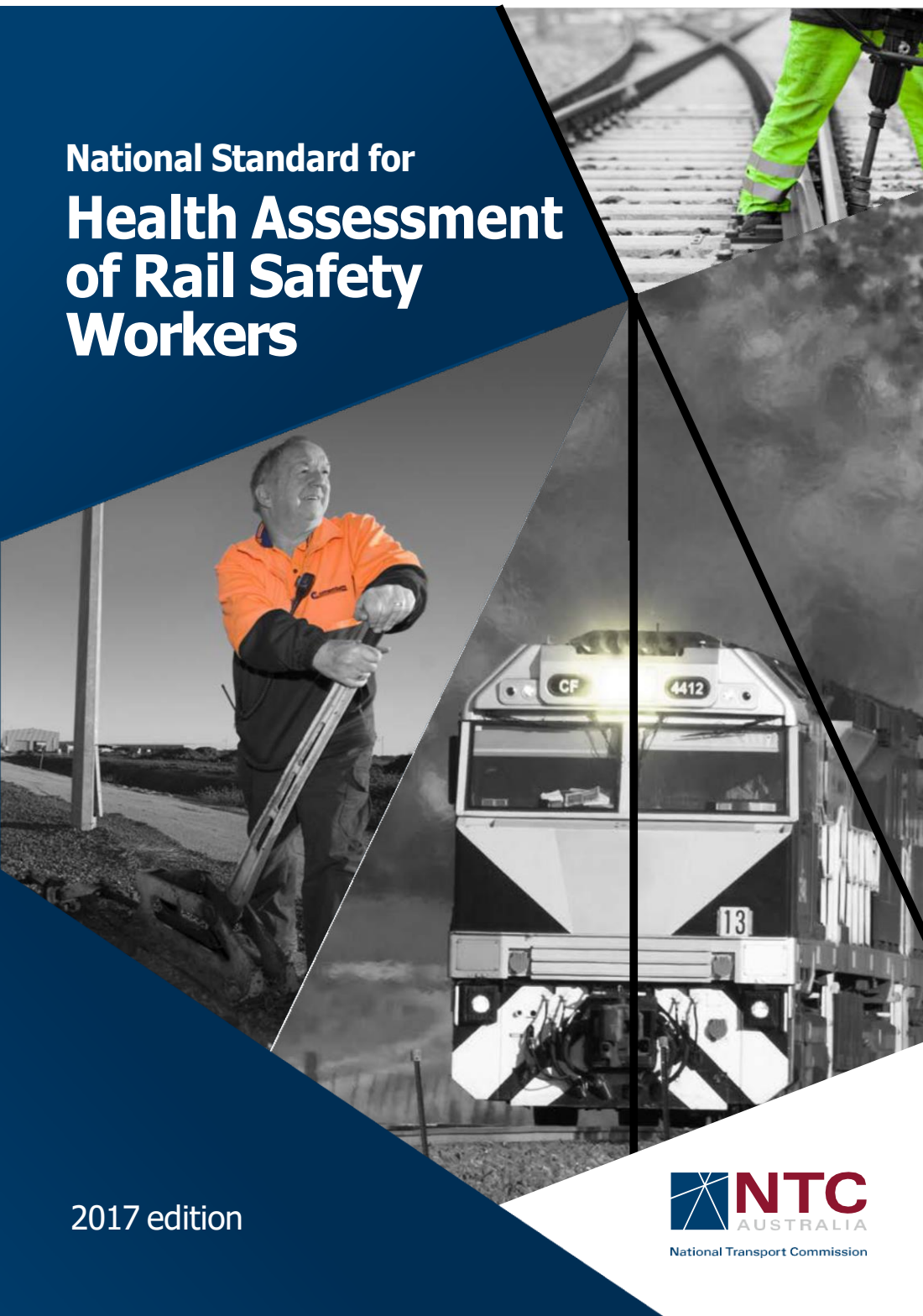


# National Standard for Health Assessment of Rail Safety Workers



2017 edition

When analysing the risk to ATP and classifying the tasks into Categories 3 or 4, the features of a Controlled Environment need to be carefully considered regarding their adequacy. If workers may move between Controlled and Uncontrolled Environments, then the higher level of risk assessment should be applied. Irregular visitors to the track, such as office workers, are not generally classified as ATP. When they do visit the track, their safety should be ensured by other means—for example, by escort. Further information about assessing Controlled and Uncontrolled Environments is included in Section 6.5. Step 5: Analyse and categorise tasks.

