Queensland

Regulatory Impact Statement for SL 1996 No. 142

Workplace Health and Safety Act 1995

WORKPLACE HEALTH AND SAFETY AMENDMENT REGULATION (No. 1) 1996

NOTE: This document contains the regulatory impact statements prepared for the following proposed compliance standards—

- Workplace Health and Safety (Access) Compliance Standard
- Workplace Health and Safety (Air Handling and Water Systems) Compliance Standard
- Workplace Health and Safety (Cutting, Riveting and Welding) Compliance Standard
- Workplace Health and Safety (Electrical Equipment and Installations) Compliance Standard
- Workplace Health and Safety (Foundry and Abrasive Blasting) Compliance Standard
- Workplace Health and Safety (Specified Dangerous Goods) Compliance Standard
- Workplace Health and Safety (Spray Painting) Compliance Standard.

Following the notification of the availability of the regulatory impact statements, it became clear that the detailed information needed to support the drafting of the compliance standards would not be available before the expiry of provisions the standards were intended to replace. Consequently, a regulation, the *Workplace Health and Safety Amendment Regulation (No. 1) 1996* has been drafted in their stead. Work will continue on the compliance standards and parts of the regulation will be repealed as the standards are made.

The information contained in the regulatory impact statements, and the responses received about the statements, are apposite to the amending regulation. The amending regulation is made under the *Workplace Health and Safety Act 1995*, section 188.

PROPOSED WORKPLACE HEALTH AND SAFETY (ACCESS) COMPLIANCE STANDARD 1996

(MADE AS WORKPLACE HEALTH AND SAFETY REGULATION 1995, PART 11)

Executive summary

The lack or inadequacy of appropriate access facilities at a workplace expose workers to the risk of serious injury from burns or falls from a height. Workers families may also suffer loss of the worker's life from electrocution, fire or falls from a height. Division of Workplace Health and Safety inspectors indicate that some workplaces still compromise health and safety through inadequate access facilities. Currently, the *Workplace Health and Safety Regulation 1989* (the regulation), part 16 (Access) provides a legislative framework to address these problems.

Under current legislative transitional arrangements contained in the *Workplace Health and Safety Act 1995*, part 16 (Access) of the regulation will automatically expire on 1 July 1996 unless remade as a compliance standard. If the proposed compliance standard is not made prior to 1 July 1996, any regulatory protection for the health and safety of workers exposed to risks associated with access covered by the proposed compliance standard disappears.

Where regulations are subject to "sunset" provisions of the *Statutory Instruments Act 1992*, any proposal to continue with them requires the preparation of a Regulatory Impact Statement. The regulatory impact process requires a high level of scrutiny and the analysis of alternative options to ensure that regulatory requirements written into law will be both effective and efficient in their form and content.

It is estimated that the level of scrutiny required to address these requirements will take 2 years. There is insufficient time to complete the substantial research, development and consultation needed plus undertake the complex process to make subordinate legislation before the transitional arrangements in part 17 of the Act expire. Because of these problems the

options considered were—

- removal of regulatory control
- remake the existing part 16 (Access) of the regulation as the *Workplace Health and Safety (Access) Compliance Standard 1996* with changes restricted to those necessary for consistency with the Act and to ensure fundamental legislative principles are not breached. The proposed compliance standard would expire and be reviewed within 2 years of its making.

The analysis undertaken in this Regulatory Impact Statement indicates a continued need for the regulation of access at a workplace. The option of remaking the existing regulation into the proposed compliance standard that will expire and be reviewed within 2 years of its making is preferred because it provides for the continued protection of workers and minimises the impact if any on business to as short a period as is reasonably possible.

This Regulatory Impact Statement shows that the proposed compliance standard will have no or little impact on stakeholders over the 2 year time frame and is in the best interest of government, business and the community. The proposed *Workplace Health and Safety (Access) Compliance Standard 1996* is therefore recommended.

Short title

1. This standard may be cited as the *Workplace Health and Safety (Access) Compliance Standard 1996*.

What standard does

2. This standard prescribes ways to prevent or minimise certain risks to health and safety from access at a workplace.

Who standard applies to

3. This standard applies to an employer or a self-employed person.

Definitions

4. In this standard—

"access" means a fixed ladder, platform, stairway or walkway used by a person to inspect, maintain, operate or service anything at a workplace.

"AS 1657—1992" means the Standards Association of Australia standard 'AS 1657—1992' as in force at 1 January 1996.

Access must comply with the Australian standard and be kept clear

5. An employer or self-employed person must ensure access at the employer's or self-employed person's workplace—

(a) complies with AS 1657–1992; and

(b) is kept in a clear condition, free from accumulation of debris, equipment or other matter so that access is readily available at all times.

Expiry

6. This standard expires 2 years after it commences.

Background

The Queensland Government has redefined the requirements regarding the development of subordinate legislation by amending the *Statutory Instruments Act 1992*. From 1 July 1995, development of subordinate legislation requires the preparation of a Regulatory Impact Statement under Part 5 of the *Statutory Instruments Act 1992*.

In accordance with those requirements, the Regulatory Impact Statement for the proposed *Workplace Health and Safety (Access) Compliance Standard 1996* is now made available for public comment.

The *Workplace Health and Safety Act 1995* (the Act) commenced on 1 July 1995. This Act repealed the *Workplace Health and Safety Act 1989* and retains parts of the *Workplace Health and Safety Regulation 1989* (the regulation) in its transitional arrangements.

Part 16 (Access) of the regulation is retained in the transitional arrangements and expires on 1 July 1996 unless earlier repealed by regulation.

The proposed *Workplace Health and Safety (Access) Compliance Standard 1996* re-makes the existing part 16 of the regulation so it is consistent with the Act and fundamental legislative principles.

The proposed compliance standard, if made, will not alter existing rights, obligations or circumstances for workplace health and safety. It is intended that the proposed compliance standard should only remain in effect for 2 years during which time it will be reviewed for regulatory efficiency in consultation with all the stakeholders.

Title

The proposed subordinate legislation will be titled *Workplace Health and Safety (Access) Compliance Standard 1996.*

Authorising law

Under the *Workplace Health and Safety Act 1995* (the Act), section 38 the Governor in Council may make a compliance standard for workplace health and safety to prohibit, or prescribe a way to prevent or minimise,

exposure to risk from workplaces, workplace activities or specified high risk plant.

The Act imposes workplace health and safety obligations on certain persons and when a compliance standard is made about a risk, a person can only discharge an obligation for that risk by following the compliance standard. Under section 37 of the Act, this provides a defence to any prosecution about a person's obligation for that risk.

Consultation

The Workplace Health and Safety Council is the peak advisory body to the Minister for Employment, Training and Industrial Relations on matters about workplace health and safety. This council includes representatives from employer associations, unions, government, and health and safety experts. The council has endorsed remaking part 16 of the Workplace Health and Safety Regulation as a compliance standard so it is consistent with the *Workplace Health and Safety Act 1995* and fundamental legislative principles.

The *Queensland Chamber of Commerce and Industry* (QCCI), the *Metal Trades Industry Association* (MTIA) and the *Australian Council of Trade Unions* (ACTU), Queensland Branch were consulted about the difficulties faced because of the expiry of part16 of the regulation on 1 July 1996. Opinions were sought in regard to remaking the 1989 regulation and preparing a limited Regulatory Impact Statement. All parties supported the proposal, however the QCCI support was conditional upon the preparation of an extensive Regulatory Impact Statement that met the requirements of the *Statutory Instruments Act 1992.*

To address the concerns of the QCCI about the Regulatory Impact Statement, advice was sought from the Business Regulatory Review Unit (BRRU) of the Department of Business, Industry and Regional Development (DBIRD). BRRU advised that while they agreed with QCCI that the requirements of the *Statutory Instruments Act 1992* should be applied in full they acknowledged however, that if the analysis called for by QCCI was attempted at this juncture, the Regulation would expire before it could be replaced. They further advised that this is not in the best interests of any of the parties, and the most appropriate course of action would be to remake the regulation now, with a "limited" Regulatory Impact Statement

and provide for a full analysis at a later date. This could be achieved through the insertion of a review clause which would also expire the regulation in 2 years time.

Policy objectives

What is the problem which needs to be solved?

Operating, inspection, maintenance and servicing work is carried out by a significant number of people engaged in a wide range of industries and working conditions. When this type of work is not carried out using adequate access facilities, it exposes employers, self-employed persons and workers to a significant risk to their health and safety.

What are the risks which need to be controlled?

Operating, inspection, maintenance and servicing work requiring fixed platforms, walkways, stairways, and ladders involves potential exposure to risks which may include any or all of the hazards involved or associated with electricity, heat, mechanical, and gravity (falls from a height). These are the risks that need to be controlled.

Have the key stakeholders done what they can to control the risk?

Government

Historically, legislative provisions about Access work have existed in different forms in Queensland since at least 1962, commencing with regulation 11 of the *Inspection of Machinery Act*. This act was repealed upon the commencement of the *Workplace Health and Safety Regulation 1989* (the regulation) on 31 July 1989. Part 16 (Access) of the regulation has a broader application as it covers all workplaces to which the *Workplace Health and Safety Act 1995* applies, with the exception of rural industry workplaces.

Business

Without doubt, many businesses are doing "the right thing" in relation to access. However, access facilities are in some cases not meeting the current (and hence proposed) standards. This is exposing employers, self-employed persons and workers in those businesses to unacceptable risk to their health and safety.

The data from the Division of Workers Compensation is not able to provide valid data on injuries sustained as a result of the lack or inadequacy of access facilities. While many businesses currently comply, not all workplaces are putting the required control measures in the form of fixed access facilities, into place.

Community

Workers and others are reliant on employers to ensure fixed access facilities meets safety standards, and safe operating procedures are implemented to ensure their health and safety. Workers play their part by complying with their obligations of section 36 of the Act. Some of these obligations are—

- to comply with instructions given for health and safety at the workplace by the employer
- to use personal protective equipment supplied by the employer
- not to wilfully injure themselves or to recklessly or wilfully place at risk the health and safety of any other person at the workplace.

Is there a compelling case for Government involvement on the grounds of public health and safety?

There is a continuing case for Government involvement on the grounds of workplace health and safety. This opinion is based on an ongoing potential for loss of life or serious injury to workers, contractors and others using fixed access facilities.

While acknowledging the efforts of the stakeholders, the Division of Workplace Health and Safety (the Division) is of the view that it is in the interest of all stakeholders to continue to provide regulatory requirements

which will specify how employers must safeguard themselves, their workers and other persons from exposure to risks associated with the lack of, or inappropriate, fixed access facilities at workplaces.

What is the worst possible consequence of Government inaction?

Under current legislative transitional arrangements part 16 (Access) of the regulation will automatically expire on 1 July 1996 unless remade as a compliance standard. If the proposed compliance standard is not made prior to 1 July 1996, any regulatory protection for the health and safety of workers exposed to risks associated with access covered by the proposed compliance standard disappears.

If the Government does not provide specific regulatory control in respect to Access at a workplace, it could abrogate its long-standing responsibility for providing legislation for the protection of the health and safety of employers, self-employed persons, workers and members of the public who may be affected by unsafe access to inspect, maintain, operate or service anything requiring access by means of fixed ladders, platforms, stairways or walkways at a workplace. The lack of specific regulatory control also removes certainty for employers and self-employed persons who are responsible for identifying and managing the risks associated with access at the workplace.

The proposed compliance standard is designed primarily to create certainty for employers and others, and to prevent or minimise the risks of injury or death from unsafe access facilities at a workplace.

National situation

There is no consistent approach to regulating workplace access facilities by the different State or Territory jurisdictions.

Legislative intent

What rights, obligations or circumstances does the proposed compliance standard change or establish?

The proposed compliance standard for access supports the Act but does not change existing circumstances or obligations. The rural industry continues to be exempted from the application of this compliance standard. The objective of the proposed access compliance standard is to provide the minimum fixed standards necessary to facilitate the prevention or minimisation of exposure to health and safety risks when requiring fixed means of access to, and safe working platforms, at places normally used by operating, inspection, maintenance and servicing personnel. The obligation to ensure health and safety when carrying out these processes at a workplace will continue to be imposed on employers or self-employed persons.

How will that work in practice—what is the overall effect of the compliance standard expected to be?

The proposed compliance standard imposes obligations on employers or self employed persons at workplaces requiring fixed means of access to, and safe working platforms, at places normally used by operating, inspection, maintenance and servicing personnel. The proposed compliance standard requires employers and self employed persons to comply with the following Australian Standard (AS)—

AS 1657—Fixed platforms, walkways, stairways, and ladders—Design, construction and installation	Specifies requirements for the design, construction and installation of fixed means of access to, and safe working at places normally used by operating, inspection, maintenance and servicing personnel. Appendices include test methods for guardrails an posts, as well as typical guardrail component dimensions and spacings.

This Australian Standard was first published as catalogue number *AS CA10* in 1938. The current 1992 version of this Australian Standard is a direct descendant of this standard, and covers the same subject area and risks as the original.

The overall effect of this compliance standard for access will be to provide remade subordinate legislation which aims to facilitate the prevention or minimisation of risks to health and safety for employers, self employed persons and workers at workplaces requiring fixed means of access to, and safe working platforms, at places normally used by operating, inspection, maintenance and servicing personnel.

Why is the proposed compliance standard reasonable and appropriate?

The area of access to and safe working platforms at workplaces in places normally accessed by operating, inspection, maintenance and servicing personnel is one of the more long-standing occupational health and safety areas covered by some form of governmental regulation. In the earlier days of the industrial revolution, employers paid scant regard to safe access and working platforms for workers performing operating, inspection, maintenance and servicing tasks. The situations were inherently dangerous, and there were no physical barriers preventing contact with potential risks—be they falls from a height, proximity to exposed electrical potential, contact with extremely hot surfaces, boiler steam release valves, exposed unguarded gears and wheels on overhead gantries, and a range of risks specific to the circumstances of each workplace.

The objective of the proposed access compliance standard is to ensure the continuance of legislative protection from the multitudinous risks potentially encountered in situations requiring fixed means of access to, and safe working platforms, at places normally used by operating, inspection, maintenance and servicing personnel. By following the proposed access compliance standard, an employer or self-employed person may discharge their obligations under the Act.

Consistency with the authorising law

How does the proposed compliance standard contribute to the achievement of the overall objective of the authorising legislation?

The proposed compliance standard for Access has been drafted to provide subordinate legislation consistent with the *Workplace Health and Safety Act 1995* (the "Authorising Law"). The overall objective of the Act is to ensure freedom from disease or injury to persons caused, and the risk of disease or injury to persons created, by workplaces, workplace activities or specified high risk plant. The proposed access compliance standard provides the requirements necessary to facilitate the prevention or minimisation of exposure to health and safety risks when requiring fixed means of access to, and safe working platforms, at places normally used by operating, inspection, maintenance and servicing personnel.

Enforcement of the proposed compliance standard

The Division of Workplace Health and Safety will be responsible for enforcing the proposed compliance standard. The proposed compliance standard will be enforced primarily through—

- the issue of **improvement notices** that require corrective measures to be implemented by a certain date
- the issue of **prohibition notices** that can stop an activity or plant being used where it is considered that an immediate risk to health and safety exists
- **prosecution** for failure to comply with the requirements of the proposed compliance standard, that is, the person has failed to meet his or her obligation under the Act. A person who breaches an obligation can be prosecuted. The maximum penalty for this is $30 000 or 6 months' imprisonment for an individual. The maximum penalty for a body corporate is $150 000.

Options and alternatives

The following alternatives were considered in developing this Regulatory Impact Statement—

1. Removal of Regulatory Control.
2. Remake the existing part 16 (Access) of the regulation as the *Workplace Health and Safety (Access) Compliance Standard 1996*.

Option 1: Removal of regulatory control (not preferred)

With the removal of any form of regulatory control employers or self employed persons will be responsible for developing their own systems to satisfy the intent of the Act.

The main aim of the compliance standard is to help provide certainty for employers or self employed persons involved with fixed access facilities at a workplace, regarding requirements for minimising or preventing exposure to the risks involved, and therefore satisfy their obligations under the Act. If there is no compliance standard, employers or self employed persons are in positions where they must carry out their own research if they wish to ensure workplace health and safety.

