the Western Portal is not suitable due to high voltage wires.

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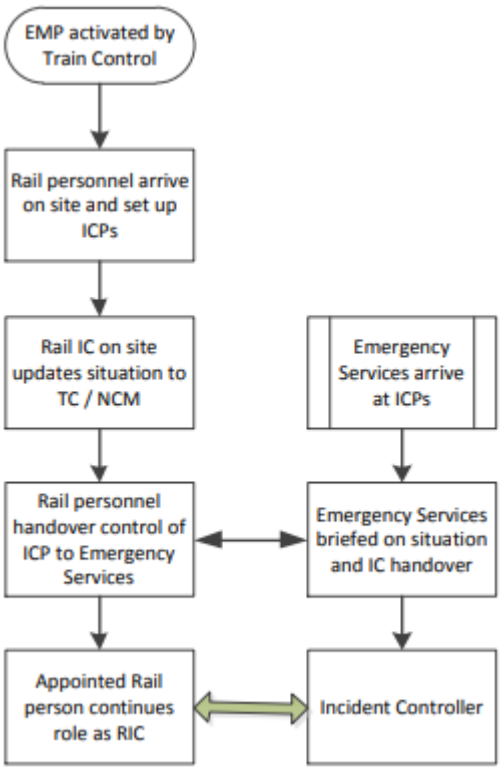
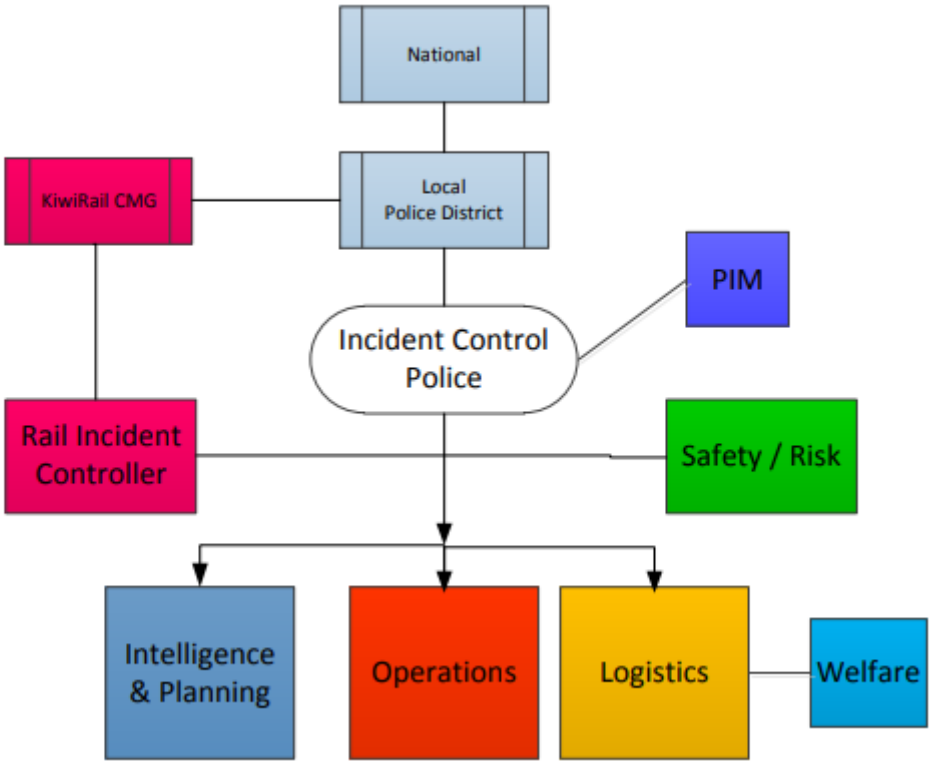
# 14. TARP 14 CIMS Model

**Incident Controller and Management Team Roles**

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# Duty Card 14.1 Rail Incident Controller

**KiwiRail Tunnel ICP activated**

The most qualified Rail Personnel onsite takes control until the appointed Rail Incident Controller (RIC) appointed by the NCM arrives.