Note that workers who access the track receive track safety awareness training on a regular basis, which is another key aspect of their ability to protect their own safety and that of fellow workers.

## 5.2. Health assessments matched to risk categories

A rail safety worker should receive the level of health assessment commensurate with their rail safety work risk category. These are briefly described in the following sections. The assessment procedures and medical criteria applicable to each of the Categories 1, 2 and 3 are outlined in detail in Parts 3, 4 and 5.

### 5.2.1. Safety Critical Worker Health Assessments (Categories 1 and 2)

The health assessment for Safety Critical Workers aims to detect conditions that may impact on their vigilance and attentiveness to their work. These include, for example, cardiovascular disease, diabetes, epilepsy, various other neurological conditions, sleep disorders, alcohol and drug dependence, psychiatric disorders and visual problems. The assessment comprises a health questionnaire and clinical examination.

#### Health Questionnaire

This self-administered questionnaire collects a general history and helps identify specific conditions that might affect rail safety task performance, including:

- sleep disorders (Epworth Sleepiness Scale)
- alcohol dependency (AUDIT Questionnaire)
- psychological problems (K10 Questionnaire).

The questionnaire is not diagnostic and no decision can be made regarding fitness for duty until the clinical examination is completed.

#### Clinical examination

The clinical examination assesses the key body systems to identify conditions that might affect rail safety task performance as described above, including cardiovascular, neurological, psychological, musculoskeletal and visual systems, and may require referral for further tests or opinion.

#### Additional assessment requirements for Category 1 workers

In addition to the requirements above, a Category 1 worker must have a cardiac risk level assessment to identify their risk of cardiovascular disease and collapse from heart attack, stroke and so on. The assessment requires pathology tests to be conducted including:

- HbA1c (~~fasting or~~ non-fasting)
- ~~fasting serum~~ Cholesterol (~~fasting is not required~~) (total and high-density lipoprotein).

The cardiac risk-level tool combines these pathology test results with other risk factors such as age, cigarette smoking and blood pressure to enable determination of the probability of a cardiovascular event, such as heart attack or stroke, in the next 5 years.

Category 1 rail safety workers are also required to have a resting electrocardiograph in order to detect arrhythmias. This is not required routinely for Category 2 workers.

The clinical examination also focuses on the identification of other health conditions that might result in sudden incapacity or collapse, including hypoglycaemia, epilepsy and transient ischaemic attacks.

## 8.4. Worker identification

The rail transport operator should establish systems to ensure proof of identity for the rail safety worker for the purposes of the health assessments, including pathology testing.

National Rail Safety Legislation requires that these include a photo identification (ID). The systems may include a record of the currency of health assessment and review requirements.

## 8.5. Communication with workers

The rail transport operator should establish communication mechanisms to alert workers about health assessment requirements, including alerts to management and workers if systems are breached.

### 8.5.1. Before the assessment

The worker should receive adequate notice of the due date for their health assessment and the consequences of not presenting for the assessment in that time frame. In line with privacy principles and the general requirements of the assessment, the notification will include advice on:

- the purpose of the assessment;
- who will conduct the assessment;
- who will receive the assessment report;
- the worker's responsibility to provide accurate information;
- the requirement to:
  - take photo ID to the appointment and to any other tests;
  - take glasses, hearing aids or other aids to the appointment;
  - the requirement to attend audiometry testing;
  - the requirement to complete a health questionnaire before attending the appointment; and
  - the requirement to take current medication (or a list of it) to the health assessment appointment (including prescription, over-the-counter and alternative medicines).
- for Category 1 Safety Critical Workers, the requirement to attend pathology tests before the health assessment for an electrocardiograph (ECG) test, serum cholesterol (~~fasting is not required~~) (total and high-density lipoprotein [HDL]) and blood HbA1c. ~~The worker should be instructed to fast before pathology tests, if appropriate.~~

### 8.5.2. After the assessment

After receiving the health assessment report form, if the worker has been assessed as anything other than Fit for Duty Unconditional the employer should discuss with the worker any implications for their work, and the policies or arrangements to be applied.

A record of such arrangements should be kept on the database, together with the health assessment result and any requirements for review assessments.

The worker should be provided with a copy of the assessment report by the Authorised Health Professional (refer Section 8.3.1. Request and Report Form).

