

## Inquest into the deaths of Kate Goodchild, Luke Dorsett, Cindy Low and Roozbeh Araghi

On 25 October 2016, a raft on the Thunder River Rapids Ride at Dreamworld Theme Park collided with a second raft. The collision caused the raft to be lifted and pulled vertically into the mechanism of the conveyor. Two occupants of raft managed to escape, however, Kate Goodchild, Luke Dorsett, Cindy Low and Roozbeh Araghi were caught in the mechanism of the ride and were either ejected into the water beneath the conveyor or trapped in the raft.

Coroner James McDougall delivered his findings of inquest on 24 February 2020.

The Queensland Government responds to recommendations directed to government agencies at inquests by informing the community if a recommendation will be implemented or the reason why a recommendation is not supported.

The departments named in this response will provide implementation updates until the recommendation is delivered. Further information relating to the implementation of recommendations can be obtained from the responsible minister named in the response.

### Recommendation 1a, first dot point

Changes be made to the current regulatory framework in Queensland with respect to the inspection and licensing of major amusement park devices to ensure that a more structured and compliance focused regime is implemented. Given the circumstances of this tragic incident, it is crucial that consideration is given to the following, when changes to the regulation are considered:

- the requirement that owners of amusement devices utilise a safety management system to effectively manage and control risks with respect to amusement devices.

Response and action: the recommendation is implemented.

Responsible agency: Department of Education (Office of Industrial Relations).

On 24 September 2020 the Minister for Education and Minister for Industrial Relations responded:

The Queensland Government introduced comprehensive new amusement device safety requirements under the Work Health and Safety Regulation 2011 (WHS regulation). The new requirements gave effect to recommendations about amusement device safety arising from the final report of the *Best Practice Review of Workplace Health and Safety Queensland* (July 2017).

The new regulatory requirements commenced on 1 May 2019, with some provisions aimed specifically at major amusement parks and other provisions applying broadly to all registrable amusement devices operating in Queensland.

### Specific requirements for major amusement parks

Chapter 9A (Major amusement parks) in the WHS regulation establishes a safety case and licence regime for major amusement parks. All Queensland major amusement parks are required to:

- prepare and submit a safety case outline and safety case to the regulator by a specific time
- identify potential incidents and hazards involving amusement devices at the park
- carry out a safety assessment for amusement devices at the park

- implement appropriate control measures designed to eliminate or minimise the risk of an incident occurring
- prepare an amusement device emergency plan, consult with emergency services and implement the plan when required
- establish and implement a safety management system for amusement devices at the park
- document information about the amusement devices at the park—for example about maintenance, inspections and testing of devices, and operator training
- review safety assessments, the emergency plan and safety management system when specific circumstances arise
- consult with workers—for example in relation to the park’s emergency plan, safety management system and preparing and reviewing the safety case
- regularly monitor the effectiveness of the safety case for the park.

In relation to safety management systems:

- section 608O requires the major amusement park operator to establish a safety management system for all amusement devices at the park. The safety management system must provide a comprehensive and integrated system for managing all aspects of risk control in relation to the occurrence of amusement device incidents at the park and be designed to be used by the park operator as the primary means of ensuring that amusement devices at the park do not expose a person to a serious risk to health or safety.
- schedule 18C outlines specific matters to be included in the safety management system, including safety objectives, details on the organisation and personnel, description of relevant procedures and instructions, and statement of principles and technical standards to ensure safe operation of amusement devices.
- section 608Y requires the operator of a licensed major amusement park to continue to implement and revise the safety management system.
- sections 608P and 608Z contain obligations to review the safety management system in specific circumstances.

Since 1 May 2019, the six major amusement parks in Queensland that existed on commencement of Chapter 9A in the WHS regulation have been required to comply with new provisions including establishing and implementing a safety management system for amusement devices at the park. As part of the implementation of the requirements in Chapter 9A of the WHS regulation, the major amusement parks were also required to prepare a safety case outline and submit it to the regulator by 1 November 2019. The Office of Industrial Relations has provided guidance to the major amusement parks on preparing their safety case outlines and will continue to work with the major amusement parks as they prepare their safety case for approval by the regulator. The major amusement parks are required to prepare a safety case and apply for major amusement park licence by 1 May 2021. The Office of Industrial Relations will continue to audit the major amusement parks for compliance with the WHS regulation and Electrical Safety Regulation 2013.

**Recommendation 1a, second dot point**

Changes be made to the current regulatory framework in Queensland with respect to the inspection and licensing of major amusement park devices to ensure that a more structured and compliance focused regime is implemented. Given the circumstances of this tragic incident, it is crucial that consideration is given to the following, when changes to the regulation are considered:

- an owner of an amusement device must comply with the applicable updated Australian Standards.

Response and action: the recommendation is agreed to in part. How the recommendation will be implemented is under consideration.

Responsible agency: Department of Education (Office of Industrial Relations).