RIC responsibilities:

1. Report to the NCM
2. Carry out the role of the Incident Controller (CIMS) until the arrival of Emergency Services Incident Controller
3. Handover to the Incident Controller
4. Check that external communication links are operational
5. Update the NCM on the status of the event
6. Identify hazards and assess the risks:
    a. Monitor air movement direction of smoke and gas levels in the tunnel
    b. Brief the Incident Controller on rail hazards
    c. Monitor and manage rail personnel fume exposures.
    d. Develop an Incident Rail Recovery Plan
    e. Communicate controls and actions
7. Liaise with emergency services and the NCM, confirm the controlling authority onsite and preserve evidence
8. Mobilise resources as necessary, including:
    a. Alternative transport for passengers
    b. Welfare and support for passengers and rail personnel (food, drink, shelter, toilets)
9. Contact the NCM for confirmation of arrangements for passenger transport after exiting the tunnel
10. Confirm with the Incident Controller that all Rail Personnel are accounted for.

# Duty Card 14.2 Incident Controller (CIMS)

**KiwiRail Tunnel ICP Activated**

The most qualified Rail Personnel onsite takes control until the Emergency Services Incident Controller arrives.

1. Appoint CIMS managers and other IMT member's roles, as required using ICP folders
2. Ensure available labelled vests are utilised and that all roles and communications are logged
3. Check external communication links operational
4. Brief the IMT on the status of the event
5. Identify hazards and assess the risks
6. Develop an Incident Action Plan and define objectives
7. Communicate controls and actions
8. Hold and chair regular IMT meetings, and provide situation reports
9. Liaise with emergency services and the Rail Incident Controller and confirm the controlling authority on site
10. Direct emergency response on site and preserve evidence
11. Mobilise resources as necessary, including:
    a. alternative transport for passengers
    b. welfare and support for passengers and emergency response personnel (food, drink, shelter, toilets).
12. Consider setting up:
    a. safe forward points (SFP)
    b. assembly area (AA)
    c. staging area (SA).

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13. Ensure all personnel are accounted for.

# Duty Card 14.3 Operations (CIMS)

**KiwiRail Tunnel ICP Activated**

1. Report to the Incident Controller
2. Obtain a briefing from the Incident Controller
3. Assist with developing, reviewing and implementing the Incident Action Plan
4. Assist with developing and reviewing all risk assessments
5. Request and utilise personnel, equipment, and other resources
6. Attend all IMT meetings
7. Maintain a log of all actions and communications.

# Duty Card 14.4 Logistics (CIMS)

**KiwiRail Tunnel ICP activated**

1. Report to the Incident Controller
2. Obtain a briefing from the Incident Controller
3. Provision to support the Incident Management Team (IMT):
    a. facilities
    b. relief personnel
    c. welfare (food, sanitation, accommodation).
4. Provision to support the Incident Action Plan:
    a. resources
    b. specialist equipment and personnel.
5. Consider the following:
    a. medical
    b. communications
    c. transport.
6. Attend all IMT meetings
7. Maintain a log of all actions and communications.

# Duty Card 14.5 Planning/Intelligence (CIMS)

**KiwiRail Tunnel ICP Activated**

1. Report to the Incident Controller
2. Obtain a briefing from the Incident Controller
3. Develop an Incident Action Plan (IAP)
4. Carry out a Risk Assessment against the IAP
5. Identify key objectives and timelines
6. Consider developing multiple response strategies
7. Utilise any specialist advice (e.g., Mines Rescue)
8. Request any specialist resources, e.g.,:
    a. victim support (Police)
    b. local facilities (hotels, motels, halls)
    c. government agencies
9. Attend all IMT meetings
10. Maintain a log of all actions and communications.

# Duty Card 14.6 Administration (CIMS)

**KiwiRail Tunnel ICP Activated**

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1. Report to the Incident Controller
2. Obtain a briefing from the Incident Controller
3. Record all roles and responsibilities
4. Record all Incident Management Team meetings, including all decisions made, allocated tasking and timeframes
5. Maintain a communications log
6. Retain all Incident Action Plans
7. Retain all risk assessments
8. Retain all situation reports
9. Attend all IMT meetings.