A report commissioned by the Division in 1994 on the development of an industry inspectorate contact and facilitation program, indicated that businesses generally fall into 4 groups—

1. Those that developed methods of ensuring the health and safety of their workers and others without any direction from Government or any other source.
2. Those that willingly ensured the health and safety of their workers and others when guidelines such as an Australian Standard were available.
3. Those that ensured the health and safety of workers and others only when governments regulated they do so.
4. Those that do not ensure the health and safety of workers and others even with government regulation, and accept the penalties imposed through noncompliance.

If regulatory control was removed, it is expected the reduction of any costs would affect those businesses in group 3 who develop safe work practices only when directed to do so by government. Against the possible savings for this group must be compared the social and financial costs associated with increased fatalities, injuries and illnesses, lost productivity and industrial disputation likely to result because of noncompliance.

While Queensland could rely on education and voluntary compliance in the absence of regulatory control, this educative approach would be unlikely to lead to better health and safety practices among groups 3 and 4. While short term savings might accrue to businesses who choose not to follow the suggested health and safety management practices contained in Australian Standards, it is considered the long-term costs to the noncomplying workplaces would overshadow any short term savings.

Option 1 is not preferred because it is not considered prudent to remove enforceable regulatory requirements in regard to access until the matter is fully reviewed in consultation with all the stakeholders. The available time frame is not sufficient to allow this to occur.

Option 2: Remake the existing part 16 (Access) as the *Workplace Health and Safety (Access) Compliance Standard 1996* (preferred)

Under this option, changes are restricted to those necessary for consistency with the *Workplace Health and Safety Act 1995*, and to ensure Fundamental Legislative Principles are not breached. The proposed compliance standard would expire and be reviewed within 2 years of its making.

The proposed compliance standard will continue to call up Australian Standard *AS 1657—Fixed platforms, walkways, stairways, and ladders—Design, construction and installation*.

There are problems associated with calling up Australian Standards under the *Workplace Health and Safety Act 1995*. These include, but are not limited to, the following—

- Australian Standards are not developed in tripartite forums and are not subject to extensive consultation

- Australian Standards may impose obligations on persons who do not have obligations under the relevant occupational health and safety legislation
- Australian Standards often call up other Australian Standards or other documents. This can be costly and impractical
- The development of or changes to Australian Standards are not subjected to any cost-benefit analysis
- Australian Standards are not legally drafted and they can contravene fundamental legislative principles and modern legal drafting conventions.

It is estimated that the level of scrutiny required to address all of the problems will take 2 years. Therefore there is insufficient time to complete the substantial research, development and consultation needed plus undertake the complex process to make subordinate legislation before the transitional arrangements in part 17 of the Act expire.

In the immediate available time frame changes for the proposed compliance standard from the existing part 16 (Access) will be restricted to those necessary for consistency with the Act and to ensure consistency with Fundamental Legislative Principles. The proposed compliance standard would then be reviewed within 2 years of its making.

Why is the proposed remake more appropriate?

Option 2 is considered the appropriate alternative for the following reasons—

- It allows sufficient time to assess the issue for regulatory efficiency and to consider alternatives in consultation with the stakeholders
- It provides certainty for employers or self-employed persons as to how they can comply with their obligations under the Act while this scrutiny takes place
- It continues to provide protection against the risks to health and safety for employers, self-employed persons and workers inspecting, maintaining, operating or servicing anything requiring access by means of fixed ladders, platforms, stairways or

walkways at a workplace while this scrutiny occurs

- It minimises costs, if any, to business of possible inefficient regulation to as short a period as is reasonable possible
- The level of support for this alternative from employee and employer groups
- The opinion of the BRRU that this approach is in the best interest of all parties.

Cost benefit analysis of the proposed compliance standard

The content specifications contained in the *Statutory Instruments Act 1992* require a brief analysis of the costs and benefits where it is reasonable and practical to do so. The analysis that follows is in keeping with that requirement.

Methodology

The methodology used to assess the benefits and costs of implementing the proposed compliance standard was developed by the Department of Business, Industry and Regional Development (DBIRD). This approach is in accordance with Cabinet's decision of August 1994, which requires the application of this methodology to all new "significant" subordinate legislation. The methodology is a process which demonstrates the qualitative or "intangible" and quantitative "dollar-value" impacts of the proposed compliance standard.

Limitations

Obtaining data in the available timeframe is extremely difficult with this type of study. There is very little information readily available that will allow a cost-benefit analysis to be carried out. An indication of the difficulties is given by the following outline of the main tasks necessary for an analysis—

- assessing the number of workplaces that undertake Access activities in all industrial sectors

- estimating the number of workers exposed to various risks associated with access
- identifying alternative methods which could ensure control of exposure to access risks
- estimating and analysing the cost associated with each method
- estimating the financial and socioeconomic benefits of controlling exposure to access risks.

Because of the absence of much of the empirical data required, and the time constraints imposed by the transitional arrangement imposed by the Act, it was not reasonable or practical to quantify the "dollar value" impacts of the proposed compliance standard at this time. As discussed earlier, advice was sought from BRRU who confirmed that this was an acceptable approach under the circumstances. The analysis was undertaken over a 2 year time horizon which is consistent with the undertaking to expire and review the proposed compliance standard within that timeframe.

The analysis involved a qualitative estimation of the impact of the proposed compliance standard across financial and socioeconomic factors comprising some 80 issues from the perspective of government, business and the community.

After aggregating the positive and negative impacts, this process concluded that overall there would not be a negative impact for any of the 3 stakeholders from the implementation of the proposed compliance standard for the next 2 years.

Costs

The following costs to Government, Business and the Community of the proposed *Workplace Health and Safety (Access) Compliance Standard 1996* were identified in the analysis.

Government

The cost to government of implementing the proposed compliance standard come from 2 areas—

1. development of the standard; and
2. enforcement.

Development cost

The cost of the development of the proposed compliance standard are not significant because of minimal redrafting required but include the following items—

- development of policy
- salaries of divisional staff
- time with the Parliamentary Counsel
- time in Cabinet
- cost of printing.

Enforcement cost

The Division of Workplace Health and Safety is responsible for enforcing the Act. While the proposed compliance standard will not require any change to the Government's allocation of resources a proportion of the recurrent cost of inspection and auditing should accrue to this proposed compliance standard. This expenditure is insignificant as a proportion of the expenditure on the total Inspectorate budget.

Business

A large degree of variability between the type of access facilities at workplaces makes it difficult to generalise about the likely impact, but over the 2 year life of the proposed compliance standard the impact is to be expected to be minimal. Costs will be incurred primarily through ensuring access facilities required by the proposed access compliance standard meets

the standards currently in force. Most such facilities are thought to meet this standard.

The control measures (access facilities) required to achieve compliance with the proposed compliance standard are already used by many employers. It should also be noted that as industry is already required to comply with Part 16 (Access) of the 1989 regulation, any initial start up cost should only apply to new businesses being established, and only if these businesses require fixed means of access to, and safe working platforms, at places normally used by operating, inspection, maintenance and servicing personnel.

Consumer/community

It is not expected that the community will incur any cost through price increases because of the continued implementation of part 16 (Access). The same level of regulatory control has been in existence since at least 1962. The Australian Standard for access has been in existence since the 1930s. Any increased cost should have already been passed on to the consumer.

Benefits

The following benefits to Government, Business and the Community of the proposed *Workplace Health and Safety (Access) Compliance Standard 1996* were identified in the analysis.

Business

The main benefits for business of the proposed compliance standard are—

- increased productivity from improved working conditions
- reduced industrial disputation
- reduced business disruption due to worker absenteeism and turnover

- reduction in lost time due to fewer injuries
- reduced compensation costs and penalties.

All businesses where Access facilities are required and in place will benefit from a reduction in both direct workers' compensation and indirect costs associated with accidents to workers. The associated costs stem from such areas as rehiring, retraining, damaged equipment and business interruption.

Some appreciation of the extent of possible savings for industry can be appreciated when it is realised that the nature of the majority of injuries sustained in access activities result in short periods of incapacity. Following recent changes to workers compensation legislation employers will be required to pay injured workers for the initial 4 days of any time lost claim time. This could result in the employer incurring a cost of approximately $400 for each such injury which may have been avoided by incurring the cost associated with complying with the proposed compliance standard.

Government

By remaking the existing intention of the requirements for access facilities, the proposed compliance standard reduces the likelihood of some businesses foregoing safety in pursuit of greater profits. In this way, the proposed compliance standard serves to create a “level playing field” which enhances competition.

The proposed compliance standard will reduce the number of injuries resulting from the lack of access facilities in Queensland, and will ensure the Government continues to meet its stated policy objective to ensure freedom from disease or injury to persons caused, and risk of disease or injury to persons created, by workplaces, workplace activities and specified high risk plant. Access facilities intended to be covered by the proposed access compliance standard include certain places within workplaces, on or adjacent to some certain specified items of high risk plant, and are always associated with one of the 4 following workplace activities—operating, inspecting, maintaining and servicing.

Consumer/community

The proposed compliance standard will continue to provide workers with statutory protection which obliges employers to prevent or minimise the risk of their workers being exposed to injuries, illness or death from Access. The community will benefit from a reduction in the number of workers whose health and safety is affected by uncontrolled exposure to Access risks at work.

National competition policy

To what extent does the proposed compliance standard impose or encourage restrictions?

As the proposed compliance standard will apply to all employers and self-employed persons requiring access by means of a fixed ladder, platform, stairway or walkway to anything at the workplace to be used by a person for inspection, maintenance, operational or servicing purposes, it is unlikely to impose any restrictions on a competitive market.

Fundamental legislative principles

To what extent is the proposed legislation consistent with fundamental legislative principles?

The proposed compliance standard does not infringe fundamental legislative principles.

Conclusion

The analysis undertaken in this Regulatory Impact Statement was subject to time constraints imposed by the transitional arrangements contained in the *Workplace Health and Safety Act 1995*, part 17 and the current resources available to the Division of Workplace Health and Safety.

The known risk of injury, illness or death associated with the lack or inadequacy of access facilities at a workplace requires the continuation of some legislative control to prevent or minimise these risks until deliberation on the type of regulation appropriate to current Queensland requirements can be undertaken in consultation with the stakeholders.

The qualitative analysis undertaken in this Regulatory Impact Statement has indicated the financial and socioeconomic benefits to the people of Queensland outweigh the costs associated with the implementation of the proposed compliance standard. The proposed *Workplace Health and Safety (Access) Compliance Standard 1996* is therefore recommended.

PROPOSED WORKPLACE HEALTH AND SAFETY (AIR-HANDLING AND WATER SYSTEMS) COMPLIANCE STANDARD 1996

(MADE AS WORKPLACE HEALTH AND SAFETY REGULATION 1995, PART 12)

Executive summary

This Regulatory Impact Statement recommends the continuation of some specific regulatory control to prevent or minimise the risks from exposure to certain micro-organisms in air handling and water systems for period of 2 years to allow an appropriate level of deliberation and consultation with stakeholders about the type of regulation that is suitable for Queensland. This is based on the known risk of illness and death associated with inadequately maintained air-handling and water systems in buildings. The number of persons exposed top these risks is potentially very large, as air handling and water systems are used in many large buildings regularly frequented by the public (such as major shopping complexes, entertainment venues, etc.)

Division of Workplace Health and Safety inspectors indicate that, in some cases, workplaces still compromise health and safety through inadequate maintenance of air handling and water systems of buildings. Currently, the *Workplace Health and Safety Regulation 1989* (the regulation), part 38 (Air Handling and Water Systems of Buildings) provides a legislative framework to address these problems.

Under current legislative transitional arrangements contained in the *Workplace Health and Safety Act 1995*, part 38 (Air Handling and Water Systems of Buildings) of the regulation will automatically expire on 1 July 1996 unless remade as a compliance standard. If the proposed compliance standard is not made prior to 1 July 1996, regulatory protection for the health and safety of workers and others (including potentially many members of the public) exposed to risks associated with air handling and water systems of buildings covered by the proposed compliance standard disappears.

Where regulations are subject to "sunset" provisions of the *Statutory Instruments Act 1992*, any proposal to continue with them requires the preparation of a Regulatory Impact Statement. The regulatory impact process requires a high level of scrutiny and the analysis of alternative options to ensure that regulatory requirements written into law will be both effective and efficient in their form and content.

It is estimated that the level of scrutiny required to address these requirements will take 2 years. There is insufficient time to complete the substantial research, development and consultation needed plus undertake the complex process to make subordinate legislation before the transitional arrangements in part 17 of the Act expire. Because of these problems the options considered were—

- removal of regulatory control
- remake the existing part 38 (Air Handling and Water Systems of Buildings) of the regulation as the *Workplace Health and Safety (Air-handling and Water Systems) Compliance Standard 1996* with changes restricted to those necessary for consistency with the Act and to ensure fundamental legislative principles are not breached. The proposed compliance standard would expire and be reviewed within 2 years of its making.

The analysis undertaken in this Regulatory Impact Statement indicates a continued need for the regulation of air-handling and water systems at a workplace. The option of remaking the existing regulation into the proposed compliance standard that will expire and be reviewed within 2 years of its making is preferred because it provides for the continued protection of workers and others, and minimises the impact if any on business to as short a period as reasonable.

This Regulatory Impact Statement shows that the proposed compliance standard is in the best interest of Government, Business and the Community. The proposed *Workplace Health and Safety (Air-handling and Water Systems) Compliance Standard* is therefore recommended.

Short title

1. This standard may be cited as the *Workplace Health and Safety (Air-handling and Water Systems) Compliance Standard 1996*.

What standard does

2. This standard prescribes ways to prevent or minimise certain risks to health from exposure to certain micro-organisms from air-handling and water systems at a relevant place.

Examples of 'air-handling systems'—

1. An airconditioning unit.
2. An evaporative cooler.
3. A humidifier.

Examples of 'water systems'—

1. A cooling tower.
2. A hot water system.

Who standard applies to

3. This standard applies to the following persons—

(a) a designer or installer of an air-handling or water system;

(b) an owner of an airconditioning unit or cooling tower;

(c) an employer or self-employed person.

Definitions

4. In this standard—

"AS 3666–1995" means the Standards Association of Australia standard 'AS 3666–1995' as in force at 1 January 1996.

Design and installation of air-handling and water systems

5.(1) A designer of an air-handling or water system must ensure a system designed after the commencement complies with AS 3666—1995.

(2) An installer of an air-handling or water system must ensure a system designed under AS 3666–1995 is installed under AS 3666–1995.

Maintenance and operation of air-handling and water systems

6.(1) An owner of an airconditioning unit or cooling tower must ensure it is maintained and operated under AS 3666—1995.

(2) An employer or self-employed person must ensure an air-handling or water system (other than an airconditioner or cooling tower) at the employer's or self-employer person's workplace is maintained and operated under AS 3666—1995.

Expiry

7. This standard expires 2 years after it commences.

Title

The title of the proposed subordinate legislation is the *Workplace Health and Safety (Air-handling and Water Systems) Compliance Standard 1996.*

Background

The *Workplace Health and Safety Act 1995* (the Act) commenced on 1 July 1995 and retains parts of the *Workplace Health and Safety Regulation 1989* (the regulation) in its transitional arrangements.

Part 38 of the regulation (Air Handling and Water Systems of Buildings) is retained in the transitional arrangements and expires on 1 July 1996 unless earlier repealed by regulation.

The proposed *Workplace Health and Safety (Air-handling and Water Systems) Compliance Standard 1996* remakes the existing part 38 of the regulation so it is consistent with the Act and fundamental legislative

principles. Fundamental legislative principles guide the development of legislation in Queensland and are contained in the *Legislative Standards Act 1992*.

The proposed compliance standard, if made, is intended to remain in effect for 2 years only, during which time it will be reviewed for regulatory efficiency in consultation with all the stakeholders.

Authorising law

The *Workplace Health and Safety Act 1995* is the authorising law for the proposed compliance standard.

Policy objectives

What is the problem which needs to be solved?