On 24 September 2020 the Minister for Education and Minister for Industrial Relations responded:

The government agrees in part with this element of recommendation 1a regarding compliance with applicable updated Australian Standards. However, some flexibility is needed to achieve the intent of this recommendation for the following reasons:

- There is a wide range of Australian Standards that apply to design, construction and operation of amusement devices or aspects of devices. AS 3533 – *Amusement devices and rides* is the main Australian Standard for amusement devices, however there are other Australian Standards that are applicable depending on the type of device. Amusement devices manufactured overseas are designed to international standards. Other international standards are acceptable provided they have an equivalent or higher level of safety provided by the relevant Australian Standards, or other controls can be implemented to achieve the level of safety required. The Work Health and Safety Regulation 2011 (WHS regulation) requires the design registration process of amusement devices to demonstrate and verify the published technical standards and engineering principles used in the design. This also applies to future alterations to the design that may affect health or safety. Compliance with AS 3000 Wiring Rules is mandatory through the Electrical Safety Regulation 2013.
- Standards Australia is an independent body responsible for the development, adoption, review and updating of Australian Standards. Over the past decade, the preferred approach in WHS regulatory frameworks, both nationally and in Queensland, has been to avoid referencing Australian Standards in WHS legislation where possible. Where Australian Standards are referenced it is generally due to the need to refer to specific technical requirements which would be difficult to reproduce in legislation. For example, AS 3533.1 *Amusement Devices Design and Construction* is referred to in schedule 5 of the WHS regulation for the purpose of classifying devices based on the formula and guidance specified in that standard. One of the main concerns requiring compliance with all aspects of an Australian Standard as amended from time to time is that those amendments can occur without specific government consideration.
- There may also be circumstances where it is not reasonably practicable to modify an older amusement device to comply with an updated standard in the particular way that has been specified. While strict compliance with the updated standard may not be reasonably practicable, it may be possible to develop an alternative way that achieves the desired safety outcome, for example, installing a secondary locking mechanism if the original locking mechanism on an older device can be unlocked by patrons.

Rather than requiring across the board compliance with a range of Australian Standards, the intent of this recommendation could be met by reflecting updated standards in the new code of practice for amusement devices which is being developed. A code of practice provides greater flexibility to deal with variables such as what is reasonably practicable in relation to upgrading amusement devices depending on the risk that has been identified and the new control measure. However, the status of codes of practice under the *Work Health and Safety Act 2011* provides a high degree of rigour. The owner of an amusement device must comply with a code of practice or manage the hazards and risks in a way that is different to the code but provides a standard of health and safety that is equivalent to or higher than the standard required under the code (refer to section 26A of the WHS Act 2011).

The government will consult with stakeholders in the amusement device industry and technical experts as part of considering how compliance with updated Australian Standards could be addressed in the new amusement device code of practice currently under development.

**On 26 April 2021 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

Amusement device compliance with applicable updated Australian Standards, or managing hazards and risks in a way that provides a standard of health and safety that is equivalent or higher, is being considered as part of development of a specific amusement device code of practice. The COVID-19 pandemic had a significant impact on the amusement device industry during 2020 and interrupted the consultation process that had commenced for the development of the code in December 2019.

As the Queensland economy recovers from the impact of COVID-19 and amusement device owners return to business operations, the Office of Industrial Relations will reactivate the consultation process with a stakeholder reference group comprised of representatives from the amusement device industry and interested parties including major amusement parks, the transportable amusement device sector, and engineers. Consultation on a draft amusement device code of practice is planned for the first half of 2021.

**On 14 October 2021 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

A consultation draft of the amusement device code of practice was prepared in the first half of 2021.

In May 2021, stakeholders were provided with an update on the status of the project and proposed consultation with industry in the second half of 2021. In June 2021, the consultation draft of the amusement device code of practice was sent to the Amusement Device Stakeholder Reference Group, which then met on 22 July 2021 to discuss the draft code.

Stakeholders in the amusement device industry have been invited to provide feedback on the draft amusement device code of practice.

The Office of Industrial Relations will consider feedback and provide the Amusement Device Stakeholder Reference Group with a revised draft code for consideration in the second half of 2021.

**On 11 May 2022 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

The Amusement Device Stakeholder Reference Group met on 7 October 2021 to review the second consultation draft of the amusement device code of practice, which incorporated feedback from the first round of consultation in 2021. The Office of Industrial Relations considered feedback provided by stakeholders at, and following, the reference group meeting in October 2021 and work continued on drafting the code.

In the first half of 2022, in addition to consulting with stakeholders, the Office of Industrial Relations proposes to consult with workplace health and safety regulators in other jurisdictions on the draft amusement device code of practice.

