



NSW DEPARTMENT OF  
PRIMARY INDUSTRIES

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of our State's **agriculture, fisheries, forests and minerals**



Mineral Resources - Mine safety

Occupational Health and Safety Regulation 2001  
- a Mechanical Engineering Perspective



# Mine safety legislation – OHS Reg

- *Occupational Health and Safety Regulation 2001, including effect of amending schedule 4A*



# Mine safety legislation – OHS Reg

- ***Occupational Health and Safety Legislation 2001***
- Introduction
- Chapter 1 - Applies for interpretation of a relevant provision
- Chapter 2 – cl 9 – cl 12– employer to identify, assess, eliminate & review risks
  - Control risk – substitute hazard, isolate hazard, minimise by engineering means, administrative means, PPE
  - Cl 16 obtain information
- ***Chapter 3 - Workplace consultation***



# Mine safety legislation – OHS Reg

- Application or asbestos-related provisions
- Part 4.3 Division 4 Noise
- Atmosphere provisions cl 51-52
- Confined spaces Part 4.3 Division 9
  
- Manual handling Part 4.4



# Mine safety legislation – OHS Reg

- *Chapter 5 – Plant*

- *Definitions:*

- *Earthmoving machinery* – means an operator controlled item of plant used to excavate, load, transport, compact or spread earth, overburden, rubble, spoil, aggregate or similar material but does not include a tractor or industrial lift truck
- *Alter* – means change the design of, add to or take away that may effect health or safety
- *Repair* – means to restore to operating condition, not include maintenance, replacement or alteration



# Mine safety legislation – OHS Reg

- *Part 5 – definitions (cont)*
- *Elevating work platform* means a telescoping device, scissor device or articulating device or any combination of those devices used to move personnel, equipment or materials to and from locations above the support surface
- *Operator protective devices* include roll over protective structures, falling object protective structures, operator restraining devices and seat belts



# Mine safety legislation – OHS Reg

## *Designers' duties - Part 5.2 Division 1.*

*Applies to design of (cl 84) :*

- Plant for use at work, and
- Plant affecting public safety



# Mine safety legislation – OHS Reg

## *Designers' duties (cont)*

- Plant designed outside state must meet designers responsibilities (*cl 85*)
- Designer must identify hazards (*cl 86*)
- Designer must assess risks (*cl 87*)
- Designer must review risk assessment where required (*cl 88*)
- Designer must control risks (*cl 89*)





# Mine safety legislation – OHS Reg

- ***Designers' duties (cont)***
- Guarding – risk control measures (*cl 90*)
  - *Fixed barrier or interlocked*
  - *Bypass as difficult as is reasonably possible*
- Operational controls – particular risk control measures (*cl 91*)
- Emergency stops and warning devices – particular risk control measures (*cl 92*)
- Design of powered mobile plant – particular risk control measures (*cl 93*)
- Mandatory design standards – particular risk control measures (*cl 94*)
- Specifying work systems and operator competencies – particular risk control measures (*cl 95*)



# Mine safety legislation – OHS Reg

## *Designers' duties (cont)*

- Designer to provide information (*cl 96*)
- Designer to obtain information (*cl 97*)



# Mine safety legislation – OHS Reg

- ***Application for registration of plant design (cl 107)***
- Table of plant for which designs are to be registered
- Boilers and pressure vessels categorised as being of hazard level A, B, C or D according to the criteria in AS 4343-1999
- Gas cylinders
- Tower cranes
- Gantry cranes with a rated capacity greater than 5 tonnes



# Mine safety legislation – OHS Reg

## ■ *Table (cl 107) (cont)*

- Bridge cranes with a rated capacity greater than 10 tonnes
- Gantry cranes and bridge cranes designed to handle molten metal or dangerous goods (within the meaning of the Australian Dangerous Goods Code)
- Mobile Cranes with a rated capacity greater than 10 tonnes
- Boom-type elevating work platforms
- Lifts (including escalators and moving walkways)
- Building maintenance units



# Mine safety legislation – OHS Reg

## ■ *Table (cl 107) (cont)*

- Hoists, with a platform movement in excess of 2.4 metres, designed to lift people
- Work boxes suspended from cranes
- Prefabricated scaffolding
- Mast climbing work platforms
- Vehicle hoists
- Amusement devices (other than coin operated amusement devices) that are, or may be, operated otherwise than by manual power