Micro-organisms are found in nearly every environment and are largely present in soil, water, food and air. In buildings, micro-organisms are usually found on surfaces like carpet, ceilings, tiles or floating on dust or aerosol particles. Certain microbial growth is a hazard which becomes a serious risk to health when persons are exposed to high concentrations of certain micro-organisms. Fungi and bacteria are microbes which can easily colonise if the necessary moisture and nutrients are present. Air-handling and water systems are known to provide environments in which certain micro-organisms can multiply and create a health risk.

Although outbreaks of illnesses due to exposure to certain micro-organisms are infrequent, there is a need for persons with obligations under the Act to minimise exposure to this health risk.

What are the risks which need to be controlled?

There are several illnesses which can result from exposure to high concentrations of certain micro-organisms. The risk of most concern is the colonisation and growth of legionella bacteria. Legionella infections are collectively known as legionellosis which includes legionnaires' disease and infections caused by other species and serogroups. Legionnaires' disease

presents like a severe form of pneumonia with symptoms like malaise, muscle pain and headache progressing to high fever, dry coughing and shortness of breath. As the toxins are released in the lung, systemic effects develop with coma and gastrointestinal symptoms like vomiting, diarrhoea, nausea and abdominal pain.

Outbreaks of legionnaires' disease indicate only a low percentage of those exposed to the risk actually develop the disease. However, the mortality rate associated with legionnaires' disease is usually high. Australia's largest epidemic in Wollongong, New South Wales in April 1987 resulted in 44 cases requiring hospitalisation and 10 deaths. The Fairfield, New South Wales outbreak in April 1992 resulted in 25 cases including 6 deaths.

Whether a person exposed to legionella bacteria develops legionnaires' disease depends on factors like the person's resistance to infection, the size of the infective dose and the opportunity for exposure to airborne aerosols to enter the lung. While healthy young persons of either sex can develop legionnaires' disease, those particularly at risk of developing legionnaires' disease are persons who—

- are male
- are over 50 years of age
- have a history of smoking
- have heavy alcohol intake
- have medical conditions or treatment that impair the body's defence mechanisms.

Pontiac fever is a rare, non-life threatening form of legionellosis which is a non-pneumonic illness that usually lasts 2 or 3 days. The symptoms are similar to those of a severe influenza and include headache, tiredness, fever, mental confusion and sometimes nausea. Pontiac fever has a very high attack rate. In some outbreaks, 95% of those exposed developed the illness.

Other rare illnesses are humidifier fever and hypersensitivity pneumonitis, both of which provoke an illness like influenza. These illnesses are allergies rather than infections and occur when airborne causative agents are inhaled by susceptible persons.

Have the key stakeholders done what they can to control the risk?

Government

In March 1989, Standards Australia released *Australian Standard 3666—Air-handling and water systems of buildings—Microbial control* which established guidelines to assist in the control of micro-organisms in air-handling and water systems of buildings. AS 3666:1989 was given legislative effect by the Queensland Government, by calling it up in the *Workplace Health and Safety Regulation 1989* (part 38—Air Handling and Water Systems of Buildings).

AS 3666:1989 was revised in 1995 as a joint Standards Australia/Standards New Zealand publication and was approved by the Council of Standards Australia on 15 June 1995. As the *Workplace Health and Safety Regulation 1989* contained a provision which allowed for a reference to an Australian Standard to be taken as a reference to that Standard as amended from time to time, the 1995 version of AS 3666—*Air-handling and water systems of buildings—Microbial control* became the Standard referred to in part 38 of the *Workplace Health and Safety Regulation 1989*.

Business

In Queensland, legionellosis is a notifiable disease under the *Health Act 1937*. Cases reported in Queensland in the last 5 years are as follows—

- 1991—31 cases
- 1992—32 cases
- 1993—23 cases
- 1994—21 cases
- 1995—20 cases.

These records do not indicate the source of legionellosis, for example, a cooling tower or hot water system. As many of the environments in which certain micro-organisms colonise are found in workplaces or are specified high risk plant, persons with workplace health and safety obligations under the Act need to be aware of how to prevent or minimise this risk to health.

In Queensland, as at 16 January 1996, 1 388 airconditioning units and cooling towers were registered with the Division of Workplace Health and Safety. The *Workplace Health and Safety Regulation 1995* requires persons to register certain plant, including airconditioning units and cooling towers. However, it is reasonable to assume a number of persons have not complied with the requirement to register their airconditioning unit or cooling tower, consequently these figures understate the total number in Queensland.

The division estimates the majority of businesses operating and maintaining cooling towers in Queensland carry out activities beyond the requirements of AS 3666:1995, for example, more regular cleaning, biological monitoring and chemical water treatment systems integrated with systems.

The number of air-handling and water systems in Queensland, other than airconditioning units and cooling towers, is unknown.

Community

Members of the community are unable to control their own exposure to the risks. Given that exposure to high concentrations of certain micro-organisms is not a visible risk, members of the public at or near workplaces rely on persons with workplace health and safety obligations under the Act to prevent or minimise the risk to their health.

Is there a compelling case for Government involvement on the grounds of public health, safety or prosperity?

There is a strong case for Government involvement on the grounds of public health and safety. There is a community expectation about protection from risks like legionnaire's disease and the role Government has in ensuring those persons responsible for potential sources discharge that obligation.

There is also a strong case for regulatory control and enforcement on the grounds of prosperity. Compliance with the proposed compliance standard aims to prevent or minimise the risk of an outbreak of legionnaires' disease.

Prosperity of the state may be affected by outbreaks of this illness, for example, a large outbreak in a hotel where an international convention is being held. An outbreak of such an illness and accompanying publicity may reduce the state's ability to attract tourists and convention groups. This would have a negative impact on the economy in the short term.

What is the worst possible consequence of Government inaction?

If the Government does not provide specific regulatory control for air-handling and water systems, so far as the Act allows, there will be no enforceable standard to ensure protection for workers and members of the public at risk from exposure to certain micro-organisms from these sources. The current regulation will expire on 1 July 1996.

National situation

The National Occupational Health and Safety Commission released a guide about Legionnaires' disease and related illnesses in 1989.

The New South Wales *Public Health Act 1991* contains provisions about microbial control which regulate installation, operation and maintenance of certain kinds of systems in order to prevent or inhibit the growth of certain micro-organisms liable to cause Legionnaires' disease and other illnesses. The Health Department in New South Wales also released a *Code of Practice for the Control of Legionnaires' Disease* which provides advice about microbial control in water cooling and warm water systems.

In Tasmania, the *Public Health (Legionnaires' Disease) Regulations 1989* contain provisions which require compliance with *AS 3666—Air-handling water systems of buildings—Microbial control* as amended from time to time.

The Victorian Health Department released *Guidelines for the control of Legionnaires' disease* in 1989. The guidelines are referred to in Victoria's *Infectious Diseases Regulation*.

The Occupational Health, Safety and Welfare Commission of Western Australia released a *Code of Practice for the Prevention and Control of Legionnaires' Disease* in 1989.

Consultation

The Workplace Health and Safety Council is the peak advisory body to the Minister for Employment and Industrial Relations on matters about workplace health and safety. This council includes representatives from employer associations, unions, government, and health and safety experts. The council has endorsed remaking the *Workplace Health and Safety Regulation*, part 38 as a compliance standard so it is consistent with the *Workplace Health and Safety Act 1995* and fundamental legislative principles.

The Queensland Chamber of Commerce and Industry (QCCI), the Metal Trades Industry Association (MTIA) and the Australian Council of Trade Unions (ACTU), Queensland Branch were consulted about the difficulties faced because of the expiry of part 38 of the regulation on 1 July 1996. Opinions were sought in regard to remaking the 1989 regulation and preparing a limited Regulatory Impact Statement. All parties supported the proposal, however the QCCI support was conditional upon the preparation of an extensive Regulatory Impact Statement that met the requirements of the *Statutory Instruments Act 1992.*

To address the concerns of the QCCI about the Regulatory Impact Statement, advice was sought from the Business Regulatory Review Unit (BRRU) of the Department of Business, Industry and Regional Development (DBIRD). BRRU advised that while they agreed with QCCI that the requirements of the *Statutory Instruments Act 1992* should be applied in full they acknowledged however, that if the analysis called for by QCCI was attempted at this juncture, the regulation would expire before it could be replaced. They further advised that this is not in the best interests of any of the parties, and the most appropriate course of action would be to remake the regulation now, with a "limited" Regulatory Impact Statement and provide for a full analysis at a later date. This could be achieved through the insertion of a review clause which would also expire the regulation in 2 years time.

Legislative intent

What rights, obligations or circumstances does the proposed compliance standard change or establish?

The objective of the proposed compliance standard is to prevent or minimise the risks to health from exposure to certain micro-organisms in air-handling and water systems.

The proposed compliance standard imposes obligations on designers and installers of air-handling and water systems, owners of airconditioning units and cooling towers, employers and self-employed persons.

What is the overall effect of the proposed compliance standard expected to be?

The health of employers, self-employed persons, workers and members of the public is exposed to significant risk from certain microbial sources when air handling and water systems are not adequately designed, installed, operated and maintained. The overall effect of the proposed compliance standard is to ensure persons with relevant obligations under the Act prevent or minimise the risks to health from exposure to these risks. In practice this will be achieved through the implementation of requirements contained in AS/NZS 3666:1995—Air-handling and water systems of buildings—Microbial control, parts 1 and 2.

AS/NZS 3666—part 1—specifies the minimum requirements for the design, installation and commissioning of air-handling systems, heated water systems and cooling water systems.

AS/NZS 3666—part 2—specifies the minimum requirements for regular routine maintenance of air-handling systems, heated water systems, cooling water systems as well as operating and maintenance manuals and maintenance records.

Why is the proposed compliance standard reasonable and appropriate?

To control legionella and other microorganisms it is essential that hygienic conditions in air-handling and water systems are maintained to prevent any opportunity for harmful microbial growth to take place. These desired conditions can be obtained through the implementation of the minimum requirements contained in AS/NZS 3666:1995—Air-handling and water systems of buildings—Microbial control, parts 1 and 2.

The tripartite Workplace Health and Safety Council considers it reasonable and appropriate to make the proposed compliance standard for a 2 year period to ensure workers and members of the public continue to receive the same level of specific regulatory protection for the health risks associated with air-handling and water systems. It is also a reasonable and appropriate period to allow the compliance standard, if made, to be examined for regulatory efficiency.

Consistency with the authorising law

How does the proposed compliance standard contribute to the achievement of the overall objective of the authorising legislation?

The proposed compliance standard for air-handling and water systems has been drafted to provide subordinate legislation consistent with the Act. The overall objective of the Act is to ensure freedom from disease or injury to persons caused, and the risk of disease or injury to persons created, by workplaces, workplace activities or specified high risk plant.

Enforcement of the proposed compliance standard

The Division of Workplace Health and Safety is responsible for enforcement of compliance standards made under the Act. If made, the proposed compliance standard will be enforced by inspectors primarily through the same mechanisms used under the current regulatory regime, namely—

- the issue of **improvement notices** that require corrective measures to be implemented by a certain date

- the issue of **prohibition notices** that can stop an activity or plant being used where it is considered that an immediate risk to workplace health and safety exists
- **prosecution** for failure to comply with the requirements of the proposed compliance standard, that is, the person has failed to meet his or her obligation under the Act. A person who breaches an obligation can be prosecuted. The maximum penalty for this is $30 000 and/or 6 months' imprisonment for an individual. The maximum penalty for a body corporate is $150 000.

Options

The following alternatives were considered in developing this Regulatory Impact Statement—

1. Removal of regulatory control.
2. Remake the existing part 38 (Air Handling and Water Systems in Buildings) of the *Workplace Health and Safety Regulation* as the *Workplace Health and Safety (Air-Handling and Water Systems) Compliance Standard 1996.*

Option 1: Removal of regulatory control

The removal of any form of specific regulatory control for air-handling and water systems would mean persons with relevant obligations under the Act would still retain their obligations for ensuring air-handling and water systems do not create a risk to workplace health and safety. However, these persons would do so in the absence of a compliance standard which provides a defence under the Act. In essence, this removes the certainty a compliance standard provides in terms of discharging workplace health and safety obligations.

Option 2: Remake part 38 of the *Workplace Health and Safety Regulation 1989* as the *Workplace Health and Safety (Air-Handling and Water Systems) Compliance Standard 1996*

The proposed compliance standard refers to AS 3666:1995. The division acknowledges the problems involved with referring to an Australian Standard in legislation, for example, it may—

- impose obligations on persons who do not have obligations under the Act
- refer to other standards and documents which can make compliance costly and impractical
- not have been subjected to a cost-benefit analysis
- contain provisions that are ambiguous.

Industry groups have objected to certain provisions in AS 3666:1995 as being unreasonable and excessive. Standards Australia reviewed AS 3666:1995 and proposed amendments to the standard to address the concerns of industry. These amendments have now received approval and the proposed compliance standard will based on the amended version of AS/NZS 3666:1995.

The division estimates it will take 2 years to analyse the issues, consult with stakeholders and carry out a Regulatory Impact Statement in accordance with the *Statutory Instruments Act 1992.* If made, the proposed compliance standard will expire 2 years from commencement. Accordingly, the changes made to the existing regulation will be limited to making the proposed compliance standard consistent with the 1995 Act and fundamental legislative principles.

Why is the proposed remake the best alternative?

Option 2 is the preferred alternative for the following reasons—

- it allows sufficient time to scrutinise the issue for regulatory efficiency and consider alternatives in consultation with the stakeholders

- it provides certainty for persons with workplace health and safety obligations under the Act as to how they can discharge their obligations while this scrutiny takes place
- it continues to provide an enforceable standard for the risks to health from exposure to certain micro-organisms in air-handling and water systems
- it minimises costs to business by limiting the standard for a 2 year period to allow proper analysis of the issues
- it is supported by representatives of unions and employers
- it is BRRU's opinion that this approach is in the best interest of all parties.

Cost benefit analysis of the proposed compliance standard

The provisions of the *Statutory Instruments Act 1992* require a brief analysis of the costs and benefits where it is reasonable and practical to do so.

Methodology

The methodology used to assess the benefits and costs of implementing the proposed compliance standard was developed by the Department of Business, Industry and Regional Development. This approach is in accordance with Cabinet's decision of August 1994, which requires the application of this methodology to all new "significant" subordinate legislation.

Limitations

Obtaining data in the time available is extremely difficult with this type of study. The information readily available to allow a cost-benefit analysis to be carried out is limited. An indication of the difficulties is given by the following outline of the main tasks necessary for an analysis—

- assessing the number of air-handling and water systems in Queensland to which the proposed compliance standard applies

- assessing the number of persons at risk from exposure to certain micro-organisms in air-handling and water systems
- identifying alternative methods which could prevent or minimise risks from exposure to certain micro-organisms in air-handling and water systems
- estimating the cost associated with each method and deciding on the cost effectiveness of each
- estimating financial and socioeconomic benefits associated with preventing or minimising risks from exposure to certain micro-organisms in air-handling and water systems

Due to the absence of much of the empirical data required, and the time constraints imposed by the transitional arrangements in the Act, it is not reasonable or practical to quantify the costs or benefits of the proposed compliance standard at this time.

After aggregating the positive and negative impacts based on a qualitative assessment of the proposed compliance standard, it was concluded that there would not be a negative impact for the community or business and Government (in their role as an employer and owner of specified high risk plant) over a 2 year period.

Costs and benefits for stakeholders

The following costs to government, business and the community of the proposed *Workplace Health and Safety (Air-handling and Water Systems) Compliance Standard 1996* were identified in the analysis.

Government costs

The possible cost to Government involved with implementation of the proposed compliance standard were identified in 3 areas—

- development of the standard
- enforcement
- government compliance.

Development cost

The cost of the development of the proposed compliance standard are not significant but include the following—

- development of policy
- salaries of divisional officers
- resources of the Office of the Queensland Parliamentary Counsel
- cabinet process
- printing.

Enforcement cost

The Division of Workplace Health and Safety is responsible for enforcing the *Workplace Health and Safety Act 1995*. It is anticipated the proposed compliance standard will not require any change to the Government's allocation of resources.