# 3 Procedures for conducting health assessments

This Part outlines the administrative, clinical and reporting procedures that should be followed by the Authorised Health Professional in conducting health assessments for rail safety workers. The procedures are summarised in Figure 15.

**The procedures apply to examinations conducted for pre-employment or general periodic assessments. Depending on the circumstances, a triggered assessment may require a full examination as per these procedures or may focus on a particular body system or presenting issue and thus the nature and extent of the assessment will be individually determined. This should be advised by the Authorised Health Professional (refer Section 5.3.3. Triggered health assessments).**

## 10. Appointment, documentation and requests for tests

An appointment for an assessment can be made either by the employer or the worker. Before the appointment, the employer will forward the relevant forms and documentation to the health professional (also refer to sections 8.3. Health assessment forms and 24. Model forms). This will include:

- **Health Assessment Request and Report Form**, which will indicate the nature of the worker's job and the level (e.g. Category 1, Category 2, Category 3) and type (e.g. preplacement, periodic) of health assessment required. This form will also identify task-specific requirements for hearing, colour vision and musculoskeletal capacity. It will also indicate the nature of tests required.
- **Health Assessment Record for Health Professional**, which guides the clinical examination and provides a convenient standardised template for recording a general assessment of fitness for rail safety duty.

The health professional should not conduct the assessment without the appropriate forms.

Supporting documentation will include a copy of the report from the previous health assessment, as well as additional documentation as relevant, such as:

- summary reports of sick leave and workers compensation claims
- notifiable incident history
- indication of a positive alcohol or drug test, or self-declaration.

Workers should also bring to the assessment:

- the completed Health Questionnaire
- all medications they are currently taking (or a list of them)
- corrective lenses if usually worn
- hearing aids if usually worn at work
- copies of any medical reports or test results that are available or that have been requested by the Authorised Health Professional
- photo identification (ID).

Category 1 Safety Critical Workers will require a resting electrocardiograph (ECG) and blood test (non-fasting lipids and HbA1c) before the appointment. These should be completed in advance and the results forwarded directly to the Authorised Health Professional. If the results are not available, the worker can be issued with a preliminary assessment of fitness or otherwise for duty, based on the clinical examination and other aspects of the assessment.

#### 12.2.4. Cardiovascular

The cardiovascular examination should include:

- blood pressure—this may be taken sitting or supine (if blood pressure is  $\geq 150/95$  it should be repeated after 15 minutes supine). Note blood pressure is also a consideration in the assessment of risk of sleep disorders (refer Section 12.2.6. Biometrics / sleep);
- pulse rate;
- heart sounds;
- cardiac risk level (Category 1 workers only). Note worker's age, whether they are a smoker, blood pressure, ~~fasting~~ cholesterol (~~fasting is not required~~) (total and high-density lipoprotein) and whether diabetic (see below). For scoring, refer to Section 18.2. Cardiovascular conditions.
- resting ECG (routinely for Category 1 workers and as clinically indicated for Category 2 workers).

#### 12.2.5. Diabetes

For Category 1 Safety Critical Workers, diabetes may be diagnosed on history or on HbA1c testing: <sup>7</sup> HbA1c may be tested on ~~non-fasting~~ ~~or random~~ blood.

If the initial HbA1c is 48 mmol/mol (6.5%) or greater but less than 53 mmol/mol (7%) a repeat (confirmatory) test should be arranged (refer to Section 12.3.3. Diabetes).

Any condition that leads to a shortened red cell survival time can interfere with the HbA1c assay. This includes the haemoglobinopathies, therapeutic venesection, anaemia, haemolysis, recent transfusion, and chronic renal failure. In this situation fasting blood glucose should be used with oral glucose tolerance test as required.

For Category 2 Safety Critical Workers, diagnosis of diabetes is by self-report via the Health Questionnaire.

For those with established diabetes, HbA1c should be taken into account regarding assessment of satisfactory control (refer to Section 18.3. Diabetes).

#### 12.2.6. Biometrics / sleep

Height and weight should be measured to calculate body mass index (BMI) as part of the sleep disorder assessment (refer to BMI nomogram in Section 18.6. Sleep disorders). Blood pressure and diabetes are also considered in assessing the risk of sleep disorders.

#### 12.2.7. Substance misuse

Drug and alcohol screening should not be included routinely as part of a periodic health assessment (refer to Section 18.7. Substance misuse and dependence). However it may be included at pre-employment according to the rail transport operator's policy.