**Recommendation 1a, third dot point**

Changes be made to the current regulatory framework in Queensland with respect to the inspection and licensing of major amusement park devices to ensure that a more structured and compliance focused regime is implemented. Given the circumstances of this tragic incident, it is crucial that consideration is given to the following, when changes to the regulation are considered:

- annual risk assessments should be conducted by competent person/s and involve the detailed consideration of the device, including all possible control system functions and variations, as well as a detailed examination of the operation of the ride during all modes of operation and possible emergency conditions.

Response and action: the recommendation is agreed to in part. How the recommendation will be implemented is under consideration.

Responsible agency: Department of Education (Office of Industrial Relations).

On 24 September 2020 the Minister for Education and Minister for Industrial Relations responded:

Chapter 9A of the Work Health and Safety Regulation 2011 (WHS regulation) partially implements elements of the risk assessment approach as recommended by recommendation 1a although an annual interval is not specified. Instead, the concept of ongoing risk assessment for amusement devices at major amusement parks has been embedded in requirements in new Chapter 9A. In particular, for major amusement parks in the period leading up to applying for a licence, the following requirements are in place:

- section 608K (Identification of amusement device incident and amusement device hazards)
- section 608L (Safety assessment)
- section 608M (Control of risk)
- section 608O (Safety management system)
- section 608P (Review of risk management).

Additional equivalent provisions for risk identification, assessment, control, management and review continue after a major amusement park has been granted a licence. While an annual interval for conducting a risk assessment has not been specified, the major amusement parks are required to comply with the risk management process within the first two years of commencement of the regulations (i.e. from 1 May 2019) and continue to meet these requirements after obtaining a licence. In addition, there are specific grounds which trigger an obligation to review and revise the safety assessments and safety management system. These grounds are set out in section 608P and section 608Z of the WHS regulation and include changes likely to give rise to a new risk or a variation of an existing risk to health or safety, including:

- changes made to an amusement device at the park
- changes to any plant or structures relating to an amusement device
- changes made to training for workers who operate amusement devices at the park  
or
- changes to arrangements for maintenance, inspection and testing of the amusement devices.

A review and, if necessary, revision of the major amusement park's safety assessment and the safety management system must occur if:

- a new amusement device is installed at the park
- a control measure that has been implemented does not control the risk of amusement device incident occurring so far as is reasonably practicable
- a new amusement device hazard is identified
- results of consultation with workers indicate a review is necessary
- a health and safety representative requests a review  
or
- the regulator requests a review.

While this element of recommendation 1a has been partially implemented through Chapter 9A of the WHS regulation, the government will give further consideration to implementing the intent of the coroner's recommendation through another regulatory amendment and/or inclusion in the new amusement device code of practice currently under development. The government considers the detailed examination of all possible control systems may go beyond what is reasonably necessary for an annual inspection or risk assessment. However, the government considers annual inspections or risk assessments should include functional tests to ensure the safety functions for the device are working properly, for example, the emergency stop function, and observing the device in operation.

The government will consult with stakeholders in the amusement device industry and technical experts as part of considering how this element of recommendation 1a could be addressed by way of further amendments to the Work Health and Safety Regulation 2011 and/or specific content in the new amusement device code of practice currently under development.

**On 26 April 2021 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

Comprehensive ongoing risk assessment of amusement devices at major amusement parks has been implemented through the introduction of Chapter 9A of the *Work Health and Safety Regulation 2011*. Major amusement parks have undertaken this risk assessment process as part of complying with the new safety case requirements in the Regulation.

Aspects of this recommendation in relation to amusement devices generally are being considered as part of development of the draft amusement device code of practice. The COVID-19 pandemic had a significant impact on the amusement device industry during 2020 and interrupted the consultation process that had commenced for the development of the code in December 2019.

As the Queensland economy recovers from the impact of COVID-19 and amusement device owners return to business operations, the Office of Industrial Relations will reactivate the consultation process with a stakeholder reference group comprised of representatives from the amusement device industry and interested parties including major amusement parks, the transportable amusement device sector, and engineers. Consultation on a draft amusement device code of practice is planned for the first half of 2021.

**On 14 October 2021 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

A consultation draft of the amusement device code of practice was prepared in the first half of 2021.

In May 2021, stakeholders were provided with an update on the status of the project and proposed consultation with industry in the second half of 2021. In June 2021, the consultation draft of the amusement device code of practice was sent to the Amusement Device Stakeholder Reference Group, which then met on 22 July 2021 to discuss the draft code.

Stakeholders in the amusement device industry have been invited to provide feedback on the draft amusement device code of practice.

The Office of Industrial Relations will consider feedback and provide the Amusement Device Stakeholder Reference Group with a revised draft code for consideration in the second half of 2021.

**On 11 May 2022 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

The Amusement Device Stakeholder Reference Group met on 7 October 2021 to review the second consultation draft of the amusement device code of practice, which incorporated feedback from the first round of consultation in 2021. The Office of Industrial Relations considered feedback provided by stakeholders at, and following, the reference group meeting in October 2021 and work continued on drafting the code.