Compliance cost

It is possible that Government compliance with the proposed compliance standard for a 2 year period could incur costs for the following—

- labour required for maintenance, particularly for cooling water systems
- provision of personal protective equipment for workers
- requirements to keep up to date maintenance reports and log books.

Advice from Q Build indicates that most government departments with responsibility for the maintenance of buildings would already comply with the requirements of AS/NZS 3666 and therefore no additional resources should be required.

Government benefits

The proposed compliance standard through a combination of design, operational and maintenance requirements will ensure the Government continues to meet its stated policy objective to ensure freedom from disease or injury to persons caused, and risk of disease or injury to persons created, by workplaces, workplace activities and specified high risk plant.

There are also flow-on benefits for government beyond workplace and public health and safety. Firstly, maintenance requirements play a significant part in protecting large capital investment equipment and secondly the proposed compliance standard reduces the possibility of adverse effect on the economy that an outbreak of legionnaire's disease in a hotel could cause on the tourist industry.

Business costs

Air-handling and water systems are installed, operated and maintained in buildings for a variety of reasons other than for health and safety, for example, they are an essential element in the food processing industry and are used in the hotel and retail industries mainly for personal comfort and to attract customers. From this perspective a business would only incur costs associated with AS/NZS 3666.1—Design, Installation and Commissioning, from the implementation of the proposed compliance standard, if it chose to install these systems. Because of the vast range of types of air-handling, heated water systems and cooling water systems and the specific location issues that may be confronted it is not feasible to estimate cost for this part.

It is estimated that business will incur costs from AS/NZS 3666.2—Operation and Maintenance in the following areas—

- labour required for maintenance, particularly for cooling water systems
- provision of personal protective equipment for workers
- negative impact on productivity and short term profitability for business due to shut down of systems during cleaning and the costs associated with maintenance.

A major owner of property in Queensland advised that for large cooling towers the additional cost would be approximately $500 per tower, mainly because of increased inspection and cleaning requirements. For some cooling towers where very little maintenance work had been undertaken it was estimated that the cost would be between $1 000 to $2 000 per tower per year to reach compliance levels. Because of the vast range of air-handling and water system equipment it is difficult to estimate costs, however as a proportion of a total building maintenance program, they are not considered to be significant.

The provision of personal protective equipment in most cases would be a one-off expense. Typical costs are face shield ($18), full face respirator ($80), air-line respirator ($150), class P1 respirator ($3), class P2 ($20) and gloves ($6).

Business benefits

One of the benefits for business is the certainty provided by the proposed compliance standard in terms of discharging workplace health and safety obligations under the Act. Other benefits accrue to business through the reduction in the likelihood and consequences of outbreak of legionnaire's disease. Some of these benefits relate to avoidance of—

- loss of investment, business opportunity, income and business reputation
- loss of investment, income and business opportunity for nearby businesses that may be affected by contaminated spray drift
- costs from loss of productivity due to unavailability of staff loss of employee morale with attendant loss of efficiency
- accident investigation costs
- business interruption from industrial disputation
- legal costs and statutory fines
- public liability and workers compensation costs and penalties.

As with government the equipment maintenance program requirements contained in AS/NZS 3666.2 have many benefits for business beyond microbial control. These include—

- reduced energy consumption due to more efficient thermal processes
- increased equipment life
- reduced corrosion of metal parts
- reduced abrasive corrosion of tubes, seals and the like
- reduced chemical consumption as cleaned systems respond to water treatment better than fouled systems
- better reliability of operation.

Community costs

Workers will not incur any costs under the proposed compliance standard.

It is difficult to assess if consumers will incur price increases as a result of the implementation the proposed compliance standard. AS/NZS 3666:1995 has provisions which impose costs on business and these costs may be in the process of being passed on to the consumer, however it is more probable that this has already occurred through the requirements of the superseded AS 3666:1989.

Community benefits

Workers and members of the public will benefit from the prevention or reduction of exposure to certain harmful microbial organisms which can result in loss of life or serious illness accompanied by loss of income, anxiety and additional medical expenses.

National competition policy

To what extent does the proposed compliance standard impose or encourage restrictions?

The proposed compliance standard requires mandatory compliance with AS 3666:1995 which is not the case in most other Australian states and territories. However, it is believed that most businesses rely on the guidance in AS/NZS 3666 or manufacturers maintenance requirements.

The proposed compliance standard is unlikely to impose any restrictions in a competitive market.

Fundamental legislative principles

To what extent is the proposed legislation consistent with fundamental legislative principles?

The proposed compliance standard is consistent with fundamental legislative principles.

Conclusion

The Workplace Health and Safety Council has recommended the continuation of some specific regulatory control to prevent or minimise the risks from exposure to certain micro-organisms in air handling and water systems for a period of 2 years to allow an appropriate level of deliberation and consultation with stakeholders about the type of regulation that is suitable for Queensland. This is based on the known risk of illness and death associated with inadequately maintained air-handling and water systems in buildings.

The analysis undertaken in this Regulatory Impact Statement was subject to time constraints imposed by the transitional arrangements contained in the *Workplace Health and Safety Act 1995*, part 17 and the current resources available to the Division of Workplace Health and Safety.

The qualitative analysis undertaken in this Regulatory Impact Statement has indicated the financial and socioeconomic benefits to the people of Queensland outweigh the costs associated with the implementation of the proposed compliance standard. The proposed *Workplace Health and Safety (Air-handling and Water Systems) Compliance Standard 1996* is therefore recommended.

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PROPOSED WORKPLACE HEALTH AND SAFETY (CUTTING, RIVETING AND WELDING) COMPLIANCE STANDARD 1996

(MADE AS WORKPLACE HEALTH AND SAFETY REGULATION 1995, PART 14)

Executive summary

Cutting, riveting and welding processes at a workplace expose workers to the risk of serious injury from burns or loss of life from electrocution, fire or explosion. Members of the public may also be at risk from fire or explosion if businesses do not carry out their undertakings in a safe manner. Division of Workplace Health and Safety records and workers compensation data indicate that some welding workplaces still compromise workplace health and safety.

Most fatalities and injuries occur because employers or self-employed persons engaging in cutting, riveting and welding processes are unaware of the risks to health and safety, or are unaware of, or unwilling to voluntarily implement the operating procedures or personal protective clothing needed to control those risks properly. Currently, the *Workplace Health and Safety Regulation 1989* (the regulation), part 32 (Welding) provides a legislative framework to address these problems.

Under current legislative transitional arrangements contained in the *Workplace Health and Safety Act 1995*, part 32 (Welding) of the regulation will automatically expire on 1 July 1996 unless remade as a compliance standard. If the proposed compliance standard is not made prior to 1 July 1996, any regulatory protection for the health and safety of workers exposed to risks associated with cutting, riveting and welding covered by the proposed compliance standard disappears.

Where regulations are subject to "sunset" provisions of the *Statutory Instruments Act 1992*, any proposal to continue with them requires the preparation of a Regulatory Impact Statement. The regulatory impact process requires a high level of scrutiny and the analysis of alternative

options to ensure that regulatory requirements written into law will be both effective and efficient in their form and content.

It is estimated that the level of scrutiny required to address these requirements will take 2 years. There is insufficient time to complete the substantial research, development and consultation needed plus undertake the complex process to make subordinate legislation before the transitional arrangements in part 17 of the Act expire. Because of these problems the options considered were—

- removal of regulatory control
- remake the existing part 32 (Welding) of the regulation as the *Workplace Health and Safety (Cutting, Riveting and Welding) Compliance Standard 1996* with changes restricted to those necessary for consistency with the Act and to ensure Fundamental Legislative Principles are not breached. The proposed compliance standard would expire and be reviewed within 2 years of its making.

The analysis undertaken in this Regulatory Impact Statement indicates a continued need for the regulation of welding at a workplace but it needs to be pertinent to contemporary requirements. The option of remaking the existing regulation into the proposed compliance standard that will expire and be reviewed within 2 years of its making is preferred because it provides for the continued protection of workers and minimises the impact if any on business to as short a period as is reasonably possible.

This Regulatory Impact Statement shows that the proposed compliance standard will have no or little impact on stakeholders over the 2 year timeframe and is in the best interest of government, business and the community. The proposed *Workplace Health and Safety (Cutting, Riveting and Welding) Compliance Standard* is therefore recommended.

Background

The Queensland Government has redefined the requirements regarding the development of subordinate legislation by amending the *Statutory Instruments Act 1992*. From 1 July 1995, development of subordinate legislation requires the preparation of a Regulatory Impact Statement (RIS) under the *Statutory Instruments Act 1992*, part 5.

In accordance with those requirements, the RIS for the proposed *Workplace Health and Safety (Cutting, Riveting and Welding) Compliance Standard 1996* is now made available for public comment.

The *Workplace Health and Safety Act 1995* (the Act) commenced on 1 July 1995. This Act repealed the *Workplace Health and Safety Act 1989* and retains parts of the *Workplace Health and Safety Regulation 1989* (the regulation) in its transitional arrangements.

Part 32 (Welding) of the regulation is retained in the transitional arrangements and expires on 1 July 1996 unless earlier repealed by regulation.

The proposed *Workplace Health and Safety (Cutting, Riveting and Welding) Compliance Standard 1996* re-makes the existing part 32 of the regulation so it is consistent with the Act and fundamental legislative principles.

The proposed compliance standard, if made, will not alter existing rights, obligations or circumstances for workplace health and safety. It is intended that the proposed compliance standard should only remain in effect for 2 years during which time it will be reviewed for regulatory efficiency in consultation with all the stakeholders.

Title

The proposed subordinate legislation will be titled *Workplace Health and Safety (Cutting, Riveting and Welding) Compliance Standard 1996*.

Authorising law

Under section 38 of the *Workplace Health and Safety Act 1995* (the Act), the Governor in Council may make a compliance standard for workplace health and safety to prohibit, or prescribe a way to prevent or minimise, exposure to risk from workplaces, workplace activities or specified high risk plant.

The Act imposes workplace health and safety obligations on certain persons and when a compliance standard is made about a risk, a person can only discharge an obligation for that risk by following the compliance standard. Under section 37 of the Act, this provides a defence to any prosecution about a person's obligation for that risk.

Policy objectives

What is the problem which needs to be solved?

Cutting, riveting and welding work is carried out by a large number of people engaged in an extremely wide range of processes, industries and working conditions. When this type of work is not carried out using adequate protective clothing, safe practices and adequate precautions it exposes employers, self- employed persons and workers to a significant risk to their health and safety.

What are the risks which need to be controlled?

Cutting, riveting and welding work involves potential exposure to risks associated with electricity, heat, fire and explosion. While the various welding processes expose workers to many hazards, some of which are common to all industry, welding workers are exposed to particular hazards more frequently than in general industry. The risks that need to be controlled are—

- electric shock—contact with electrical components
- body burns—from weld splatter or hot or molten metals
- fire and explosion—caused by welding arc, flame, sparks, splatter or electrical faults in combination with flammable materials, gases or liquids.

Have the key stakeholders done what they can to control the risk?

Government

Historically, legislative provisions about welding work have existed in different forms in Queensland since 1962, commencing with rule 6 made under Factories and Shops legislation. Rule 6 was repealed upon the commencement of the *Workplace Health and Safety Regulation 1989* (the regulation) on 31 July 1989. Part 32 (Welding) of the regulation has a broader application as it covers all workplaces to which the *Workplace Health and Safety Act 1995* applies, with the exception of rural industry workplaces.

Business

While it is without doubt that many businesses are doing "the right thing", many complaints in relation to cutting, riveting and welding processes are still received by the Division of Workplace Health and Safety Inspectorate. It should also be noted that in recent years there have been 2 incidents where workers suffered fatal injuries from explosions when carrying out cutting, riveting and welding processes.

An indication of whether business is doing everything in its power to control the risk can be judged from firstly, a review of the types of situations encountered by inspectors of the division and their comments made following investigation, and secondly, the level of injuries to welders resulting in claims for workers compensation—

Summary of typical inspectorate comments—

- *electrode lead damage—risk of electric shock*
- *welding shed leaks during rain—risk of electrocution*
- *there is a damaged electric lead and hand piece on arc welder—risk of electrocution*
- *damaged insulation on welding electrode holder—sections wrapped in insulation tape*
- *welding handpiece is damaged and the electrode cable is split showing the copper core*
- *inadequate clothing for welding being worn by sub-contractor*

- *employees not wearing adequate skin protection while welding*
- *no welding protective clothing provided*
- *spray painting being carried out near welding—risk of fire*
- *storage of flammable liquid next to welding—risk of fire*
- *fuel drums near welding process.*

Workers compensation data

Data provided by Q Stats Data Management and Consulting which summarises workers compensation claims for the 1992/93, 1993/94 and 1994/95 financial years shows that there were 9 752 compensation claims from the occupational group—Structural Steel, Boilermaking and Welding Tradespersons. While these injuries were caused by a multitude of contributing agencies and mechanisms they still serve to establish the high risk associated with these occupations. There are many different welding and allied processes that these occupational groups use but data is only collected and readily available for injuries when using arc welding or oxy-acetylene equipment. This data reveals there were 1 532 claims for these processes during the same period with no real improvement in injury numbers in each year. Of those claims 586 were for burns and may have been prevented with the use of protective clothing.

It may be concluded from this review that business as a whole is not doing all that it can to control the risks associated with welding and allied processes.

Community

The complex nature of requirements for safety during welding operations means that workers and others are reliant on employers to ensure protective clothing meets safety standards and safe operating procedures are implemented to ensure their health and safety. Workers play their part by complying with their obligations under section 36 of the Act. Some of these obligations are—

- to comply with instructions given for workplace health and safety at the workplace by the employer

- to use personal protective equipment supplied by the employer
- not to wilfully injure themselves or to recklessly or wilfully place at risk the health and safety of any other person at the workplace.

Is there a compelling case for Government involvement on the grounds of public health and safety?

There is a continuing strong case for Government involvement on the grounds of both public and workplace health and safety. This opinion is based on an ongoing potential for loss of life or serious injury to members of the public and workers through welding and allied process operators failing to take proper precautions to avoid fire and explosion. It is also apparent that some employers are failing to safeguard workers from the risk of serious burns or loss of life from electrocution.

While acknowledging the efforts of the stakeholders, the Division of Workplace Health and Safety (the division) is of the view that it is in the interest of all stakeholders to continue to provide regulatory requirements which will specify how employers must safeguard themselves, their workers and other persons from exposure to risks associated with cutting, riveting and welding processes at workplaces. This view is based on—

- awareness that the greater proportion of businesses in Queensland that do cutting, riveting and welding work are generally small operations with fewer than 10 workers
- the view of Divisional Inspectorate that some of these workplaces do not generally appreciate or are not willing to control the risks.

What is the worst possible consequence of Government inaction?

If the Government does not provide specific regulatory control in respect to cutting, riveting and welding work at a workplace, it could abrogate its responsibility for providing a framework for the protection of workplace health and safety of employers, the self-employed, workers and members of the public who may be affected by workplace activities. The lack of specific regulatory control also removes certainty for employers and the self-employed who are responsible for identifying and managing the risks associated with welding and allied processes at the workplace.

The proposed compliance standard is designed primarily to create certainty for employers and others, and to prevent or minimise the risks of injury, illness or death from cutting, riveting and welding work at a workplace.

Under current legislative transitional arrangements part 32 (Welding) of the regulation will automatically expire on 1 July 1996 unless remade as a compliance standard. If the proposed compliance standard is not made prior to 1 July 1996, any regulatory protection for the health and safety of workers exposed to risks associated with cutting, riveting and welding covered by the proposed compliance standard disappears.

National situation

There is no consistent approach to regulating workplace cutting, riveting and welding activities by the different State or Territory jurisdictions

Legislative intent

What rights, obligations or circumstances does the proposed compliance standard change or establish?

The proposed compliance standard for cutting, riveting and welding supports the Act but does not change existing circumstances or obligations. The rural industry continues to be exempted from the application of this compliance standard. The objective of the proposed compliance standard is to prevent or minimise exposure to risks to workplace health and safety when carrying out cutting, riveting and welding processes at a workplace. The obligation to ensure health and safety when carrying out these processes at a workplace will continue to be imposed on employers or self-employed persons.