<sup>7</sup> d'Emden M. Glycated haemoglobin for the diagnosis of diabetes Australian Prescriber 2014;37:98-100

### Cardiac risk level for Category 1 Safety Critical Workers

The health assessment for Category 1 Safety Critical Workers incorporates the cardiac risk level as a tool for predicting risk of a cardiovascular event, and in particular heart attack, during a 5 year period. It considerably increases the power of the assessment to identify workers at risk of sudden incapacity and to guide their management.

The Australian absolute cardiovascular disease web-based calculator should be used to calculate risk so as to ensure uniformity <http://www.cvdcheck.org.au/>. Where the online calculator is not available, the tables in Figure 17 may also be used. (<https://heartfoundation.org.au/images/uploads/publications/aust-cardiovascular-risk-charts.pdf>)

#### 1. Data collection

Obtain the following information for the cardiac risk level calculator:

- age and sex;
- whether or not the patient smokes cigarettes;
- blood pressure as measured supine;
- TC:HDL ratio - calculated based on ~~fasting blood for~~ total cholesterol (~~fasting is not required~~) (TC) and high-density lipoprotein (HDL); and
- whether diabetic (a worker is diabetic if under treatment for diabetes or if diabetes confirmed on HbA1c testing - refer Section 12.2.4. Cardiovascular.)

#### 2. Determine risk level

Within the chart, the cell nearest to the person's age, systolic blood pressure and total cholesterol:HDL ratio should be used. Workers who fall exactly on a threshold between cells should be placed in the cell indicating a higher risk. For example, workers less than 35 years old should be managed as if they are 35 years old.

#### 3. Stratification and risk management

The cardiac risk level is associated with a probability of a cardiovascular event in the next 5 years. The higher the cardiac risk level, the higher the probability of an event. Therefore, management of workers is determined partly by their risk level and partly by their overall cardiac risk assessment.

- **Probability  $\geq$  25% in 5 years (red and orange cells).** The worker is unfit for Category 1 work. They should be referred for a stress electrocardiograph (ECG) and classed as Temporarily Unfit for Duty pending results and appropriate management.
- **Probability 10–24% in 5 years (light orange, yellow and blue cells).** The worker is referred for a stress ECG. While awaiting results of the ECG, the worker may be assessed as Fit for Duty Subject to Review or Temporarily Unfit for Duty, depending on the overall cardiac risk assessment.
- **Probability 5–9% in 5 years (dark green cells).** The worker is assessed for specific risk factors and overall cardiac risk including obesity, physical activity and family history. The worker may be managed by referral to their general practitioner for risk factor modification, a stress ECG and/or other tests as clinically appropriate. While awaiting results of further investigations, the worker may be classed as Fit for Duty Subject to Review or Temporarily Unfit for Duty, depending on the overall assessment.
- **Probability < 5% in 5 years (light green cells).** The worker is assessed regarding overall cardiac risk assessment and managed accordingly including referral to their general practitioner as required. They may be classed as Fit for Duty or Fit for Duty Subject to Review, depending on the overall assessment.

### Screening for diabetes

For Category 1 Safety Critical Workers, diabetes may be diagnosed on history or on HbA1c testing\* on ~~non-fasting or random~~ blood<sup>11</sup>.

- If HbA1c is equal to or greater than 53 mmol/mol (7%) regard as diabetic.
- If HbA1c is 48 mmol/mol (6.5%) or greater but less than 53 mmol/mol (7%) arrange a repeat (confirmatory) test.
  - If the repeat (confirmatory) HbA1c is 48 mmol/mol (6.5%) or greater, diagnosis of diabetes is confirmed.
  - If the repeat test is not raised, regard as non-diabetic and review as per normal periodic schedule.
- If the initial test is less than 48 mmol/mol (6.5%), regard as non-diabetic and review as per normal periodic schedule.

\*Note: any condition that leads to a shortened red cell survival time can interfere with the HbA1c assay. This includes the haemoglobinopathies, therapeutic venesection, anaemia, haemolysis, recent transfusion, and chronic renal failure. In this situation fasting blood glucose should be used with oral glucose tolerance testing as required.

For Category 2 Safety Critical Workers, diagnosis of diabetes is by self-report via the Health Questionnaire.