In the first half of 2022, in addition to consulting with stakeholders, the Office of Industrial Relations proposes to consult with workplace health and safety regulators in other jurisdictions on the draft amusement device code of practice.

#### **Recommendation 1a, fourth dot point**

Changes be made to the current regulatory framework in Queensland with respect to the inspection and licensing of major amusement park devices to ensure that a more structured and compliance focused regime is implemented. Given the circumstances of this tragic incident, it is crucial that consideration is given to the following, when changes to the regulation are considered:

- the competency of those charged with operating an amusement device.

Response and action: the recommendation is implemented.

Responsible agency: Department of Education (Office of Industrial Relations).

On 24 September 2020 the Minister for Education and Minister for Industrial Relations responded:

Chapter 5 (Plant and Structures) of the Work Health and Safety Regulation 2011 (WHS regulation) was amended on 1 May 2019 to include additional provisions to apply to all registrable amusement devices and amusement devices at licensed major amusement parks. This included additional requirements in section 238 to ensure:

- mandatory elements are covered in instruction and training for amusement device operators, including:
  - procedures for checking the device before it operated with passengers
  - starting, operating and stopping the device under normal conditions
  - stopping the device in an emergency
  - providing safe access of passengers onto or into the device
  - giving safety instructions to passengers
  - providing for the safe exit of passengers off or out of the device, including exiting in an emergency or because of a power failure or malfunction of the device
- operators are determined as competent before operating any amusement device
- operators are clearly identifiable as the operator of the device.

The amended section 238 of the WHS regulation implements this element of recommendation 1a and goes beyond major amusement parks to apply to operators of registrable amusement devices at other workplaces, for example, transportable devices.

#### **Recommendation 1a, fifth dot point**

Changes be made to the current regulatory framework in Queensland with respect to the inspection and licensing of major amusement park devices to ensure that a more structured and compliance focused regime is implemented. Given the circumstances of this tragic incident, it is crucial that consideration is given to the following, when changes to the regulation are considered:

- the requirement of a major inspection or full risk assessment of the device by a competent person (a registered professional engineer of Queensland [RPEQ]) at stipulated intervals, as suggested by the manufacturer or at a mandated duration (5-10 years).

Response and action: the recommendation is implemented.

Responsible agency: Department of Education (Office of Industrial Relations).

On 24 September 2020 the Minister for Education and Minister for Industrial Relations responded:

Chapter 5 (Plant and Structures) of the Work Health and Safety Regulation 2011 (WHS regulation) was amended on 1 May 2019 to include additional provisions to apply to all registrable amusement devices and amusement devices at licensed major amusement parks. This included a new requirement, section 241A, for major inspections of amusement devices by, or under the supervision of, a competent person (which for most

amusement devices will be a registered professional engineer) at specified intervals. The major inspection must be carried out:

- at the end of any period recommended by the manufacturer of the device  
or
- if a competent person has previously inspected the device and recommended a shorter period, the next major inspection must occur before the end of the shorter period  
or
- if there is no recommendation from the manufacturer or a competent person, within 10 years of the device first being registered or commissioned, or its previous major inspection.

A major inspection involves:

- a thorough examination of all critical components of the device including, if necessary, stripping down the device and removing paint, grease and corrosion  
and
- a check of the effective and safe operation of the device.

The WHS regulation was also amended to include new section 242A to set out additional information to be kept in the log book for an amusement device. The following information about each major inspection must be included in the logbook:

- the name of the competent person who carried out the inspection
- the date of the inspection
- the results of the inspection and any recommendations of the competent person  
and
- any components repaired or replaced during, or as a result of the major inspection.

There are transitional arrangements to phase-in the major inspection requirements for older amusement devices which have not previously had a major inspection (sections 792-794).

New section 241A of the WHS regulation implements this element of recommendation 1a and goes beyond major amusement parks to apply to registrable amusement devices operated in Queensland at other workplaces, for example, transportable devices.

#### **Recommendation 1a, sixth dot point**

Changes be made to the current regulatory framework in Queensland with respect to the inspection and licensing of major amusement park devices to ensure that a more structured and compliance focused regime is implemented. Given the circumstances of this tragic incident, it is crucial that consideration is given to the following, when changes to the regulation are considered:

- regulations should make it clear of the onus placed on the registered professional engineer (RPEQ) when conducting an annual inspection or a major risk assessment, which should include:
  - the operation of the ride should be visually observed during a risk assessment
  - low probability failures need to be actively considered
  - observe how the machine handles adverse events. Run trial days where pumps are shut down, water levels decreased (or increased), rafts bottle neck, impact each other, to highlight weaknesses and expose hidden features of the design
  - consult theme park records internally and internationally
  - consider whether the machine was fool-proof, and if not what engineering controls could be possibly utilised
  - look at design records.

Response and action: the recommendation is agreed to in part. How the recommendation will be implemented is under consideration.