# Mine safety legislation – OHS Reg

- ***By amending schedule 4A, the table to clause 107 (design registration) is taken to include:***
  - Diesel engine systems used in underground mines at a coal workplace
  - Powered winding systems used in underground mines
  - Booster fans used in underground mines
  - Braking systems used on plant in underground mines
  - Canopies on continuous miners used in underground mines at a coal workplace
  - Portable or hand held plant or items used to determine the presence of gases in underground mines
  - Breathing apparatus to assist escape from the underground parts of a coal operation



# Mine safety legislation – OHS Reg

## ■ *Amended table to clause 107 (cont)*

- Shotfiring apparatus used in underground mines
- Detonators used in underground mines
- Explosion-powered tools used in underground mines
- Refuge chambers used in underground mines
- From 8 June 2007, conveyor belts used in underground mines



# Mine safety legislation – OHS Reg

- ***Application for registration of item of plant (cl 113)***
- *person who has control* in relation to an item of plant, includes the owner or a lessee of the plant
- Table to 113
- Boilers categorised as being of hazard level A, B or C according to the criteria AS 4343-1999
- Pressure vessels categorised as being of hazard level A, B or C according to the criteria in AS 4343-1999 except the following:





# Mine safety legislation – OHS Reg

## ■ *Table to 113 (cont)*

- LP gas fuel vessels for automotive use covered by AS/NZS 3509:1996
- Serially produced ;pressure vessels covered by AS 2971-1987
- Pressure vessels that do not require periodic internal inspection in accordance with the criteria in Table 4.1 in AS/NZS 3788:1996
- Lifts (including escalators and moving walkways) as defined in AS 1735 Parts 1 to 17 (as listed in Schedule 1



# Mien safety legislation – OHS Reg

## ■ *Table to cl 113(cont)*

- Amusement devices (other than coin operated amusement devices) that are, or may be, operated otherwise than by manual power
- Tower cranes
- Building maintenance units
- Concrete placing units (truck mounted with boom)
- Mobile cranes with a safe working load greater than 10 tonnes



# Mine safety legislation – OHS Reg

- *By schedule 4A amendment the table to clause 113 (plant item registration) is to include:*
- Booster fans in underground mines
- Diesel engine systems used in underground mines
- Powered winding systems used in underground mines



# Mine safety legislation – OHS Reg

- ***Seller or transferor to control risks (cl 121)***
- A person selling or transferring plant (other than plant for use as scrap or as spare parts for other plant) must advise the purchaser or intended owner of the plant in writing (before the sale or transfer) of any faults detected in the plant and, if appropriate, that the plant is not to be used until the faults are rectified.
- The person selling or transferring the plant must ensure that the plant complies with relevant risk control measures specified in clauses (89-95).



# Mine safety legislation – OHS Reg

- ***Seller or transferor to provide information (cl 122)***
- A person who sells or transfers plant must ensure that:
  - In respect of new plant the purchaser or new owner is provided with all available information concerning health and safety about the plant received by the person from the manufacturer
  - In respect of used plant, the purchaser or new owner is provided with:
    - All available information concerning the health and safety about the plant received by the person from the designer and manufacturer and



# Mine safety legislation – OHS Reg

## ■ *Cl 122 (cont)*

- If available, any record kept by the previous owner of the plant in accordance with the requirements of this regulation.
- The purchaser or new owner is provided with any information, data or certificate provided or kept in accordance with the standards specified in Schedule 1 (standards covering design and manufacture of plant).
- If plant is suitable only for use as scrap or for spare parts for other plant, the person who is selling or transferring it must advise the purchaser or new owner of the plant in writing or by marking on the plant, before it is sold or transferred that:



# Mine safety legislation – OHS Reg

## ■ *Cl 122 (cont)*

- The plant is sold or transferred for use as scrap or for spare parts for other plant only and
- The plant in its current state must not be used for work but may be used only as scrap or for spare parts.

## ■ *Cl 135 Installation, erection and commissioning of plant - particular risk control measures*

- Requires an employer to ensure:
  - Plant is erected installed or commissioned with regard to instructions of designer and manufacturer or instructions developed by a competent person
  - A competent person undertakes installation, erection or commissioning
  - There is sufficient clear space around the plant



# Mine safety legislation – OHS Reg

- ***Cl 135 (cont)***

- Interim safeguards are used during testing.