How will that work in practice—what is the overall effect of the compliance standard expected to be?

The proposed compliance standard will impose obligations on employers or self employed persons where cutting, riveting and welding processes are carried out at a workplace. The proposed compliance standard requires employers and self employed persons to comply with the following Australian Standards(AS)—

- AS 1558 (1973)—Protective Clothing for Welders. This Australian standard sets out the specific requirements relating to the materials used, design and construction and specifications for protective clothing for welders. These requirements apply to jackets, protective sleeves, aprons, spats (gaiters), leggings and caps and when complied with can reduce the risk of burns from splatter or molten metal passing through openings in clothing or being retained by the clothing

  Note—section 2.2 referring to general requirements for asbestos clothing will be omitted from the proposed compliance standard

- AS 1674.1 (1990)—Safety in Welding and Allied Processes—Part 1— Fire Precautions. This standard relates to the minimum precautions required to be taken prior to and during welding and allied processes, such as arc cutting, to prevent the possibility of fire or explosion. It applies to welding and allied processes during manufacturing, construction, maintenance, repairs, or demolition work and also to work on plant or equipment which has contained flammable, combustible or explosive materials

- AS 1674.1 (1990)—Safety in Welding and Allied Processes—Part 2— Electrical. This standard sets out requirements for the prevention of electric shock and the minimising of certain associated hazards in welding and allied processes. It describes the practices and safeguards which should be adopted by welders and the connections for alternating and direct current power sources, together with the requirements for any ancillary equipment.

The overall effect will be to provide subordinate legislation that will prevent or minimise risk to workplace health and safety for employers, self employed persons and workers at workplaces where cutting, riveting and welding processes are performed.

Why is the proposed compliance standard reasonable and appropriate?

Most fatalities and injuries occur because persons engaging in or supervising cutting, riveting and welding processes are unaware of the risks to health and safety or, are unaware of, or unwilling to voluntarily implement, the operating procedures or personal protective clothing needed to control those risks properly. The objective of the proposed compliance standard is to correct both these situations. By following the proposed compliance standard, an employer or self-employed person may discharge their obligations under the Act.

Consistency with the authorising law

How does the proposed compliance standard contribute to the achievement of the overall objective of the authorising legislation?

The proposed compliance standard for cutting, riveting and welding has been drafted to provide subordinate legislation consistent with the Act. The overall objective of the Act is to ensure freedom from disease or injury to persons caused, and the risk of disease or injury to persons created, by workplaces, workplace activities or specified high risk plant. The proposed compliance standard provides the requirements necessary to prevent or minimise exposure to risks to workplace health and safety when carrying out cutting, riveting and welding at a workplace.

Enforcement of the proposed compliance standard

The Division of Workplace Health and Safety will be responsible for enforcing the proposed compliance standard. The proposed compliance standard will be enforced primarily through—

- the issue of **improvement notices** that require corrective measures to be implemented by a certain date
- the issue of **prohibition notices** that can stop an activity or plant being used where it is considered that an immediate risk to workplace health and safety exists
- **prosecution** for failure to comply with the requirements of the proposed compliance standard, that is, the person has failed to meet his or her obligation under the Act. A person who breaches an obligation can be prosecuted. The maximum penalty for this is $30 000 or 6 months' imprisonment for an individual. The maximum penalty for a body corporate is $150 000.

Options and alternatives

What alternatives to the proposed compliance standard were considered so that the policy objectives of the standard could be achieved?

During the development of this Regulatory Impact Statement, the following alternatives were considered—

1. Removal of regulatory control.
2. Remake the existing part 32 (Welding) of the regulation as the *Workplace Health and Safety (Cutting, Riveting and Welding) Compliance Standard 1996* with changes restricted to those necessary for consistency with the Act and to ensure Fundamental Legislative Principles are not breached. The proposed compliance standard would expire and be reviewed within 2 years of its making.

Option 1: Removal of regulatory control (not preferred)

With the removal of any form of regulatory control employers or self employed persons will be responsible for developing their own systems to satisfy the intent of the Act.

The main aim of the compliance standard is to help provide certainty for employers or self employed persons involved with cutting, riveting and welding processes at a workplace on what they need to do to minimise or prevent exposure to the risks involved with these processes, and therefore satisfy their obligations under the Act. If there is no compliance standard, employers or self employed persons are in positions where they must carry out their own research if they wish to ensure workplace health and safety.

A report commissioned by the division in 1994 on the development of an industry inspectorate contact and facilitation program, indicated that businesses generally fall into 4 groups—

1. Those that developed methods of ensuring the health and safety of their workers and others without any direction from Government or any other source.

2. Those that willingly ensured the health and safety of their workers and others when guidelines such as an Australian Standard were available.

3. Those that ensured the health and safety of workers and others only when governments regulated they do so.

4. Those that do **not** ensure the health and safety of workers and others even with government regulation, and accept the penalties imposed through noncompliance.

If regulatory control was removed, it is expected the reduction of any costs would affect those businesses in group 3 who develop safe work practices only when directed to do so by government. Against the possible savings for this group must be compared the social and financial costs associated with increased fatalities, injuries and illnesses, lost productivity and industrial disputation likely to result because of noncompliance.

While Queensland could rely on education and voluntary compliance in the absence of regulatory control, this educative approach would be unlikely to lead to better health and safety practices among groups 3 and 4. While short term savings might accrue to businesses who choose not to follow the suggested health and safety management practices contained in Australian Standards, it is considered the long-term costs to the noncomplying workplaces would overshadow any short term savings.

Divisional information suggests the majority of employers are attempting to prevent or minimise risks associated with cutting, riveting and welding processes. As discussed earlier when reviewing injury data and divisional inspectors comments, a small number of businesses display a willingness to compromise health and safety of workers and members of the public in a bid to maximise short-term profits.

Option 1 is not preferred because it is not considered prudent to remove enforceable regulatory requirements in regard to welding and allied processes until the matter is fully reviewed in consultation with all the stakeholders. The available time frame is not sufficient to allow this to occur.

Option 2: Remake the existing part 32 (Welding) as the *Workplace Health and Safety (Welding) Compliance Standard 1996* with changes restricted to those necessary for consistency with the Act and to ensure fundamental legislative principles are not breached. The proposed compliance standard would expire and be reviewed within 2 years of its making. (preferred)

The proposed compliance standard will continue to call up the following Australian Standards—

- AS 1558 (1973)—Protective Clothing for Welders.

Note—Section 2.2 referring to the use of asbestos fabric will be omitted.

- AS 1674.1 (1990)—Safety in Welding and Allied Processes—Part 1— Fire Precautions
- AS 1674.1 (1990)—Safety in Welding and Allied Processes—Part 2— Electrical

It has been identified that there are some problems associated with calling up Australian Standards—

- Australian Standards are not developed in tripartite forums and are not subject to extensive consultation
- Australian Standards may impose obligations on persons who do not have obligations under the relevant occupational health and safety legislation

- Australian Standards often call up other Australian Standards or other documents. This can be costly and impractical
- The development of or changes to Australian Standards are not subjected to any cost-benefit analysis
- Australian Standards are not legally drafted and they can contravene fundamental legislative principles and modern legal drafting conventions.

While it is obvious that in particular parts of AS 1558 (1973)—Protective Clothing for Welders need to be reviewed, it still contains requirements that address many contemporary workplace health and safety issues in relation to workplaces where cutting, riveting and welding processes are undertaken

It is estimated that the level of scrutiny required to address all of the problems will take 2 years. Therefore there is insufficient time to complete the substantial research, development and consultation needed plus undertake the complex process to make subordinate legislation before the transitional arrangements in part 17 of the Act expire.

In the immediate available time frame changes for the proposed compliance standard from the existing part 32 (Welding) will be restricted to those necessary for consistency with the Act and to ensure consistency with Fundamental Legislative Principles. The proposed compliance standard would then be reviewed within 2 years of its making.

Consultation

The Queensland Chamber of Commerce and Industry (QCCI) and the Australian Council of Trade Unions, Queensland Branch were consulted about the difficulties faced and opinions were sought in regard to adopting Option 2 and preparing a limited RIS. Both parties supported the proposal, however the QCCI support was conditional upon the preparation of an extensive RIS that met the requirements of the *Statutory Instruments Act 1992.*

To address the concerns of the QCCI about the RIS, advice was sought from the Business Regulatory Review Unit (BRRU) of the Department of Business, Industry and Regional Development (DBIRD). BRRU advised

that while they agreed with QCCI that the requirements of the *Statutory Instruments Act 1992* should be applied in full they acknowledged however, that if the analysis called for by QCCI was attempted at this juncture, the regulation would expire before it could be replaced. They further advised that this is not in the best interests of any of the parties, and the most appropriate course of action would be to remake the Regulation now, with a "limited" RIS and provide for a full analysis at a later date. This could be achieved through the insertion of a review clause which would also expire the regulation in 2 years time.

Why is the proposed remake the best alternative?

Option 2 is considered the best alternative for the following reasons—

- it allows sufficient time to critically scrutinise the issue for regulatory efficiency or to consider alternatives in consultation with the stakeholders
- it provides certainty for employers or the self-employed as to how they can comply with their obligations under the Act while this scrutiny takes place
- it continues to provide protection against the risks to workplace health and safety for employers the self-employed and workers associated with cutting, riveting and welding at a workplace while this scrutiny occurs
- it minimises costs, if any, to business of possible inefficient regulation to as short a period as is reasonable possible
- the level of support for this alternative from employee and employer groups
- the opinion of the BRRU that this approach is in the best interest of all parties.

Cost benefit analysis of the proposed compliance standard

The content specifications contained in the *Statutory Instruments Act 1992* require a brief analysis of the costs and benefits where it is reasonable and practical to do so. The analysis that follows is in keeping with that requirement.

Methodology

The methodology used to assess the benefits and costs of implementing the proposed compliance standard was developed by the Department of Business, Industry and Regional Development (DBIRD). This approach is in accordance with Cabinet's decision of August 1994, which requires the application of this methodology to all new "significant" subordinate legislation. The methodology is a 4 stage process which demonstrates the qualitative or "intangible" and quantitative "dollar-value" impacts of the proposed compliance standard.

Limitations

Obtaining data in the available timeframe is extremely difficult with this type of study. There is very little information readily available that will allow a cost-benefit analysis to be carried out. An indication of the difficulties is given by the following outline of the main tasks necessary for an analysis—

- assessing the number of workplaces that undertake welding activities in all industrial sectors
- estimating the number of workers exposed to various risks associated with welding
- identifying all the possible alternative methods or combination of methods which could be utilised to ensure that exposure to risks associated with welding is controlled
- estimating the cost associated with each method and deciding on the cost effectiveness of each

- estimating the total benefits associated with avoidance of exposure to welding risks including both financial and socioeconomic benefits
- estimating the net present values to Queensland.

Because of the absence of much of the empirical data required, and the time constraints imposed by the transitional arrangement imposed by the Act, it was not reasonable or practical to quantify the costs or benefits of the proposed compliance standard at this time. As discussed earlier, advice was sought from BRRU who confirmed that this was an acceptable approach under the circumstances. The analysis was undertaken over a 2 year time horizon which is consistent with the undertaking to expire and review the proposed compliance standard within that timeframe.

The analysis involved 3 stages—

Stage 1 A subjective assessment of the impact of the proposed compliance standard across financial and socioeconomic factors comprising some 80 issues from the perspective of the stakeholder groups—Government, Business and the Consumer/Community.

Stage 2 A more rigorous assessment was conducted to determine the relative impact of the proposed compliance standard on each of the 80 issues through a qualitative assessment.

Stage 3 This stage drew conclusions on the overall effects of the proposed compliance standard on each stakeholder group. It provides an indication of nontangible costs and benefits on each stakeholder group.

After aggregating the positive and negative impacts from a qualitative perspective this process concluded there would be no or little impact on any of the 3 stakeholders from the proposed compliance standard in the next 2 years.

Costs

The following costs to Government, Business and the Community of the proposed *Workplace Health and Safety (Cutting, Riveting and Welding) Compliance Standard 1996* were identified in the analysis.

Government

The cost to government of implementing the proposed compliance standard come from 2 areas—

1. the costs involved in the development of the standard; and
2. the cost of enforcement.

Development cost

The cost of the development of the proposed compliance standard are not significant because of minimal redrafting required but include the following items—

- development of policy
- salaries of divisional staff
- time with the Parliamentary Counsel
- time in Cabinet
- cost of printing.

Enforcement cost

The Division of Workplace Health and Safety is responsible for enforcing the Act. While the proposed compliance standard will not require any change to the Government's allocation of resources a proportion of the cost of inspection and auditing should accrue to this proposed compliance standard. The extent of this proportion is estimated at less than 5 percent of total inspectorate budget.

Business

A large degree of variability between the type of cutting, riveting and welding processes undertaken at workplaces makes it difficult to generalise about the likely impact, but over the 2 year life of the proposed compliance standard the impact is to be expected to be minimal. Costs will be incurred primarily through—

- ensuring welding protective clothing used complies with the requirements of AS 1558. As the requirement is **not** about who provides the clothing, but about design, the cost of purchase should not accrue to the proposed compliance standard. The types of protective clothing referred to in this standard are jackets ($88), sleeves ($43), aprons ($22), gaiters ($32) and leggings ($48). These items of protective clothing are durable and would be expected to last many years
- ensuring supervision and precautions are in place to prevent fire or explosion as specified in AS 1674.1 (1990)—Fire Precautions. These are general precautions that refer to issues such as—making sure the site where welding is to occur is inspected and made safe both before and after welding work is done; the welding work is not done near flammable or combustible liquids; protection of timber, rope, dry grass or other materials from heat or flames that may cause a fire. All of these requirements are considered to be a part of everyday maintenance and should not incur additional costs
- Work in hazardous situations requires the issue of a hot work permit. There would be some cost associated with inspecting of the site by a responsible officer and completion of the permit
- Ensuring that the electrical requirements relating to connection to electricity supply, leads and their connections, protection of terminals, inspection and maintenance are followed. Other requirements refer to general precautions while welding and personal safety.

The control measures, work practices and equipment required to achieve compliance with the proposed compliance standard are already used by many employers. It should also be noted that as industry is already required to comply with part 32 (Welding) of the 1989 regulation, any initial start up cost should only apply to new businesses being established.

Consumer/community

It is not expected that the community will incur any cost through price increases because of the continued implementation of part 32 (Welding). The same level of regulatory control has been in existence since 1962 and any increased cost should have already been passed on to the consumer.

Benefits

The following benefits to Government, Business and the Community of the proposed *Workplace Health and Safety (Cutting, Riveting and Welding) Compliance Standard 1996* were identified in the analysis.

Business

The main benefits for business of the proposed compliance standard are—

- increased productivity from improved working conditions and work processes
- reduced industrial disputation
- reduced business disruption due to worker absenteeism and turnover
- reduction in lost time due to fewer injuries
- substantially reduced compensation costs
- reduction of business disruption following fire or explosion
- reduced property insurance and business disruption insurance cost.

All businesses where cutting, riveting and welding activities are undertaken will benefit from a reduction in both direct workers' compensation and indirect costs associated with accidents to workers such as re-hiring, retraining, damaged equipment and business interruption.

Some appreciation of the extent of possible savings for industry can be appreciated when it is realised that the nature of the majority of injuries sustained in cutting, riveting and welding activities result in short periods of incapacity. Following recent changes to workers compensation legislation employers will be required to pay injured workers for the initial 4 days of any time lost claim time. This could result in the employer incurring a cost of approximately $400 for each such injury which may have been avoided by incurring the cost associated with complying with the proposed compliance standard. The cost of compliance is estimated as significantly less than the cost of these types of injuries for employers.

Government

By creating requirements for cutting, riveting and welding activities the proposed compliance standard reduces the likelihood of some businesses to forego safety in pursuit of greater profits. In this way the proposed compliance standard serves to create a "level playing field" which enhances competition.

The proposed compliance standard will reduce the number of injuries resulting from cutting, riveting and welding activities in Queensland and will ensure the Government continues to meet its stated policy objective to ensure freedom from disease or injury to persons caused, and risk of disease or injury to persons created, by workplaces, workplace activities and specified high risk plant.