Responsible agency: Department of Education (Office of Industrial Relations).

On 24 September 2020 the Minister for Education and Minister for Industrial Relations responded:

The government agrees in part with this element of recommendation 1a regarding matters for a registered professional engineer of Queensland (RPEQ) to consider when conducting an annual inspection or a major risk assessment. However, further consideration on achieving the intent of this recommendation is required. The *Professional Engineers Act 2002* regulates the delivery of professional engineering services and the Work Health and Safety Regulation 2011 (WHS regulation) does not specifically regulate RPEQs in how they conduct professional engineering services. The government will give further consideration to the extent to which the elements listed in this recommendation can be incorporated in the existing regulatory framework and/or included in the new amusement device code of practice currently under development.

The government will consult with stakeholders in the amusement device industry, the Board of Professional Engineers Queensland and engineers as part of considering how this element of recommendation 1a could be addressed by way of further amendments to the WHS regulation and/or specific content in the new amusement device code of practice currently under development.

**On 26 April 2021 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

Aspects of this recommendation are being considered as part of development of the draft amusement device code of practice. The COVID-19 pandemic had a significant impact on the amusement device industry during 2020 and interrupted the consultation process that had commenced for the development of the code in December 2019.

As the Queensland economy recovers from the impact of COVID-19 and amusement device owners return to business operations, the Office of Industrial Relations will reactivate the consultation process with a stakeholder reference group comprised of representatives from the amusement device industry and other interested parties such as major amusement parks, the transportable amusement device sector, and engineers including the Board of Professional Engineers Queensland. Consultation on a draft amusement device code of practice is planned for the first half of 2021.

**On 14 October 2021 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

A consultation draft of the amusement device code of practice was prepared in the first half of 2021.

In May 2021, stakeholders were provided with an update on the status of the project and proposed consultation with industry in the second half of 2021. In June 2021, the consultation draft of the amusement device code of practice was sent to the Amusement Device Stakeholder Reference Group, which then met on 22 July 2021 to discuss the draft code.

Stakeholders in the amusement device industry have been invited to provide feedback on the draft amusement device code of practice.

The Office of Industrial Relations will consider feedback and provide the Amusement Device Stakeholder Reference Group with a revised draft code for consideration in the second half of 2021.

**On 11 May 2022 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

The Amusement Device Stakeholder Reference Group met on 7 October 2021 to review the second consultation draft of the amusement device code of practice, which incorporated feedback from the first round of consultation in 2021. The Office of Industrial Relations considered feedback provided by stakeholders at, and following, the reference group meeting in October 2021 and work continued on drafting the code.

In the first half of 2022, in addition to consulting with stakeholders, the Office of Industrial Relations proposes to consult with workplace health and safety regulators in other jurisdictions on the draft amusement device code of practice.

**Recommendation 1a, seventh dot point**

Changes be made to the current regulatory framework in Queensland with respect to the inspection and licensing of major amusement park devices to ensure that a more structured and compliance focused regime is implemented. Given the circumstances of this tragic incident, it is crucial that consideration is given to the following, when changes to the regulation are considered:

- regular auditing and oversight of such devices, as well as the associated inspections and required safety systems in place at the major amusement park, must be conducted by the regulator.

Whilst the safety case regime introduced by the recent amendments to the regulations would appear to ensure this necessary regulatory oversight by way of a more mandated approach to the maintenance and inspection of amusement devices, it is essential that this be monitored and maintained by way of regular and effective auditing. Such auditing should be undertaken by suitably qualified and trained Office of Industrial Relations inspectors. Major amusement parks in Queensland need to be required to implement effective control measures with respect to the devices in operation, and the regulator must actively ensure this takes place. Strict adherence to the timeframes proposed by the safety case and licensing regime in the draft regulation should be maintained in order to ensure the expedited introduction of a more intense regulatory framework for major amusement parks in Queensland and, most importantly, patrons' safety.

Response and action: implementation of the recommendation is in progress.

Responsible agency: Department of Education (Office of Industrial Relations).

On 24 September 2020 the Minister for Education and Minister for Industrial Relations responded:

The Office of Industrial Relations conducted audit campaigns at the major amusement parks in 2016, 2017, 2018 and 2019. The 2019 major amusement park audit campaign was conducted in July-August 2019 and included officers with specific expertise to address the hazards in this industry sector, including Workplace Health and Safety Queensland and Electrical Safety Office inspectors, Injury Prevention and Management (IPaM) advisors and engineers. Audits undertaken in 2019 had a compliance focus and resulted in 84 compliance notices issued to major amusement park operators.

The Office of Industrial Relations is developing a comprehensive major amusement park compliance audit program which will focus on factors raised during the inquest. The purpose of the program is to examine relevant components of the safety management systems, including amusement device modifications, mandatory inspection regimes, control system operation, operator capability and competency, and general work health and safety obligations. The program will include biannual audits and associated inspections of amusement devices conducted by Office of Industrial Relations inspectors, with assistance from Office of Industrial Relations engineers, at major amusement parks.