- ***Cl 136 Use of plant – registration requirements and particular risk control measures***

- Requires:

- (1) an employer to ensure that plant designed and manufactured after the date of the regulation and of a kind specified in the table to clause 107 is not used unless design registered.





# Mine safety legislation – OHS Reg

## ■ *Cl 136 (cont)*

- (2) an item of plant specified in table to clause 113 is not used unless it is plant item registered
- (3) In relation to use of plant, an employer must ensure:
  - (a) Plant is operated by a trained and supervised person
  - (b) Plant is used only for design purpose unless a competent person has made an assessment that change does not present an increased risk to health or safety
  - (c) Safety features or devices incorporated are used as intended
  - (d) Risk of entanglement must be controlled
  - (l) Measures are taken to prevent alteration of plant
  - (m) Plant is subject to tests, checks and inspections to minimise risk to health and safety
  - (n) If risk is presented plant withdrawn from operation



# Mine safety legislation – OHS Reg

- ***Maintenance and repair of plant – particular risk control measures. (cl 137)***
- An employer must ensure:
  - (b) Inspections, maintenance and cleaning carried out as recommended by the designer, manufacturer or developed by a competent person
  - (c) Safety features and warning devices are maintained and tested
  - (d) Damaged which impairs operation condition and risk to health and safety increased is assessed by competent person to provide advice on; nature of damage, whether plant is able to be repaired and nature of repairs
  - (e) repair, inspection & testing carried out by competent person
  - (f) Repairs carried out to keep plant within design limits



# Mine safety legislation – OHS Reg

- ***Plant under pressure - particular risk control measures (cl 140)***
- An employer must ensure in relation to plant under pressure that:
  - A gas cylinder complies with AS 2030 parts 1,2 and 4.
  - Pressure equipment inspected in accordance with AS/NZS 3788:1996



# Mine safety legislation – OHS Reg

- ***Powered mobile plant – particular risk control measures (cl 141)***
- An employer must ensure:
  - (1) that powered mobile plant is used so as to minimise risk of overturning or falling objects coming into contact with the operator
  - (2) Appropriate combination of operator protective devices provided, used and maintained if risk of:
    - Powered mobile plant overturning
    - Or an object falling on operator
    - Or an operator being ejected from the seat



# Mine safety legislation – OHS Reg

- ***Cl 141 (cont)***
- (5) Tractor can have roll cage temporarily removed or lowered
- (6) Restrictions on uses of earth moving equipment which must have protective structure in accordance with AS 2294
- (9) Powered mobile plant has seat restraints if
  - Fitted with protective structures, or
  - Attachments are provided
- (10) Powered mobile plant:
  - Has appropriate warning devices to warn persons who are at risk from movement



# Mine safety legislation - OHS Reg

## ■ *Cl 141 (cont)*

- (b) Is not used to carry lift or lower persons unless
  - Designed for the purpose
  - Includes specifically designed seat and person is seated
  - Seat fitted with restraint
  - Seat fitted in zone of protection afforded to the operator

## ■ *Plant designed to lift or move – particular risk control measures: (cl 142)*

- An employer must ensure:
  - (1) a notice conspicuously placed on any lift or lifting machinery with rated capacity of plant in appropriate metric units or maximum persons to be lifted.
  - (3) (b) Plant not designed specifically for lifting or suspending loads not used for that unless it provides equal level of safety



# Mine safety legislation – OHS Reg

## ■ *Cl 142 (cont)*

- (c) All lifting or suspending done within rated capacity of the plant
- (d) Persons not lifted or suspended unless:
  - Other method not practical
  - Suitable personnel box used
  - Means provided by which persons in lift have safe egress
  - Plant suitably stabilised



# Mine safety legislation – OHS Reg

- ***Employer to keep records (cl 143)***
- Employer who has control of plant in table to clause 131 must make and keep for operating life of the plant records of any test maintenance, inspections, commissioning or alteration of plant relevant to controlling risks arising from plant.
- This includes an owner of plant affecting public safety.





# Disclaimer

This presentation was developed to assist mechanical engineers in fulfilling their obligations under the *Occupational Health and Safety Regulation 2001* and *Coal Mine Health and Safety Regulation 2006*. The information is intended as a guide only, contains limited information and is incomplete in some areas. Use of this document does not relieve the reader of any legislative duties covering activities which are contained or not contained within the presentation. The *Occupational Health and Safety Regulation 2001* and *Coal Mine Health and Safety Regulation 2006* must be read for the correct interpretation of legislative duties.