### Satisfactory control of diabetes

When assessing if Safety Critical Workers with diabetes are fit to perform Safety Critical Work:

- individualised assessment of control is important;
- HbA1c is a reasonable indicator of control, however the general goal of HbA1c of < 7.0% may not be applicable or safe for Safety Critical Workers, due to increased risk of hypoglycaemia associated with tight control. If the HbA1c is 9.0% or higher, the Authorised Health Professional should usually refer the person to their treating specialist for review of their diabetes management.
- For people on insulin treatment, blood glucose monitoring and other related records should be reviewed. The worker should keep a diary of blood glucose levels, taking rosters into account, as agreed with the examining doctor. This is partly so the worker knows they are safe for work and partly so that control of their diabetes can be readily checked at their review. In general, at least the last 3 months of blood glucose monitoring records should be reviewed. Work performance reports may be helpful in assessing if hypoglycaemia is interfering with safety critical decisions.

### Input from treating doctor or specialist

When assessing a worker with diabetes, a report from the person's treating specialist is generally required in order to determine fitness for duty. The report should include details of general health, indication of satisfactory diabetes control (as above) and freedom from severe complications.

For diabetes controlled by diet and exercise alone, a report from the treating general practitioner will suffice.

In the case of type 2 diabetes managed by oral agents alone, ongoing fitness for duty may be assessed based on information (including an HbA1c level) received from the treating general practitioner, by mutual agreement with the treating specialist and the Authorised Health Professional. The initial recommendation of Fit for Duty Subject to Review must be based on the opinion of a specialist in diabetes.

Where appropriate and available, the use of telemedicine technologies such as videoconferencing is encouraged as a means of facilitating access to specialist opinion.

### Hypoglycaemia

**Definition:** severe hypoglycaemic event

For the purposes of this document, a 'severe hypoglycaemic event' is defined as an event of hypoglycaemia of sufficient severity such that the person is unable to treat the hypoglycaemia themselves, and thus requires an outside party to administer treatment. It includes hypoglycaemia causing loss of consciousness. Episodes occurring during working time or at any other time of the day or night are relevant to the assessment in relation to this Standard.

<sup>11</sup> d'Emden M. Glycated haemoglobin for the diagnosis of diabetes, Aust Prescr 2014;37:98-100

### 18.3.3. Medical criteria for Safety Critical Workers

Medical criteria for fitness for duty are outlined in Table 7.

**It is important that health professionals familiarise themselves with both the general information above and the tabulated standards before making an assessment of a person's fitness for duty.**

**Table 7: Medical criteria for Safety Critical Workers: diabetes**

CONDITION	CRITERIA
Screening for diabetes	<p><b>Category 1 Safety Critical Workers</b></p> <p>Diabetes may be diagnosed on history or on HbA1c testing on <del>non-fasting</del> <del>or random</del> blood:</p> <ul style="list-style-type: none"> <li>• If HbA1c is equal to or greater than 53 mmol/mol (7%) regard as diabetic.</li> <li>• If HbA1c is 48 mmol/mol (6.5%) or greater but less than 53 mmol/mol (7%) arrange a repeat (confirmatory) test. <ul style="list-style-type: none"> <li>– If the repeat (confirmatory) HbA1c is 48 mmol/mol (6.5%) or greater, diagnosis of diabetes is confirmed.</li> <li>– If repeat test is not raised, regard as non-diabetic and review as per normal periodic schedule.</li> </ul> </li> <li>• If the initial test is less than 48 mmol/mol (6.5%), regard as non-diabetic and review as per normal periodic schedule.</li> </ul> <p><b>Category 2 Safety Critical Workers</b></p> <p>Diagnosis of diabetes is by self-report via the Health Questionnaire.</p>
Diabetes controlled by diet and exercise alone	<p><b>Category 1 and Category 2 Safety Critical Workers</b></p> <p>A person with diabetes controlled by diet and exercise alone may perform Safety Critical Work without restriction. More frequent reviews may not be necessary. They should be reviewed by their treating doctor periodically regarding progression of diabetes. A report from the treating doctor should be available for review by the Authorised Health Professional at periodic health assessment appointments. The worker should be instructed to request a triggered assessment if their condition deteriorates or their treatment changes.</p>



Name of rail transport operator:

## Rail Safety Worker Health Assessment Category 1, 2, and 3 Request and Report Form

**CONFIDENTIAL:**

THE COMPLETED FORM SHOULD BE RETURNED TO THE RAIL TRANSPORT OPERATOR  
A COPY SHOULD BE RETAINED BY THE AUTHORISED HEALTH PROFESSIONAL