**On 26 April 2021 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

Workplace Health and Safety Queensland have continued to proactively monitor and audit the safety of amusement devices, and broader obligations held by major amusement parks.

During 2020, the major amusement parks closed for extended periods due to the COVID-19 pandemic. Workplace Health and Safety Queensland worked closely with the major amusement parks during this time and undertook inspections of all devices scheduled to recommence operation prior to reopening. These inspections focused on device maintenance and the currency of operators' training following the shutdown. Workplace Health and Safety Queensland also worked in conjunction with public health authorities to ensure risks associated with the COVID-19 pandemic were managed at the parks.

In late 2020, Workplace Health and Safety Queensland launched the 2020 major amusement park audit program, targeting critical aspects affecting the safe operation of an amusement device, including maintenance, electrical systems, functional safety, operator competency, human factors and psychological safety. These audits are ongoing with anticipated completion in May 2021.

Workplace Health and Safety Queensland continue to respond to any notified incidents or events and address individual issues that contribute to a workplace incident. On occasion, where a person is injured in circumstances that may be replicated across the major amusement parks, inspectors have performed proactive assessments across all parks to ensure such risks are eliminated or minimised as far as is reasonably practicable.

Compliance monitoring of devices and safety across major amusement parks remains an ongoing priority for Workplace Health and Safety Queensland.

**On 14 October 2021 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

The major amusement park 2020 audit program that began in late 2020 was finalised in May 2021.

The audit program targeted critical aspects affecting the safe operation of an amusement device. The program was carried out by inspectors from Workplace Health and Safety Queensland and the Electrical Safety Office who had completed a pilot competency-based training program in 2020 that was aligned with the coroner's recommendations.

A total of 62 amusement devices were audited in the course of the campaign, resulting in a number of compliance notices being issued and improvements to safety systems across the major amusement parks.

With the commencement of the safety case system for the major amusement parks on 1 May 2021, the Office of Industrial Relations will continue to innovate compliance monitoring activities to reflect these new requirements.

**On 11 May 2022 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

In 2021, all major amusement parks submitted applications for major amusement park licences and accompanied these applications with safety cases. These safety cases are currently being assessed by the Office of Industrial Relations. As part of the assessment process, the Office of Industrial Relations will be undertaking on-site audits at all major amusement parks in 2022 to confirm aspects of the safety case.

If major amusement parks are issued with licences, they will be subject to routine audits by the Office of Industrial Relations each year that examine aspects of their operations.

**Recommendation 1b**

The Office of Industrial Relations continue to develop a code of practice for the amusement device industry in Queensland, which will establish a minimum standard for the operation of amusement devices, in consultation with the requisite industry stakeholders, including the Amusement Device Working Group.

Response and action: implementation of the recommendation is in progress.

Responsible agency: Department of Education (Office of Industrial Relations).

On 24 September 2020 the Minister for Education and Minister for Industrial Relations responded:

Codes of practice are statutory instruments approved by the minister under the *Work Health and Safety Act 2011* (WHS Act). A person conducting a business or undertaking must comply with a code of practice or manage the hazards and risks in a way that is different to the code but provides a standard of health and safety that is equivalent to or higher than the standard required under the code (refer to section 26A of the WHS Act).

Queensland has given effect to the national model code of practice for plant: *Managing Risks of Plant at the Workplace Code of Practice 2011* which applies broadly to amusement devices as items of plant.

The Office of Industrial Relations has commenced development of a new amusement device code of practice which will provide more specific information relating to amusement devices. The Office of Industrial Relations has engaged in initial consultation with a stakeholder reference group comprised of representatives from the amusement device industry and other interested parties including major amusement parks, the transportable amusement device sector, and engineers.

As drafting of the new amusement device code of practice progresses, there will be further consultation with the amusement device stakeholder reference group and technical experts as required. The proposed code will be subject to regulatory impact assessment under the *Queensland Government Guide to Better Regulation* before being considered for approval by the minister under the WHS Act.

**On 26 April 2021 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

The Office of Industrial Relations has commenced development of a new amusement device code of practice which will provide specific information and guidance on the safe operation and maintenance of amusement devices. The COVID-19 pandemic had a significant impact on the amusement device industry during 2020 and interrupted the consultation process that had commenced for the development of the code in December 2019. In October 2020, the Office of Industrial Relations wrote to amusement device owners to advise of new interim guidance on major inspections of amusement devices. The guidance was published to assist device owners and registered professional engineers in undertaking major inspections until such time as the new code of practice is finalised. Priority was given to publishing interim guidance on major inspections due to the transitional arrangement for mandatory major inspections expiring on 1 May 2021. Under new requirements introduced in the Work Health and Safety Regulation 2011, amusement devices manufactured before 1 May 2009 which have not had a major inspection in the ten-year period before 1 May 2019 are required to have a major inspection by 1 May 2021.