Consumer/community

The proposed compliance standard will continue to provide workers with statutory protection which obliges employers to prevent or minimise the risk of their workers being exposed to injuries, illness or death from cutting,

riveting and welding. The community as a whole will obviously benefit from a reduction in the number of workers whose health and safety is affected by uncontrolled exposure to cutting, riveting and welding risks at work.

National competition policy

To what extent does the proposed compliance standard impose or encourage restrictions?

As the proposed compliance standard will apply to all employers and self-employed persons in cutting, riveting and welding activities it is unlikely to impose any restrictions on a competitive market.

Fundamental legislative principles

To what extent is the proposed legislation consistent with fundamental legislative principles?

The proposed compliance standard does not infringe fundamental legislative principles.

Conclusion

The analysis undertaken in this Regulatory Impact Statement was subject to time constraints imposed by the transitional arrangements contained in the *Workplace Health and Safety Act 1995*, part 17 and the current resources available to the Division of Workplace Health and Safety.

The known risk of injury, illness or death associated with cutting, riveting and welding at a workplace requires the continuation of some legislative control to prevent or minimise these risks until the appropriate level of deliberation on the type of regulation that is appropriate to current Queensland requirements can be undertaken in consultation with the stakeholders.

The qualitative analysis undertaken in this Regulatory Impact Statement has indicated the financial and socioeconomic benefits to the people of Queensland outweigh the costs associated with the implementation of the proposed compliance standard. The proposed *Workplace Health and Safety (Cutting, Riveting and Welding) Compliance Standard 1996* is therefore recommended.

PROPOSED WORKPLACE HEALTH AND SAFETY (ELECTRICAL EQUIPMENT AND INSTALLATIONS) COMPLIANCE STANDARD 1996

(MADE AS WORKPLACE HEALTH AND SAFETY REGULATION 1995, PART 15)

Executive summary

The vast majority of workplaces rely on electricity as a source of power and use electrical equipment to carry out their business undertakings. As a result workers, employers, self employed persons and visitors to a workplace may be exposed to the risk of serious injury or death if accidental contact with electricity occurs.

Most fatalities and injuries from contact with electricity occur because of lack of maintenance of electrical plant and equipment, unsafe electrical repairs carried out by unauthorised persons, contact with overhead wires or unsafe work practices. While most employers or self-employed persons are aware of the risks to health and safety from contact with electricity, some are still reluctant to voluntarily implement the requirements necessary to control the risks properly. Currently, the *Workplace Health and Safety Regulation 1989* (the regulation), part 17 (Electrical Equipment and Installations) provides a legislative framework to address these problems.

Under current legislative transitional arrangements contained in the *Workplace Health and Safety Act 1995*, part 17 (Electrical Equipment and Installations) of the regulation will automatically expire on 1 July 1996 unless remade as a compliance standard. If the proposed compliance standard is not made prior to 1 July 1996, any regulatory protection for the health and safety of employers, self-employed persons, workers and members of the public exposed to risks associated with unsafe electrical equipment and installations covered by the proposed compliance standard disappears.

Where regulations are subject to "sunset" provisions of the *Statutory Instruments Act 1992*, any proposal to continue with them requires the preparation of a Regulatory Impact Statement. The regulatory impact process requires a high level of scrutiny and the analysis of alternative options to ensure that regulatory requirements written into law will be both effective and efficient in their form and content.

It is estimated that the level of scrutiny required to address these requirements will take 2 years. Therefore there is insufficient time to complete the substantial research, development and consultation needed plus undertake the complex process to make subordinate legislation before the transitional arrangements in part 17 of the Act expire. Because of these problems the options considered were—

- removal of regulatory control
- remake the existing part 17 (Electrical Equipment and Installations) of the regulation as the *Workplace Health and Safety (Electrical Equipment and Installations) Compliance Standard 1996* with changes restricted to those necessary for consistency with the Act and to ensure Fundamental Legislative Principles are not breached. The proposed compliance standard would expire and be reviewed within 2 years of its making.

The analysis undertaken in this Regulatory Impact Statement indicates a continued need for the regulation of electrical equipment and installations at workplaces. The option of remaking the existing regulation into the proposed compliance standard that will expire and be reviewed within 2 years of its making is preferred because it provides for the continued protection of workers and minimises the impact if any on business to as short a period as is reasonably possible.

This Regulatory Impact Statement shows that the proposed compliance standard is in the best interest of Government, Business and the Community. The proposed *Workplace Health and Safety (Electrical Equipment and Installations) Compliance Standard* is therefore recommended

Background

The Queensland Government has redefined the requirements regarding the development of subordinate legislation by amending the *Statutory Instruments Act 1992*. From 1 July 1995, development of subordinate legislation requires the preparation of a Regulatory Impact Statement (RIS) under the *Statutory Instruments Act 1992*, part 5.

In accordance with those requirements, the RIS for the proposed *Workplace Health and Safety (Electrical Equipment and Installations) Compliance Standard 1996* is now made available for public comment.

The *Workplace Health and Safety Act 1995* (the Act) commenced on 1 July 1995. This Act repealed the *Workplace Health and Safety Act 1989* and retains parts of the *Workplace Health and Safety Regulation 1989* (the regulation) in its transitional arrangements.

Part 17 (Electrical Equipment and Installation) of the regulation is retained in the transitional arrangements and expires on 1 July 1996 unless earlier repealed by regulation.

The proposed *Workplace Health and Safety (Electrical Equipment and Installations) Compliance Standard 1996* remakes the existing part 17 of the regulation so it is consistent with the Act and fundamental legislative principles.

The proposed compliance standard, if made, will not alter existing rights, obligations or circumstances for workplace health and safety. It is intended that the proposed compliance standard should only remain in effect for 2 years during which time it will be reviewed for regulatory efficiency in consultation with all the stakeholders.

Title

The proposed subordinate legislation will be titled *Workplace Health and Safety (Electrical Equipment and Installations) Compliance Standard 1996.*

Authorising law

Under section 38 of the *Workplace Health and Safety Act 1995* (the Act), the Governor in Council may make a compliance standard for workplace

health and safety to prohibit, or prescribe a way to prevent or minimise, exposure to risk from workplaces, workplace activities or specified high risk plant.

The Act imposes workplace health and safety obligations on certain persons and when a compliance standard is made about a risk, a person can only discharge an obligation for that risk by following the compliance standard. Under section 37 of the Act, this provides a defence to any prosecution about a person's obligation for that risk.

Policy objectives

What is the problem which needs to be solved?

Contact with electricity can result in death or serious injury. The vast majority of workplaces use electrical equipment to carry out their business undertakings and as a result workers, employers, self employed persons and visitors to the workplace may be exposed to the risk of injury or death arising from any of the following contributing factors—

- lack of maintenance of electrical plant and equipment
- unsafe electrical repairs carried out by unauthorised persons
- contact with overhead wires
- unsafe work practices

What are the risks which need to be controlled?

Incorrect installation or inadequate maintenance of electrical equipment can result in potential exposure to workplace health and safety risks associated with electricity or can result in extensive property damage from fire and explosion. Electrical accidents arise from poorly installed and maintained equipment or damaged equipment, resulting in exposure of persons to live conductors. The risks that need to be controlled are—

- electrocution
- electric shock
- body burns

- secondary risks from electric shock such as falls
- secondary risks associated with fire and explosions.

The degree of injury associated with specific contact with electricity can be dependent on the individual's resistance to electricity and their medical condition.

Have the key stakeholders done what they can to control the risk?

Government

Historically, legislative provisions about electrical equipment and installations have existed in different forms in Queensland since 1963, commencing with rule 7 made under Factories and Shops legislation. Rule 7 was repealed upon the commencement of the *Workplace Health and Safety Regulation 1989* (the regulation) on 31 July 1989. Part 17 (Electrical Equipment and Installations) of the regulation has a broader application as it covers all workplaces to which the *Workplace Health and Safety Act 1995* applies, with the exception of rural industry workplaces.

The regulation of electricity is administered by the Department of Minerals and Energy.

Business

The lack of reporting of electrical incidents means that an accurate assessment of how industry is controlling the risk is not available. While it is without doubt that many businesses are adequately managing the risks, many complaints in relation to electrical equipment installation and maintenance are still received by the Division of Workplace Health and Safety Inspectorate. Some indication of whether business is doing everything in its power may be drawn from a brief analysis of the types of situations encountered and the comments made following investigation over the last 2 years—

- electrical equipment has not been inspected and tagged by an electrical worker in accordance with AS 3760
- electrical leads are not 2 metres off the ground

- electrical cable running across passageway/walkway creating a tripping hazard
- damaged leads used in the workplace
- double adaptors being used in workshops
- damaged equipment resulting in exposed accessible electrical parts
- electrical leads lying on ground or floor where damage occurs
- outer sheaths of cables damaged or missing
- equipment with inappropriate electrical connections available for use
- portable electrical equipment without residual currency device or double insulation provided for use.

Community

The nature of electricity is such that the hazard is not visible and therefore the associated risk not readily appreciated. At a workplace, protection can only be ensured through preventative strategies being implemented by the employer or self-employed person so that electrical equipment is installed and maintained to a standard which is considered appropriate to ensure workplace health and safety. Workers play their part by complying with their obligations under section 36 of the Act. Some of these obligations are—

- to comply with instructions given for workplace health and safety at the workplace by the employer
- not to wilfully or recklessly interfere with or misuse anything provided for workplace health and safety at the workplace
- not to wilfully injure themselves or to recklessly or wilfully place at risk the health and safety of any other person at the workplace.

Is there a compelling case for Government involvement on the grounds of public health, safety, prosperity or amenity?

There is a continuing strong case for Government involvement on the grounds of both public and workplace health and safety. This opinion is based on an ongoing potential for loss of life or serious injury to members of the public and workers through unsafe electrical equipment and installations. It is also apparent that some employers and self-employed persons are failing to safeguard workers and members of the public from the risk of serious injury or loss of life from electrocution.

While acknowledging the efforts of the stakeholders, the Division of Workplace Health and Safety (the division) is of the view that it is in the interest of all stakeholders to continue to provide regulatory requirements which will specify how employers must safeguard themselves, their workers and other persons from exposure to risks associated with unsafe electrical equipment and installations. This view is based on—

- the large numbers of persons exposed to the risk
- awareness that the greater proportion of businesses in Queensland are generally small operations with fewer than 10 workers and may not have the expertise to research or interpret safety systems
- the view of Divisional Inspectorate that some of these workplaces are not voluntarily willing to do what needs to be done to control the risks.

What is the worst possible consequence of Government inaction?

If the Government does not provide specific regulatory control in respect to electrical equipment and installations at a workplace, it could abrogate its responsibility for providing a framework for the protection of workplace health and safety of employers, the self- employed and workers. The lack of specific regulatory control also removes certainty for employers and the self-employed who are responsible for identifying and managing the risks associated with electrical equipment and installations at the workplace.

The proposed compliance standard is designed primarily to create certainty for employers and others, and to prevent or minimise the risks of injury, illness or death from electrical equipment or installations at a workplace.

Under current legislative transitional arrangements part 17 (Electrical Equipment and Installations) of the regulation will automatically expire on 1 July 1996 unless remade as a compliance standard. If the proposed compliance standard is not made prior to 1 July 1996, any regulatory protection for the health and safety of workers exposed to risks associated with electrical equipment covered by the proposed compliance standard disappears.

National situation

While there is currently no consistency between the States in regard to specific regulation of electrical equipment and installations, a degree of consistency is present through the application of a general provision in various Acts or regulations. The provision is reflective of the New South Wales provision of the *Factories, Shops and Industries Act 1962* which states—

> *[Electrical installation] The occupier of a factory shall ensure that the electrical installation, equipment and apparatus in the factory is so designed, constructed, protected and maintained as to eliminate as far as practicable the risk of any accidental electric shock or any electrical fire.*

South Australian and Australian Capital Territory legislation and Victoria's draft regulation reflect a degree of consistency in the regulation of the use of portable and non-portable residual current devices for electrical equipment. It is for this reason it is considered that the period of review will enable Queensland to adopt a strategy to address the risks arising from the use of electricity in the workplace which will have regard to national uniformity.

Legislative intent

What rights, obligations or circumstances does the proposed compliance standard change or establish?

The existing part 17 (Electrical Equipment and Installations) of the regulation currently imposes obligations on employers and self-employed persons at all workplaces other than rural workplaces. The proposed compliance standard will not apply to electrical equipment and installations used at construction workplaces and workplaces where specified construction work is performed. Electrical equipment and installations used at construction workplaces and workplaces where specified construction work is carried out will be regulated by the proposed *Workplace Health and Safety (Construction Work) Compliance Standard 1996.* The objective of the proposed compliance standard (Electrical Equipment and Installations) is to prevent or minimise exposure to risks to workplace health and safety from electrical equipment and installations at a workplace. The obligation to ensure health and safety at a workplace will continue to be imposed on employers or self-employed persons.

How will that work in practice—what is the overall effect of the compliance standard expected to be?

The proposed compliance standard will impose obligations on employers or self employed persons where electrical equipment is used at a workplace. The proposed compliance standard will require employers and self-employed persons to comply with the following—

- ensure all electrical equipment at the workplace is inspected, tested and tagged by an electrical worker and at the frequency appropriate to the workplace environment specified in Australian Standard (AS) 3760 (1990)—In-service safety inspection and testing of electrical equipment
- ensure that electrical installations in the workplace comply with AS 3000 (1991)—Electrical Installations—Buildings Structures and Premises. AS 3000 sets out the wiring rules regarding electrical installations as required under the *Electricity Act 1994*

- ensure that flexible cables and extension leads cannot be damaged and are supported 2 metres from the floor or ground. These requirements apply if the cable or lead crosses a passageway or if the plug to the electricity supply is more than 10 metres from the equipment or the person using the equipment cannot see the plug connected to the electricity supply
- where an employer, self-employed person, worker or any equipment being used by these persons is likely to come within 2 metres of an overhead electric line, the employer or self-employed person must consult with the relevant authority about the safeguards and precautions to be observed
- those employers or self-employed persons who hire electrical equipment to someone else for use at a workplace, must ensure that the equipment is inspected by a competent person before each hiring and inspected, tested and tagged by an electrical worker in accordance with AS 3760 every 6 months
- where manufacturing, repair, assembly, maintenance or fabrication takes place, employers or self-employed persons must ensure that portable electrical equipment is double insulated, connected to a safety switch, isolating transformer or earth monitoring device.

The overall effect will be to provide subordinate legislation that will prevent or minimise risk to workplace health and safety for employers, self employed persons and workers at workplaces from electrical equipment and installation.

Why is the proposed compliance standard reasonable and appropriate?

One of the prerequisites for a person to determine if they are prepared to accept a risk is to be aware that a risk exists. The identification of risks to health and safety are not always evident to the user of electrical equipment due to the non-visible nature of electricity. Therefore responsibility for health and safety must fall on those who create the risk. The proposed compliance standard attempts to ensure that the employer or self-employed person at the workplace establishes systems which will result in the control

of the risks associated with electrical equipment, this will be achieved through a regime of maintenance and installation requirements. By following the proposed compliance standard, an employer or self-employed person may discharge their obligations under the Act.

Consistency with the authorising law

How does the proposed compliance standard contribute to the achievement of the overall objective of the authorising legislation?

The proposed compliance standard for electrical equipment and installations has been drafted to provide subordinate legislation consistent with the Act. The overall objective of the Act is to ensure freedom from disease or injury to persons caused, and the risk of disease or injury to persons created, by workplaces, workplace activities or specified high risk plant. The proposed compliance standard provides the requirements necessary to prevent or minimise exposure to risks to workplace health and safety from electrical equipment and installations.

Enforcement of the proposed compliance standard

The Division of Workplace Health and Safety will be responsible for enforcing the proposed compliance standard for electrical equipment and installations. The proposed compliance standard will be enforced by inspectors primarily through—

- the issue of **improvement notices** that require corrective measures to be implemented by a certain date
- the issue of **prohibition notices** that can stop an activity or plant being used where it is considered that an immediate risk to workplace health and safety exists
- **prosecution** for failure to comply with the requirements of the proposed compliance standard, that is, the person has failed to meet his or her obligation under the Act. A person who breaches an obligation can be prosecuted. The maximum penalty for this is $30 000 or 6 months imprisonment for an individual. The maximum penalty for a body corporate is $150 000.