## Duty Card 14.7 Portal Controller (x2 – Both Portals)

**Tunnel ICP Activated**

1. Equipment check:
   a. hi-vis vest
   b. torch
   c. portable UHF radio
   d. road cones and barrier tape (if available)
   e. tally counter for counting passengers
2. Proceed to the portal or Safe Forward Point
3. Confirm radio contact with the Incident Controller and seek information on passenger numbers
4. Control entrance to the portal
5. Advise the RIC of air movement, and the direction of smoke in the tunnel – supply regular updates
6. Record people emerging and exiting the tunnel portal and advise the Incident Controller
7. Hand over passengers exiting the portal to the Passenger Escort
8. Advise numbers to the Incident Controller and details of persons remaining on the train
9. Standby at the portal
10. Observe conditions at the portal (e.g., fumes, smoke) and advise the Incident Controller of any changes.

## Duty Card 14.8 Passenger Escort (x2 – Both Portals)

**Tunnel ICP Activated**

1. Equipment check:
   a. hi-vis vest
   b. torch
   c. UHF radio
   d. notebook and pen
   e. first aid kit
2. Report to the Portal Controller
3. Escort passengers to the assembly area and ensure they remain there until directed otherwise or alternative transport is provided.
4. Provide shelter, if required (see Otira Tunnel Appendix)
5. Record passenger names and contact detail
6. Escort passengers to the Triage Area for first aid and medical attention, if necessary
7. Attend to the safety and welfare of the passengers.

## Duty Card 14.9 Traffic Marshall (x2 – Both ICPs)

**Tunnel ICP Activated**

1. Equipment check:

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   a. hi-vis vest
   b. torch
   c. portable UHF radio
   d. road cones and barrier tape (if available)
2. Report to the Incident Controller
3. Direct authorised vehicles to allocated locations
4. Advise non-essential and unauthorised vehicles to leave the area
5. Update the Incident Controller

# Duty Card 14.10 Safety Officer

**Tunnel ICP Activated**

1. Equipment check:
   a. hi-vis vest
   b. torch
   c. portable UHF radio
2. Report to the Incident Controller, identifying and responding to:
   a. hazards, and report on safety during an emergency incident
   b. hazards to personnel
   c. health and welfare issues of personnel during an emergency incident
   d. actions required to be taken to deal with situations posing a risk of harm or injury
3. Update the Incident Controller on actions taken.

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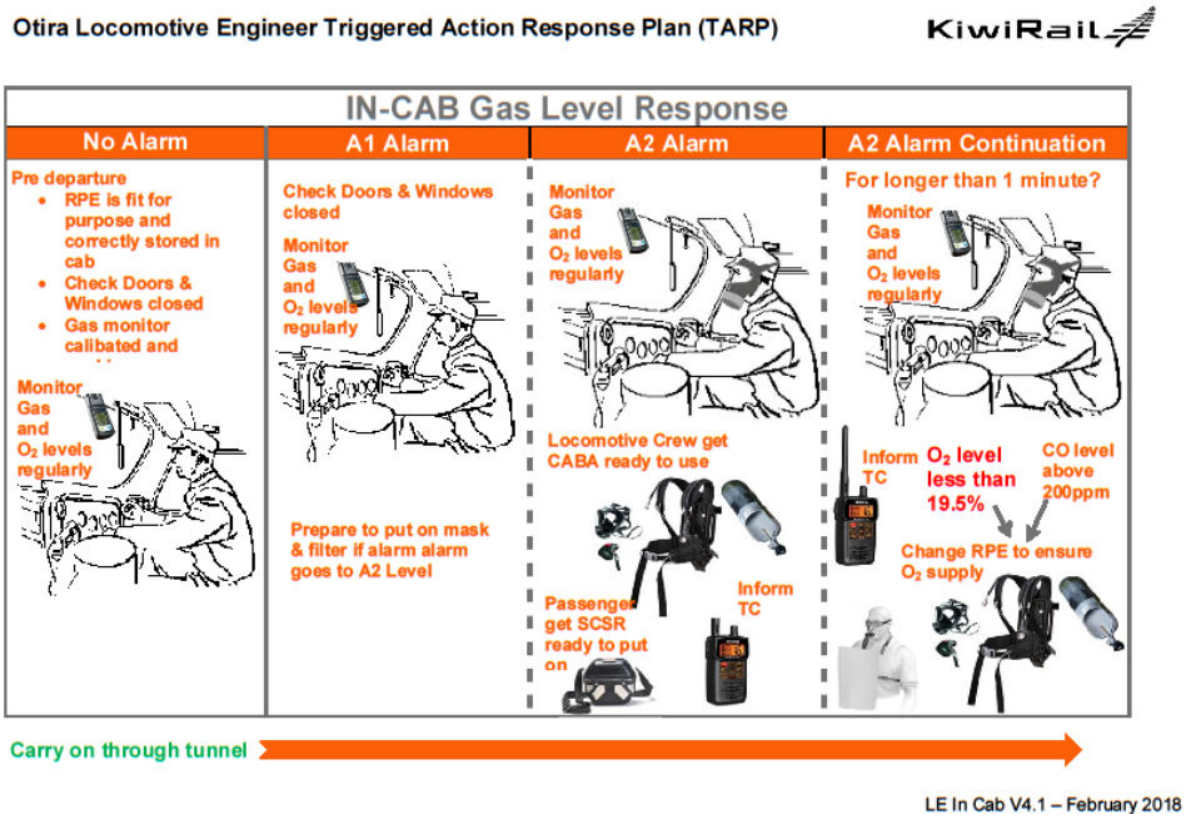
# 15. Gas Tarps