As the Queensland economy recovers from the impact of COVID-19 and amusement device owners return to business operations, the Office of Industrial Relations will reactivate the consultation process with a stakeholder reference group comprised of representatives from the amusement device industry and other interested parties including major amusement parks, the transportable amusement device sector, and engineers. Consultation on a draft amusement device code of practice is planned for the first half of 2021.

**On 14 October 2021 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

A consultation draft of the amusement device code of practice was prepared in the first half of 2021.

In May 2021, stakeholders were provided with an update on the status of the project and proposed consultation with industry in the second half of 2021. In June 2021, the consultation draft of the amusement device code of practice was sent to the Amusement Device Stakeholder Reference Group, which then met on 22 July 2021 to discuss the draft code.

Stakeholders in the amusement device industry have been invited to provide feedback on the draft amusement device code of practice.

The Office of Industrial Relations will consider feedback and provide the Amusement Device Stakeholder Reference Group with a revised draft code for consideration in the second half of 2021.

**On 11 May 2022 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

The Amusement Device Stakeholder Reference Group met on 7 October 2021 to review the second consultation draft of the amusement device code of practice, which incorporated feedback from the first round of consultation in 2021. The Office of Industrial Relations considered feedback provided by stakeholders at, and following, the reference group meeting in October 2021 and work continued on drafting the code.

In the first half of 2022, in addition to consulting with stakeholders, the Office of Industrial Relations proposes to consult with workplace health and safety regulators in other jurisdictions on the draft amusement device code of practice.

**Recommendation 1c**

That efforts to harmonise the requirements of the relevant design standards, particularly the critical safety requirements on amusement devices in Australia, Europe and America continue in consultation with relevant industry stakeholders.

Response and action: the recommendation is implemented.

Responsible agency: Department of Education (Office of Industrial Relations).

On 24 September 2020 the Minister for Education and Minister for Industrial Relations responded:

The government recognises benefits in seeking to harmonise amusement device design standards and acknowledges the complexity in this area due to a range of international standards and relevant Australian Standards. In November 2019, the Minister for Education and Minister for Industrial Relations attended a meeting to promote discussions about standard harmonisation at the International Association of Amusement Parks and Attractions Expo 2019 in the United States of America. The meeting was attended by representatives from regulatory bodies, amusement device manufacturers, major park operators and the American Society for Testing Materials (ASTM).

The development, review and amendment of Australian Standards falls under the authority of Standards Australia, which is a non-government organisation that develops standards, technical specifications, handbooks and other publications. Standards Australia is also Australia's representative on the International Organisation for Standardisation (ISO) and International Electrotechnical Commission (IEC), which develop international standards. In addition, Standards Australia develops joint Australian/New Zealand Standards and adopts international standards with any necessary modifications to align with Australian circumstances. Australian Standards are developed by technical committees comprised of representatives from government, business, industry, community, experts and consumers. The Office of Industrial Relations participates in Standards Australia technical committees responsible for the development, review and amendment of Australian Standards, including those related to the design of amusement devices. The technical committee

for amusement devices is ME-051 and scheduling of committee meetings and engagement on reviewing standards is determined by Standards Australia.

The Office of Industrial Relations has engaged with relevant authorities and participated in discussions with stakeholders relating to the harmonisation of standards for the design of amusement devices. This has involved consideration of international standards and assessing the level of safety required under those standards.

The Office of Industrial Relations will continue to engage with relevant authorities and industry stakeholders on harmonisation of standards for the design of amusement devices while ensuring the level of safety provided in Australian Standards is upheld.

#### **Recommendation 1d**

Steps be taken to rectify the lack of detailed knowledge of safety related control circuits held by the majority of Office of Industrial Relations inspectors.

Response and action: implementation of the recommendation is in progress.

Responsible agency: Department of Education (Office of Industrial Relations).

On 24 September 2020 the Minister for Education and Minister for Industrial Relations responded:

All inspectors appointed under the *Work Health and Safety Act 2011* undergo training on identification and management of hazards across a range of plant, including amusement devices. Additional training has also been provided to inspectors that participate in annual audits at the major amusement parks prior to commencing audit activity. Most inspectors work across a range of disciplines rather than a single hazard or industry type. Additional training will be provided for inspectors appointed under *the Electrical Safety Act 2002*.

In the second half of 2020, the Office of Industrial Relations will establish a team of inspectors to deliver biannual audits. These inspectors will undergo amusement device training which will specifically address amusement device safety systems (i.e. safety control circuits), modifications of amusement devices, operator capability and inspection requirements.

**On 26 April 2021 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

All inspectors appointed under the *Work Health and Safety Act 2011* undergo training on identification and management of hazards across a range of plant including amusement devices. In the second half of 2020, the Office of Industrial Relations established a team to deliver biannual audits of major amusement parks. These inspectors underwent a pilot training program which covered areas across maintenance, electrical safety, operator competency, human factors and psychological health and safety, and functional safety.