Options and alternatives

What alternatives to the proposed compliance standard were considered so that the policy objectives of the standard could be achieved?

During the development of this Regulatory Impact Statement, the following alternatives were considered—

1. Removal of regulatory control.
2. Remake the existing part 17 (Electrical Equipment and Installations) of the regulation as the *Workplace Health and Safety (Electrical Equipment and Installations) Compliance Standard 1996* with changes restricted to those necessary for consistency with the Act and to ensure Fundamental Legislative Principles are not breached. The proposed compliance standard would expire and be reviewed within 2 years of its making.

Option 1: Removal of regulatory control (Not preferred)

With the removal of any form of regulatory control employers or self employed persons will be responsible for developing their own systems to satisfy the intent of the Act.

The main aim of the compliance standard is to help provide certainty for employers or self employed persons where electrical equipment is installed and used at a workplace on what they need to do to minimise or prevent exposure to the risks involved, and therefore satisfy their obligations under the Act. If there is no compliance standard, employers or self employed persons are in positions where they must carry out their own research if they wish to ensure workplace health and safety.

A report commissioned by the Division in 1994 regarding the development of an industry inspectorate contact and facilitation program, indicated that businesses generally fall into 4 groups—

1. Those that developed methods of ensuring the health and safety of their workers and others without any direction from Government or any other source.

2. Those that willingly ensured the health and safety of their workers and others when guidelines such as an Australian Standard were available.

3. Those that ensured the health and safety of workers and others only when governments regulated they do so.

4. Those that do **not** ensure the health and safety of workers and others even with government regulation, and accept the penalties imposed through noncompliance.

If regulatory control was removed, it is expected the reduction of any costs would affect those businesses in group 3 who develop safe work practices only when directed to do so by government. Against the possible savings for this group must be compared the social and financial costs associated with increased fatalities, injuries and illnesses, lost productivity and industrial disputation likely to result because of noncompliance.

While Queensland could rely on education and voluntary compliance in the absence of regulatory control, this educative approach would be unlikely to lead to better health and safety practices among groups 3 and 4. While short term savings might accrue to businesses who choose not to follow the suggested health and safety management practices contained in Australian Standards relating to electrical equipment and installations, it is considered the long-term costs to the noncomplying workplaces would overshadow any short term savings.

Divisional information suggests the majority of employers are attempting to prevent or minimise risks associated with electrical equipment and installations. As discussed earlier when reviewing Divisional Inspectors comments, a small number of businesses display a willingness to compromise health and safety of workers and members of the public in a bid to maximise short-term profits. It is considered this situation should not be encouraged through an absence of enforceable regulatory requirements.

Option 1 is not preferred because it is not considered prudent to remove regulatory requirements in regard to electrical equipment and installations until the matter is fully reviewed in consultation with all the stakeholders. The available time frame is not sufficient to allow this to occur.

Option 2: Remake the existing part 17 (Electrical Equipment and Installations) as the *Workplace Health and Safety (Electrical Equipment and Installations) Compliance Standard 1996* with changes restricted to those necessary for consistency with the Act and to ensure fundamental legislative principles are not breached. The proposed compliance standard would expire and be reviewed within 2 years of its making. (preferred option)

The proposed compliance standard will continue to call up the following Australian Standards—

- AS 3760 (1990)—In-service safety inspection and testing of electrical equipment
- AS 3190 (1994)—Approval and test specification—Residual current devices (current-operated earth-leakage devices)
- AS 3000 (1991)—Electrical installations—Buildings, structures and premises (known as the SAA Wiring Rules).

There are some problems associated with calling up Australian Standards—

- Australian Standards are not developed in tripartite forums and are not subject to extensive consultation
- Australian Standards may impose obligations on persons who do not have obligations under the relevant occupational health and safety act
- Australian Standards often call up other Australian Standards or other documents. This can be costly and impractical
- The development of or changes to Australian Standards are not subjected to any cost-benefit analysis
- Australian Standards are not legally drafted and they can contravene fundamental legislative principles and be in breach of modern legal drafting conventions.

While it is obvious that these problems need to be reviewed, the abovementioned Australian Standards still contain requirements that address many contemporary workplace health and safety issues in relation to electrical equipment and installations at workplaces.

It is estimated that the level of scrutiny required to address all of the problems will take 2 years. Therefore there is insufficient time to complete the substantial research, development and consultation needed plus undertake the complex process to make subordinate legislation before the transitional arrangements in part 17 of the Act expire.

In the immediate available time frame changes for the proposed compliance standard from the existing part 17 (Electrical Equipment and Installations) of the regulation will be restricted to those necessary for consistency with the Act and to ensure consistency with Fundamental Legislative Principles. The proposed compliance standard would then expire and be reviewed within 2 years of its making.

Consultation

The Queensland Chamber of Commerce and Industry (QCCI) and the Australian Council of Trade Unions, Queensland Branch were consulted about the difficulties faced and opinions were sought in regard to adopting Option 2 and preparing a limited RIS. Both parties supported the proposal, however the QCCI support was conditional upon the preparation of an extensive RIS that met the requirements of the *Statutory Instruments Act 1992*.

To address the concerns of the QCCI about the RIS, advice was sought from the Business Regulatory Review Unit (BRRU) of the Department of Business, Industry and Regional Development (DBIRD). BRRU advised that while they agreed with QCCI that the requirements of the *Statutory Instruments Act 1992* should be applied in full they acknowledged however, that if the analysis called for by QCCI was attempted at this juncture, the regulation would expire before it could be replaced. They further advised that this is not in the best interests of any of the parties, and the most appropriate course of action would be to remake the regulation now, with a "limited" RIS and provide for a full analysis at a later date. This could be achieved through the insertion of a review clause which would also expire the regulation in 2 years time.

Why is the proposed remake the best alternative?

Option 2 is considered the best alternative for the following reasons—

- it allows sufficient time to critically scrutinise the issue for regulatory efficiency or to consider alternatives in consultation with the stakeholders
- it provides certainty for employers or the self-employed as to how they can comply with their obligations under the Act while this scrutiny takes place
- it continues to provide protection against the risks to workplace health and safety from electrical equipment and installations for employers the self-employed and workers while this scrutiny occurs
- it minimises costs, if any, to business of possible inefficient regulation to as short a period as is reasonable possible
- the level of support for this alternative from employee and employer groups
- the opinion of the BRRU that this approach is in the best interest of all parties.

Cost benefit analysis of the proposed compliance standard

The content specifications contained in the *Statutory Instruments Act 1992* require a brief analysis of the costs and benefits where it is reasonable and practical to do so. The analysis that follows is in keeping with that requirement.

Methodology

The methodology used to assess the benefits and costs of implementing the proposed compliance standard was developed by the Department of Business, Industry and Regional Development (DBIRD). This approach is in accordance with Cabinet's decision of August 1994, which requires the application of this methodology to all new "significant" subordinate

legislation. The methodology is a four stage process which demonstrates the qualitative or "intangible" and quantitative "dollar-value" impacts of the proposed compliance standard.

Limitations

Obtaining data in the available timeframe is extremely difficult with this type of study. There is very little information readily available that will allow a cost-benefit analysis to be carried out. An indication of the difficulties is given by the following outline of the main tasks necessary for an analysis—

- assessing the number of workplaces that have electrical equipment and installations in all industrial sectors
- estimating the number of workers exposed to the various risks
- identifying all the possible alternative methods or combination of methods which could be utilised to ensure that exposure to the associated risks are controlled
- estimating the cost associated with each method and deciding on the cost effectiveness of each
- estimating the total benefits associated with avoidance of exposure to electrical risks including both financial and socioeconomic benefits
- estimating the net present values to Queensland.

Because of the absence of much of the empirical data required, and the time constraints imposed by the transitional arrangement imposed by the Act, it was not reasonable or practical to quantify the costs or benefits of the proposed compliance standard at this time. As discussed earlier, advice was sought from BRRU who confirmed that this was an acceptable approach under the circumstances. The analysis was undertaken over a 2 year time horizon which is consistent with the undertaking to expire and review the proposed compliance standard within that timeframe.

The analysis involved 3 stages—

Stage 1 A subjective assessment of the impact of the proposed compliance standard across financial and socioeconomic factors comprising some 80 issues from the perspective of the stakeholder groups—Government, Business and the Consumer/Community.

Stage 2 A more rigorous assessment was conducted to determine the relative impact of the proposed compliance standard on each of the 80 issues through a qualitative assessment.

Stage 3 This stage drew conclusions on the overall effects of the proposed compliance standard on each stakeholder group. It provides an indication of non-tangible costs and benefits on each stakeholder group.

After aggregating the positive and negative impacts from a qualitative perspective this process concluded there would be no or little impact on any of the 3 stakeholders from the proposed compliance standard in the next 2 years.

Costs

The following costs to government, business and the community of the proposed *Workplace Health and Safety (Electrical Equipment and Installations) Compliance Standard 1996* were identified in the analysis.

Government

The cost to government of implementing the proposed compliance standard comes from 2 areas—

1. the costs involved in the development of the standard; and
2. the cost of enforcement.

Development cost

The cost of the development of the proposed compliance standard are not significant because of minimal redrafting required but include the following items—

- development of policy
- salaries of divisional staff
- time with the Parliamentary Counsel
- time in Cabinet
- cost of printing.

Enforcement cost

The Division of Workplace Health and Safety is responsible for enforcing the *Workplace Health and Safety Act 1995*. While the proposed compliance standard will not require any change to the Government's allocation of resources a proportion of the cost of inspection and auditing should accrue to this proposed compliance standard. The extent of this proportion is estimated at less than five percent and therefore the recurrent and ongoing costs are approximately $590 000 per year.

Business

A large degree of variability in costs incurred from the proposed compliance standard exists between businesses. The variability arises from the type of work carried out in the business, the size of the business and the number of electrical equipment in the workplace. The costs to business are affected by the following factors—

- the frequency of inspection, testing and tagging
- the double insulation of portable electrical equipment, or the connection of a safety switch, isolating transformer or earth monitoring device

The costs incurred from these factors include—

- engagement of electrical worker to install electrical equipment
- engagement of electrical worker to inspect, test and tag electrical equipment
- engagement of competent person to inspect and test electrical equipment before each hire

- engagement of electrical worker to inspect, test and tag hire electrical equipment every 6 months
- purchase of double insulated portable electrical equipment at a manufacturing, repair, assembly, maintenance or fabrication workplace, or purchase and connection of a safety switch, isolating transformer or earth monitoring device for portable electrical equipment.

Some of these costs are not incurred specifically as a result of the requirements of the compliance standard, but from the regulatory requirements of the *Electricity Act 1994* and as a normal cost of the business undertaking.

Due to the variation and complexity in application of the proposed compliance standard it is not possible to quantify the costs to business in the next 2 years. The control measures, work practices and equipment required to achieve compliance with the proposed compliance standard are already used by many employers. Electrical installations are subject to regulation under the *Electricity Act 1994.* It should also be noted that as industry is already required to comply with part 17 (Electrical Equipment and Installations) of the 1989 Regulation, any initial start up cost should only apply to new businesses being established in the next 2 years.

Consumer/community

Workers will not incur any costs under the proposed compliance standard. It is difficult to assess if the continued implementation of part 17 (Electrical Equipment and Installations) through the proposed compliance standard will result in price increases, however because the same level of regulatory control has been in existence since 1963, increased cost should have already been passed on to the consumer.

Benefits

The following benefits to Government, Business and the Community of the proposed *Workplace Health and Safety (Electrical Equipment and Installations) Compliance Standard 1996* were identified in the analysis.

Business

The benefits for business of the proposed compliance standard are—

- increased productivity from improved working conditions and work processes
- reduced industrial disputation
- reduced business disruption due to worker absenteeism and turnover
- reduced property insurance and business disruption insurance cost.

However significant benefits will accrue to business from the following—

- reduction of business disruption following fire or explosion from electrical faults
- substantially reduced direct and indirect compensation costs.

Business disruption

All business is dependent to varying degrees on electrical power for the operation of their business operations. Additionally, electrical appliances ranging from computers in an office environment to hand held tools such as grinders or drills in a factory environment are essential elements necessary for business to operate successfully. Any interruption to power source from improper installation or defective appliances will result in some interruption to business or may cause a fire resulting in catastrophic losses to a business.

It therefore is good business risk management practice to ensure that electrical installations are properly installed and electrical equipment is properly maintained to protect the viability of the business and at no additional cost ensure the health and safety of those at the workplace.

Compensation benefits

All businesses where systems and procedures for electrical equipment installation and maintenance are in place will benefit from a reduction in

both direct workers' compensation and indirect costs associated with accidents to workers such as re-hiring, retraining, damaged equipment and business interruption.

Some appreciation of the extent of possible savings for industry can be appreciated when consideration is given to the costs associated with injury sustained from electrical accidents. Minor electric shock and burns can result in short periods of incapacity. Recent changes to workers compensation legislation requires employers to pay injured workers for the initial four days of any time lost claim time. Significant burns or electrocution can lead to lengthy period of incapacity or possibly death. These injuries or fatalities can result in the payment of a statutory claim or common law action arising from the incident. Statutory claims for compensatory work injuries can increase the cost of compensation through penalties or foregone merit bonus payments. Some of these costs may be avoided through meeting the requirements of the proposed compliance standard.

Government

By creating equal requirements for similar businesses, the proposed compliance standard reduces the likelihood of some businesses foregoing safety considerations in pursuit of greater profits. In this way the proposed compliance standard serves to create a 'level playing field' which enhances competition.

The proposed compliance standard will reduce the number of injuries resulting from electrical equipment and installations in Queensland and will ensure the Government continues to meet its stated policy objective to ensure freedom from disease or injury to persons caused, and risk of disease or injury to persons created, by workplaces, workplace activities and specified high risk plant.

Consumer/community

The proposed compliance standard will continue to provide workers with statutory protection which obliges employers to prevent or minimises the risk of potential death or injury for their workers from the use of electrical equipment that has not been maintained or properly installed. The

community as a whole will obviously benefit from a reduction in the number of workers whose health and safety is affected by uncontrolled exposure to risks from electrical equipment and installation at work.

Methods available to statistically measure human life give widely divergent results and are subject to moral arguments about their use. It is for these reasons that this analysis has not attempted to quantify benefits in dollars. However, it is obvious that the avoidance of pain, suffering and loss of quality of life experienced by persons suffering from injuries related to electrical accidents and their families is of immense benefit to society as a whole.

National competition policy

To what extent does the proposed compliance standard impose or encourage restrictions?

As the proposed compliance standard will apply equally to all workplaces, other than those covered by the *Workplace Health and Safety (Construction Work) Compliance Standard 1996* and rural workplaces, in which electrical equipment is installed and used it is unlikely to impose any restrictions on a competitive market.

Fundamental legislative principles

To what extent is the proposed legislation consistent with fundamental legislative principles?

The proposed compliance standard does not infringe fundamental legislative principles.

Conclusion

The analysis undertaken in this Regulatory Impact Statement was subject to time constraints imposed by the transitional arrangements contained in the *Workplace Health and Safety Act 1995*, part 17 and the current resources available to the Division of Workplace Health and Safety.

The known risk of injury, illness or death associated with electrical equipment and installation at a workplace requires the continuation of some legislative control to prevent or minimise these risks until the appropriate level of deliberation on the type of regulation that is appropriate to current Queensland requirements can be undertaken in consultation with the stakeholders.

The qualitative analysis undertaken in this Regulatory Impact Statement has indicated the financial and socioeconomic benefits to the people of Queensland outweigh the costs associated with the implementation of the proposed compliance standard over the next 2 years. The proposed *Workplace Health and Safety (Electrical Equipment and Installations) Compliance Standard 1996* is therefore recommended.