## 15.1 Locomotive Engineer

### 15.1.1 In Cab Gas Level Response



## 15.1.2 Out of Cab Gas Level Response

**Otira Tunnel Locomotive Engineer Triggered Action Response Plan**

KiwiRail

**OUT-OF-Cab Gas Level Response**

| No Alarm | A1 Alarm | A2 Alarm | A2 Alarm Continuation |
|---|---|---|---|
| Check Doors, Vents & Windows closed before leaving cab<br> Monitor Gas & 02 levels outside of cab before exiting<br>PP Saver, Mask & filter, SCSR or CABA must be donned and checked before exiting the cab<br>Using your Gas monitor to determine RPE requirements to be used;<br>• Not Required<br>• PP Saver or SCSR<br>• Mask & Filter or CABA<br>When CABA is being used, LE2 or PLE or TC, must keep the RSL board up to date. | Monitor Gas & O2 level regularly<br> <br>Monitor Gas & O2 level regularly, Use required RPE; Mask & filter, PP Saver, SCSR or CABA<br>Using your Gas monitor to determine RPE requirements to be used if alarm goes to A2 Level<br>When CABA is being used, LE2 or PLE or TC, must keep the RSL board up to date. | Monitor Gas & O2 level regularly<br>O2 level 19.5 or higher ✓<br>Use required RPE; Mask & filter, PP Saver, SCSR or CABA<br> <br>Using your Gas monitor to determine RPE requirements to be used if alarm goes to A2 Alarm Continuation<br>When CABA is being used, LE2 or PLE or TC, must keep the RSL board up to date. | O2 level less than 19.5% / CO level above 200ppm<br>For longer than 1 minute?<br> Inform TC<br>Change to CABA<br> <br>**SCSR for escape only**<br>When CABA is being used, LE2 or PLE or TC, must keep the RSL board up to date.<br>CABA is available at Emergency Stations in tunnel |
| TASKS | TASKS ✓ | TASKS ✓ | TASKS ✓ |