**Instructions to the Authorised Health Professional**

- You are requested to conduct a health assessment to assess the rail safety worker's fitness for duty according to the details provided in PART A of this form and according to the *National Standard for Health Assessment of Rail Safety Workers*.
- You must sight photo identification of the rail safety worker/applicant (.e.g. driver's licence).
- Please perform the assessment, complete PART B of this form and return the whole form to the rail transport operator according to contact details in PART A below, within 7 days of the assessment, OR should the worker be assessed Unfit for Duty, please contact the operator immediately by phone so that appropriate rostering changes may be made. Please keep a copy of this form for your own records.
- Before presenting for the appointment, Category 1 Safety Critical Workers are required to present for ~~fasting~~ total cholesterol and HDL (fasting is not required) (total and HDL), HbA1c and an ECG for Preplacement, Change of Risk Category and Periodic Health Assessments. Results should have been forwarded to you prior to this examination. Requirements for triggered assessments will be individually determined.
- Requirements for audiometry are noted in Part A of the form. This will be arranged separately if audiometry facilities are not available at your practice.
- You may need to contact the worker's nominated doctor to discuss conditions that may affect their fitness for duty. Such contact should be made with the worker's signed consent (see Record for Health Professional).
- Details of the examination should be recorded on the Record for Health Professional. This record is confidential and should be retained by you, not returned to the operator.
- For more detailed information about the conduct of health assessments for Safety Critical Workers see the *National Standard for Health Assessment of Rail Safety Workers*.

## PART A. (continued)

### 4.3. Type of assessment required (tick one)

- Preplacement / Change of Risk Category health assessment
- Periodic health assessment
- Triggered health assessment (provide details below)
- Other (provide details below)

Please provide details of reasons for Triggered Health Assessment and/or any other assessment requirements

### 4.4. Task specific requirements (Category 1 and 2 workers)

- |               |  |         |  |
|---------------|--|---------|--|
| Colour vision | <input type="checkbox"/> Normal                        | Hearing | <input type="checkbox"/> Speech – In Quiet |
|               | <input type="checkbox"/> Colour Defective Safe A       |         | <input type="checkbox"/> Speech – In Noise |
|               | <input type="checkbox"/> Colour Defective Safe B       |         |  |
|               | <input type="checkbox"/> No colour vision requirements |         |  |

Musculoskeletal (note specific requirements)

### 4.5. Specific tests required

The following tests are required for Preplacement, Change of Risk Category and Periodic Health Assessments. They are not routinely required for Triggered Health Assessments.

- ~~Fasting Total cholesterol and HDL (fasting is not required) (total and HDL)~~ (Category 1)
- HbA1c test (Category 1 only)
- Resting ECG (Category 1 only)
- Audiometry (Category 1, 2, and 3)

**Audiometry ordered from:** \_\_\_\_\_

- Drug Screen (Preplacement / change of risk category only)

**Pathology ordered from:** \_\_\_\_\_

## 5. Supporting information relevant to the assessment (tick information provided)

- Previous relevant Health Assessment Report(s)
- Relevant sick leave for last 12 months (Number of days, not details):
- Relevant Workcover history
- Relevant Critical Incident episodes
- Positive drug and alcohol assessment reports
- Record of involvement in serious rail safety incidents
- Other (specify)

Name of rail transport operator:

## Rail Safety Worker Health Assessment Category 1 and 2 Worker Notification and Health Questionnaire

### CONFIDENTIAL:

FOR PRIVACY REASONS THE COMPLETED FORM SHOULD BE RETAINED BY THE AUTHORISED HEALTH PROFESSIONAL AND NOT RETURNED TO THE RAIL TRANSPORT OPERATOR

#### Instructions to the worker / applicant

- You are required to attend a health assessment as part of your employment, to assess your fitness for rail safety work.
- The health assessment must be completed by (date) to ensure that you are able to carry out normal duties.
- Complete the enclosed questionnaire before attending the appointment and provide it to the examining doctor. The last page of the questionnaire must be signed by you in the presence of the examining doctor.
- Please take to the appointment:
  - glasses, hearing aid or any other aids required for conduct of your work;
  - all medication that you are currently taking or a list of such medications; and
  - photo identification
- If you are a **Category 1 Safety Critical Worker** you will be required to have a blood test as part of your assessment. ~~To get a true reading of your cholesterol (total and HDL) you must not eat for a minimum of 8 hours (and no longer than 14 hours) before your blood test. You may drink water but you should not have sweetened drinks or juice.~~ This appointment/test should take place at least 48 hours before the appointment with the doctor so that he/she has the results.