The Office of Industrial Relations is reviewing the results of the recent pilot training program along with a holistic review of the various competency requirements in the area of function safety for general inspectors, inspectors specialising in plant, and engineering specialists. This review will examine the required knowledge, competencies, and frequency required for inspectors to be able to in apply the necessary knowledge when inspecting systems involving functional safety.

**On 14 October 2021 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

The review of the pilot training program delivered in 2020 continues to assist, inform and direct the various phases of the major amusement park audit program. It is expected the review will conclude in October 2021.

The Office of Industrial Relations is currently examining training courses in functional safety offered by external providers to supplement internal training to inspectors.

The Office of Industrial Relations plans to finalise the expected competencies of inspectors and select external courses that provide comprehensive training in functional safety to supplement existing Office of Industrial Relations training.

The Office of Industrial Relations also plans to utilise the competencies achieved from this training to refine existing training provided to inspectors.

**On 11 May 2022 the Minister for Education, Minister for Industrial Relations and Minister for Racing responded:**

The Office of industrial Relations has completed reviewing the pilot training program delivered in 2020 and has completed its examination of training courses in functional safety. A proposal to undertake suitable training courses in functional safety is currently being moving through review and approval processes.

Once internal processes are complete, the necessary training courses will be booked and Office of Industrial Relations staff will attend these courses. It is expected that this will occur through to June 2023 subject to course availability.

**Recommendation 2a**

The Board of Engineers, in consultation with the Office of Industrial Relations and other industry groups, continue efforts to address the shortfall in suitably qualified and experienced registered professional engineers (RPEQs) with respect to the inspection of amusement devices.

Response and action: the recommendation is implemented.

Responsible agency: Department of Housing and Public Works (lead), supported by the Department of Education (Office of Industrial Relations).

On 24 September 2020 the Minister for Housing and Public Works, Minister for Digital Technology and Minister for Sport; and the Minister for Education and Minister for Industrial Relations responded:

In Queensland the engineering profession is regulated by the Board of Professional Engineers of Queensland (BPEQ). The BPEQ is a statutory body that falls within the portfolio of the Minister for Housing and Public Works (the minister) and is responsible for a number of functions under section 80 of the *Professional Engineers Act 2002* (PE Act), including the registration of professional engineers in Queensland. A person carrying out professional engineering services within Queensland or outside Queensland (for projects based in Queensland) must be a registered professional engineer of Queensland (RPEQ) or working under the direct supervision of an RPEQ.

The BPEQ registers RPEQs in 26 different areas of engineering, including civil, electrical and mining engineering. The registration process involves an assessment by an approved assessment entity to determine if an applicant is eligible to be an RPEQ in a particular area of engineering. There are currently eight approved assessment entities. The Department of Housing and Public Works does not have direct involvement in reviewing, approving or registering engineers who are permitted to carry out professional engineering services in Queensland under the PE Act.

Consultation has occurred between the Department of Housing and Public Works, BPEQ, the Office of Industrial Relations and industry regarding suitably qualified and experienced RPEQs to conduct amusement device inspection work in Queensland. Currently, only a small number of RPEQs are registered in the specialist area of 'inspection of amusement rides and devices'. Under the Work Health and Safety Regulation 2011,

most registered amusement devices must be inspected by a competent person who is an RPEQ and has acquired through training, qualification or experience, the knowledge and skills to inspect the device. Registration in the specific area of 'inspection of amusement rides and devices' is not mandatory for amusement ride inspections, and other RPEQs can conduct inspections if they have the appropriate knowledge and skills to carry out the inspection (e.g. mechanical engineering for inspecting mechanical components or a structural engineer for structural components). Complex amusement rides and devices typically require RPEQ expertise from more common disciplines, such as mechanical, structural and electrical engineering. As there are sufficient numbers of RPEQs in these other disciplines, BPEQ is of the view that no shortfall currently exists in relation to inspection of amusement devices.

To address any ongoing concerns, however, a fast-track assessment and registration process has been implemented by BPEQ and Engineers Australia for applicants seeking to be registered in the inspection of amusement rides and devices area of engineering. Engineers Australia is the only assessment entity approved by the minister to determine eligibility for registration as an RPEQ in this area of engineering. This fast track process will enable a swift assessment and registration process for these applicants, including international engineers seeking to become registered. In addition, BPEQ has facilitated discussions between Engineers Australia and amusement devices representatives regarding specialist inspectors based in Canada, with a view to them becoming RPEQs.

The BPEQ, in consultation with the Department of Housing and Public Works, Office of Industrial Relations, Engineers Australia and any other relevant industry bodies, will continue to monitor the availability of RPEQs that can undertake work on all types of amusement rides and devices to meet demand.