LE Out of Cab V5.0 – June 2018

# 15.2 Infrastructure

Infrastructure use

**Triggered Action Response Plan (TARP) – Gas Alarm Response**

| Level or response | A1 Alarm | A2 Alarm | Alarm 2 -Continuation |
|---|---|---|---|
| **Triggers** | **(TWA) LEVEL 1**<br>**1st Alarm sounds**<br>25ppm CO<br>3ppm $NO_2$<br>10ppm $H_2S$<br>5% LEL% | **(STEL) LEVEL 2**<br>**2nd Alarm sounds**<br>50ppm CO<br>5ppm $NO_2$<br>15ppm $H_2S$<br>19.5% $O_2$<br>10% LEL% | **LEVEL 3**<br>**Continuation of Alarm 2**<br>>200ppm CO<br>>5ppm $NO_2$<br>>15ppm $H_2S$<br><19% $O_2$<br>>20% LEL% |
| **Actions** | • Sample gas monitor reading around emission source and rest of work site.<br>• Advise Works Supervisor.<br>• Attempt to lower gas level below TWA by shutting down and/or re-arranging plant.<br>• If gas level can't be reduced below TWA within 15 minutes, withdraw to pre-determined safe assembly point /fresh air.<br>**Re-entry:**<br>• Remain in clean air for at least 15 minutes.<br>• Works supervisor and one other person re-enter the tunnel work site to evaluate levels of gas. (Must have SCSR ready to put on).<br>• If gas level below TWA then work can re-start.<br>**Options if tunnel fan and/or door fitted:**<br>• Reposition fans or adjust speed of fan.<br>• Check if the door is closed and the fan working.<br>• Check the wind direction is not working against the fan, if it is turn the fan off and open the curtain. | • Shut down equipment, if you can do so safely.<br>• Advise Works Supervisor.<br>• Withdraw to pre-determined safe assembly point / fresh air.<br>**Re-entry:**<br>1st STEL and 2nd STEL<br>• Remain in clean air for at least 15 minutes.<br>• Complete STAR / JSA.<br>• Works supervisor and one other person re-enter the work site to evaluate levels of gas. (Must have SCSR ready to put on).<br>• If gas level below TWA then work can re-start.<br>3rd STEL<br>• No return to tunnel work for at least 12 hours. | • Shut down equipment, if you can do so safely.<br>• Advise Works Supervisor.<br>• Withdraw to pre-determined safe assembly point / fresh air.<br>• Check airflow is in same direction as at start of shift<br>**Evacuation:**<br>• Evacuate the tunnel<br>• If the level of gas remains above Continuation of Alarm 2 for more than 1 minute during evacuation, don SCSR<br>• Via radio, or as per communications plan, state calmly:<br>**"Evacuate, Evacuate, Evacuate"**<br>• If fitted, activate emergency warning alarm.<br>**Re-entry:**<br>• No return to tunnel work for at least 12 hours |

March 2017

**Draeger X-am 5000 Quick Guide**

KiwiRail

Dräger

Dräger X-am® 5000 - Quick User Guide

To turn instrument ON

Press the OK button for approx. 3 seconds. (Countdown 3, 2, 1)

To turn instrument OFF

Press and hold the + and OK buttons simultaneously for approx. 3 seconds. (Countdown 3, 2, 1)

To perform a fresh air calibration

Wait until the [!] symbol disappears. (Takes about 4 minutes after instrument is turned on)

Press + 3 times

Icon will appear to the right of the screen

Press OK to start fresh air calibration. Sensor readings will flash indicating fresh air cal in progress

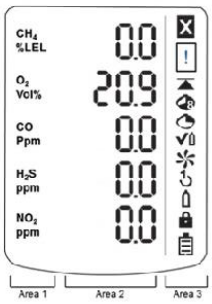
Press OK again when sensor readings are stable (OK will be displayed. Instrument will return to normal measuring mode after 1 minute, or press + to return immediately

Check Peak Levels

Press and hold OK for 2 seconds. Peak readings are displayed. Instrument will return to normal measuring mode after 3 seconds

Dräger

Special symbols in measuring mode




Area 1

Chemical symbols for the measured gases and Measuring unit.

Area 2

Value is above measuring range

209 Numerical gas concentration

Value is below measuring range

Measuring channel or instrument fault

Area 3

Instrument fault
Notice or warning
Fresh air cal
Peak hold
TWA 8 hours
STEL 15 mins
One button calibration
Calibrate each sensor
Password protected menus
Battery

| In Display | Signal Tone & Red Alarm Lamp | Alarm Type | Acknowledge the Signal Tone |
|---|---|---|---|
| "A1" Alternating with gas concentration | | Concentration – pre-alarm | Press OK |
| "A1 or A2" Alternating with gas concentration | | Only for O2: Concentration – main alarm | Not possible |
| "A2" Alternating with gas concentration | | Concentration – main alarm | Not possible |
| "STEL" Alternating with gas concentration | | Exposure alarm STEL | Not possible |
| "TWA" Alternating with gas concentration | | Exposure alarm TWA | Not possible |
| Battery Symbol | | Battery pre-alarm | Press OK |
| Battery Symbol | | Battery main alarm: Switches off automatically after about 2 minutes | Press OK |
| Error Symbol | | Fault | Press OK |

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