#### What happens if the examining doctor suspects there is a health problem?

If the examining doctor finds or suspects something is wrong with your health that you did not know about, they will ask your permission to inform your own doctor. The examining doctor will not treat any medical condition but will give you a letter to take to your own doctor.

If the doctor finds that you do not meet all relevant medical criteria, your supervisor at the rail transport operator will discuss with you the appropriate actions to be taken. This may include:

- modification of the duties that you undertake for the rail transport operator; and/or
- scheduling of a further review, tests of specialist referral.

#### Disclosure of health information – please read carefully and sign to indicate you understand how health information is reported, stored and accessed

All your detailed medical papers including your questionnaire responses, test results and the complete record of clinical findings are kept confidential, and are not available to your managers. The examining doctor sends only the completed report form directly to the rail transport operator indicating your fitness or otherwise for duty.

**PART C. Examination record – Authorised Health Professional to complete**

1. Cardiovascular system (refer Section 18.2)				Medical comments
<b>1.1. Blood pressure</b>	<b>Repeated (if necessary)</b>	<b>Acceptable*</b>	<i>Including existing cardiovascular conditions</i>	
Systolic	Systolic	< 170 mmHg		
Diastolic	Diastolic	< 170 mmHg		
<b>1.2. Pulse rate</b>	bpm	<input type="checkbox"/> Regular <input type="checkbox"/> Irregular		
<b>1.3. Heart sounds</b>		<input type="checkbox"/> Normal <input type="checkbox"/> Abnormal		
<b>1.4. Peripheral pulses</b>		<input type="checkbox"/> Normal <input type="checkbox"/> Abnormal		
<b>1.5. Calculation of Cardiac Risk Level (refer Cardiovascular chapter) (Category 1 only) (<a href="http://www.cvdcheck.org.au">www.cvdcheck.org.au</a>)</b>				<i>Including other considerations e.g. physical activity, diet, symptoms, family history and past history, comorbidities, work conditions:</i>
<b>Risk data:</b>				
Age / sex:				
Smoker: <input type="checkbox"/> No <input type="checkbox"/> Yes				
Blood pressure (systolic)				
Fasting_C_cholesterol: <ul style="list-style-type: none"> <li>• TOTAL:</li> <li>• HDL:</li> <li>• Ratio:</li> </ul>				
HbA1c (diabetes) initial (greater than 53 mmol/mol (7%) regard as diabetic)				
HbA1c repeat (if required)				
<b>Stress ECG:</b>				
Cardiac risk level 5-9% - Does overall risk assessment require Stress ECG: <p style="text-align: center;"><input type="checkbox"/> No <input type="checkbox"/> Yes</p>				
Cardiac risk level >10% - Refer for Stress ECG:				
<b>1.6. Resting ECG (Category 1 only)</b>		<input type="checkbox"/> Normal <input type="checkbox"/> Abnormal		

#### 25.1.4. Assessment

At the health assessment, the Authorised Health Professional notes that Lou smokes 30 cigarettes per day, has a family history of heart disease (his father died at 56 from a heart attack) and is obese. He gives no history of chest pain or shortness of breath. He admits he does not exercise regularly anymore, and that he has gained quite a bit of weight in the past year since he and his wife separated. Upon examination, it is noted that he has a resting blood pressure of 160/105 mmHg, his TC = 7.0 and HDL = 0.91, his resting ECG is normal and he has no diabetes. Based on the Coronary Heart Disease Risk Factor Prediction Chart (Figure 33), he is calculated to have a risk of 24%, which is in the lower end of the high risk range. See <http://www.cvdcheck.org.au/>.

#### Cardiac risk data

	Data
Age/sex	Male, 53
Smoker: Yes / No	Yes
Blood pressure (mmHg)	160/105
<del>Fasting Ch</del> olesterol	
TOTAL	7.0
HDL	0.91
Total cholesterol:HDL ratio	7.6
HbA1c	6.2% (no diabetes)
Risk level according to <a href="http://www.cvdcheck.org.au/">http://www.cvdcheck.org.au/</a>	24%

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