PROPOSED WORKPLACE HEALTH AND SAFETY (FOUNDRY AND ABRASIVE BLASTING) COMPLIANCE STANDARD 1996

(MADE AS WORKPLACE HEALTH AND SAFETY REGULATION 1995, PART 16)

Executive Summary

Foundry and abrasive blasting processes at a workplace can expose employers, self-employed persons, workers and members of the public to the risk of serious injury, illness or death from musculoskeletal strain, burns, heat fatigue, eye injuries, allergic skin reactions irreversible respiratory diseases such as silicosis, lung cancer and other diseases. Division of Workplace Health and Safety records and workers compensation data suggest that some foundry and abrasive blasting workplaces may still be compromising workplace health and safety.

Fatalities, injuries and illnesses occur because employers or self-employed persons engaging in foundry and abrasive blasting processes do not ensure that work is performed using properly designed and maintained equipment, adequate personal protective equipment, safe practices and adequate precautions. Presently, the *Workplace Health and Safety Regulation 1989* (the Regulation), part 33 (Foundry and Abrasive Blasting) provides a legislative framework to address these problems.

Under current legislative transitional arrangements contained in the *Workplace Health and Safety Act 1995*, part 33 (Foundry and Abrasive Blasting) of the regulation will automatically expire on 1 July 1996 unless remade as a compliance standard. If the proposed compliance standard is not made prior to 1 July 1996, any regulatory protection covered by the proposed compliance standard disappears.

Where regulations are subject to "sunset" provisions of the *Statutory Instruments Act 1992*, any proposal to continue with them requires the preparation of a Regulatory Impact Statement. The regulatory impact process requires a high level of scrutiny and the analysis of alternative

options to ensure that regulatory requirements written into law will be both effective and efficient in their form and content.

It is estimated that the level of scrutiny required to address these requirements will take 2 years. There is insufficient time to complete the substantial research, development and consultation needed to undertake the complex process to make subordinate legislation before the transitional arrangements in part 17 of the Act expire. Because of these problems the only options considered were—

- removal of regulatory control
- remake the existing part 33 (Foundry and Abrasive Blasting) of the regulation as the *Workplace Health and Safety (Foundry and Abrasive Blasting) Compliance Standard 1996* with changes restricted to those necessary to ensure consistency with the Act and fundamental legislative principles. The proposed compliance standard would expire and be reviewed within 2 years of its making.

The analysis undertaken in this Regulatory Impact Statement indicates a continued need for the regulation of foundry and abrasive blasting at a workplace. The option of remaking the existing regulation into the proposed compliance standard that will expire and be reviewed within 2 years of its making is the more efficient and effective because it provides for the continued protection of workers and minimises the impact, if any, on business to as short a period as is reasonably possible.

This analysis further shows that the proposed compliance standard offers clear and positive benefits over the 2 year timeframe and is in the best interest of Government, Business and the Community. The proposed *Workplace Health and Safety (Foundry and Abrasive Blasting) Compliance Standard* is therefore recommended.

Background

The Queensland Government has redefined the requirements regarding the development of subordinate legislation by amending the *Statutory Instruments Act 1992*. From 1 July 1995, development of subordinate legislation requires the preparation of a Regulatory Impact Statement (RIS) under the *Statutory Instruments Act 1992*, part 5.

In accordance with those requirements, the RIS for the proposed *Workplace Health and Safety (Foundry and Abrasive Blasting) Compliance Standard 1996* is now made available for public comment.

The *Workplace Health and Safety Act 1995* (the Act) commenced on 1 July 1995. This Act repealed the *Workplace Health and Safety Act 1989* and retains parts of the *Workplace Health and Safety Regulation 1989* (the regulation) in its transitional arrangements.

Part 33 (Foundry and Abrasive Blasting) of the regulation is retained in the transitional arrangements and expires on 1 July 1996 unless earlier repealed by regulation.

The proposed *Workplace Health and Safety (Foundry and Abrasive Blasting) Compliance Standard 1996* remakes the existing part 33 of the regulation so it is consistent with the Act and fundamental legislative principles.

The proposed compliance standard, if made, will not alter existing rights, obligations or circumstances for workplace health and safety. It is intended that the proposed compliance standard should only remain in effect for 2 years during which time it will be reviewed for regulatory efficiency in consultation with all the stakeholders.

Title

The proposed subordinate legislation will be titled *Workplace Health and Safety (Foundry and Abrasive Blasting) Compliance Standard 1996*.

Authorising law

Under section 38 of the *Workplace Health and Safety Act 1995* (the Act), the Governor in Council may make a compliance standard for workplace health and safety to prohibit, or prescribe a way to prevent or minimise exposure to risk from workplaces, workplace activities or specified high risk plant.

The Act imposes workplace health and safety obligations on certain persons and when a compliance standard is made about a risk, a person can only discharge an obligation for that risk by following the compliance standard. Under section 37 of the Act, this provides a defence to any prosecution about a person's obligation for that risk.

Consultation

The Workplace Health and Safety Council is the peak advisory body to the Minister on matters about workplace health and safety and comprises representatives from employer associations, unions, government and health and safety experts. The Council has endorsed remaking part 33 of the *Workplace Health and Safety Regulation 1989* as a compliance standard so it is consistent with the Act and fundamental legislative principles.

The Metal Trades Industry Association (MTIA), the Queensland Chamber of Commerce and Industry (QCCI) and the Australian Council of Trade Unions, Queensland Branch were consulted about the difficulties faced because of the expiry of part 33 of the regulation on 1 July 1996. Opinions were sought in regard to remaking the 1989 regulation and preparing a limited Regulatory Impact Statement (RIS). All parties supported the proposal, however the QCCI support was conditional upon the preparation of an extensive RIS that met the requirements of the *Statutory Instruments Act 1992.*

The Division of Workplace Health and Safety sought advice from the Business Regulatory Review Unit (BRRU) of the Department of Business, Industry and Regional Development (DBIRD) about the preparation of an extensive RIS. While BRRU was in agreement with QCCI that the requirements of the *Statutory Instruments Act 1992* should be applied in full, they acknowledged however that if the analysis called for by QCCI was attempted at this juncture, the Regulation would expire before it could be replaced. They further advised that this is not in the best interests of any of the parties, and the most appropriate course of action would be to undertake a limited RIS and remake the Regulation now, and carry out a full analysis at a later date. This could be achieved through the insertion of a review clause which would also expire the regulation in 2 years time.

Policy objectives

What is the problem which needs to be solved?

When the type of work carried out in foundries or during abrasive blasting operations is not performed using properly designed and maintained equipment, adequate personal protective equipment, safe practices and adequate precautions, it exposes employers, self-employed persons, workers and other persons to significant risks to their health and safety.

Foundries

Founding or casting involves the pouring of molten metal into a prepared mould to produce a metal object called a casting. Ferrous foundries produce iron and steel castings, and non-ferrous foundries produce castings of copper-based alloys, aluminium, lead, zinc, magnesium and other alloys. The various processes involved in founding or casting give rise to heat, molten metal splashes, vapours, gases and falling objects. The potential for serious injury, illness of death exists for exposed workers if these risks are not controlled or contained. Foundry work also involves various manual operations which carry a risk of physical injury. The community is also at risk from explosions and fire, and the dispersion of dusts and vapours into areas surrounding the foundry.

While statistics are not available on the number of persons exposed to the hazards of founding and casting, 65 workplaces involved in iron and steel casting and forging (ANZSIC 2712) and 20 involved in non-ferrous metal casting (ANZSIC 2733) are registered with the Division of Workplace Health and Safety. The total number of employees registered with the division at these workplaces is 2 247.

Workers' Compensation claims data for 1994/95 indicate that for foundries the number of claims was greatest in relation to sprains and strains (32.2%), foreign body (29.2%), open wounds (11.7%), contusions/crushing (8.0%), burns (5.4%) and fractures (5.1%). The most common bodily location of these injuries was eye (32.0%), back (16.6%), hand/fingers (16.6%), shoulder (5.0%) and foot/toes (4.9%). In addition, the most frequent mechanism of injury was being hit by moving object

(42.4%), body stressing (24.7%), hitting object with part of body (12.6%) and falls/trips/slips (6.5%).

Abrasive blasting

Abrasive blasting involves the use of compressed air, water, steam, centrifugal wheels or paddles to propel an abrasive at high speed against a surface to clean, abrade, etch or otherwise change the original appearance or condition of the surface. It includes high pressure water and steam blasting. Abrasive blasting is used for cleaning surfaces such as steel, bricks, cement and concrete. The objective is usually to remove scale, rust, old paint and other foreign matter before applying protective coatings. Abrasive blasting can be used to remove graffiti and to dress metal castings in foundries.

Abrasive blasting exposes workers to a number of hazards. The prime hazard is dust, particularly silica dust. Other hazards include noise, particulate matter, static electricity, work in confined spaces and manual handling. Abrasive blasting also poses a risk to the community, primarily relating to the uncontrolled dispersion of dusts.

Statistics are not available on the number of abrasive blasting workplaces because there is no industry classification code (ie ASIC or ANZSIC codes) for abrasive blasting. This is because abrasive blasting is conducted across a wide range of situations including building sites, shipyards and foundries. There is also no statistics available on the number of abrasive blasting employees as there is no specific occupational code (ie ASCO code) for abrasive blasters. In addition, it is not possible to use Worker's Compensation claims data to indicate the kinds of injuries being sustained for abrasive blasters as there is no specific Industry Business (IB) code.

What are the risks which need to be controlled?

Persons exposed to foundry processes are at risk of injury, illness or death from—

- respiratory diseases such as silicosis, tuberculosis and bronchitis
- lung cancer
- metal fume fever

- allergic skin reactions
- hearing loss
- vibration-induced health effects
- heat stress
- burns
- eye damage
- musculoskeletal strain
- skin penetration
- bruises, contusions and fractures.

Persons exposed to abrasive blasting processes are at risk of injury, illness or death from—

- respiratory diseases such as silicosis, tuberculosis and bronchitis
- aggravation of pre-existing disease such as chronic bronchitis
- lead poisoning
- hearing loss (tinnitus, deafness)
- heat stress (contributed to by protective clothing worn)
- eye damage
- musculoskeletal strain
- skin penetration
- cuts and abrasions.

Have the key stakeholders done what they can to control the risk?

Government

Historically, legislative provisions about foundry and abrasive blasting work have existed in different forms in Queensland since 1962, commencing with rule 3 made under Factories and Shops legislation. Rule 3 was repealed upon the commencement of the *Workplace Health and Safety Regulation 1989* (the regulation) on 31 July 1989. Part 33 (Foundry and Abrasive Blasting) of the regulation has a broader application as it

covers all workplaces to which the *Workplace Health and Safety Act 1995* applies, with the exception of rural industry workplaces.

Business

The Abrasive Blasting Health and Safety Manual was introduced in 1992 in recognition of the wide range of hazards in the industry. The manual was designed to help those in the industry identify and overcome the risks and make the industry a healthier and safer one in which to work. The manual was produced as a result of a consultative process between the Association of Abrasive Blastcleaners and Protective Coaters Queensland Inc., the Operative Painters and Decorators Union of Australia (Queensland Branch) and the Division of Workplace Health and Safety.

Some indication of whether business is doing all it can to control workplace health and safety risks associated with foundries and abrasive blasting can be gained from—

- a review of the types of situations encountered by inspectors of the division and their comments made following investigation
- the numbers of serious bodily injury reports received by the division
- the level of injuries to foundry workers resulting in claims for workers compensation.

Summary of typical inspectorate comments

Over the last 2 years, the Inspectorate found foundries and abrasive blasting workplaces were not meeting their health and safety obligations mainly in the following areas—

Foundries

- manual handling problem in relation to ladles in foundry
- access platforms around vibration casting are attached to the vibrating moulds
- need to fit guard on foundry sand discharge pipe
- inadequate foundry ventilation

- worker performing abrasive cutting does not have suitable method to hold castings.

Abrasive blasting

- use of a prohibited sand
- use of dry sand
- inadequate risk assessment and control procedures, relating particularly to personal protective equipment, systems for MSDS compilation and training of employees
- inadequate control of dust when blasting concrete slabs
- release of fibre into air when pressure blasting an asbestos clad roof
- no deadman function on abrasive blasting equipment
- plant used in the sand blasting process not maintained and safe systems of work not provided
- no Material Safety Data Sheet (MSDS) for abrasive blasting sand
- no engineering controls for abrasive blasting operations
- unsafe blasting helmet

Serious bodily injury reports

Over the past 2 financial years, the Division received 31 serious bodily injury reports in relation to *ANZSIC 2712—Iron and Steel Casting and Forging* and *ANZSIC 2733—Non-Ferrous Metal Casting.* None of the reports related to fatal injuries. The majority of reported injuries were fractures, lacerations, musculoskeletal strains and burns.

In relation to abrasive blasting, no equivalent data was able to be collated from Divisional records because there is no industry classification code for abrasive blasting (ie ANZSIC code). This is because abrasive blasting is conducted across a wide variety of industries and situations.

Workers compensation data

Data which summarises workers' compensation claims was provided by Q Stats Data Management and Consulting. The data shows that there were

805 compensation claims in relation to foundries for the 1994/95 financial year. However, very little conclusion can be drawn from this figure as frequencies can not be calculated as there is no reliable data on the number of employees working in foundries.

In relation to abrasive blasting, there is no collection of data readily available that indicates the extent of injuries because there are no ANZSIC, ASIC, ASCO or IB codes for abrasive blasting.

In conclusion, comments by the Inspectorate, serious bodily injury reports and workers' compensation data indicate foundry and abrasive blasting workplaces are not adequately controlling the health and safety risks to workers.

Community

The complex nature of requirements to ensure workplace health and safety during foundry and abrasive blasting operations means that workers and others are reliant on employers to ensure personal protective equipment meets safety standards, plant is properly designed and maintained and safe operating procedures are implemented. Workers play their part by complying with their obligations under section 36 of the Act. Some of these obligations are—

- to comply with instructions given for workplace health and safety at the workplace by the employer
- to use personal protective equipment supplied by the employer
- not to wilfully injure themselves or to recklessly or wilfully place at risk the health and safety of any other person at the workplace.

Is there a compelling case for Government involvement on the grounds of public health and safety?

There is a continuing strong case for Government involvement on the grounds of both public and workplace health and safety. While acknowledging the efforts of the stakeholders, the Division of Workplace Health and Safety (the division) is of the view that there is an ongoing potential for loss of life or serious injury or illness to employers, self-employed persons, workers and members of the public from foundry and

abrasive blasting businesses that are unaware of or fail to take proper precautions. The injury data and inspection review mentioned earlier supports this opinion.

It is therefore in the interest of all stakeholders to continue to provide regulatory requirements which will specify how employers must safeguard themselves, their workers and other persons from exposure to risks associated with foundry and abrasive blasting processes at workplaces.

What is the worst possible consequence of Government inaction?

If the Government does not provide specific regulatory control in relation to foundry and abrasive blasting work at a workplace, it could abrogate its responsibility for providing a framework for the protection of workplace health and safety of employers, self-employed persons, workers and members of the public who may be affected by workplace activities. The lack of specific regulatory control also removes certainty for employers and self-employed persons who are responsible for identifying and managing the risks associated with foundry and abrasive blasting processes at the workplace.

The proposed compliance standard is designed primarily to create certainty for employers and others, and to prevent or minimise the risks of injury, illness or death from foundry and abrasive blasting work at a workplace.

Under current legislative transitional arrangements part 33 (Foundry and Abrasive Blasting) of the regulation will automatically expire on 1 July 1996 unless remade as a compliance standard. If the proposed compliance standard is not made prior to 1 July 1996, any regulatory protection for the health and safety of workers exposed to risks associated with foundry and abrasive blasting covered by the proposed compliance standard disappears.

National situation

There is currently no consistency between the States in regard to specific regulation of foundries or abrasive blasting. However, unlike Queensland, other States deal with foundries and abrasive blasting as separate issues.

Foundries

New South Wales, South Australia, Western Australia and Tasmania have regulations in relation to foundries, however, it is expected that Tasmania will repeal its legislation during its current review as they only have one foundry in their State. New South Wales is also currently reviewing its legislation and it is expected that foundry regulations will fall partly under hazardous substances and partly under hazardous plant. Victoria is the only state with a code of practice for foundries which was produced in 1988. In addition, the National Occupational Health and Safety Council (NOHSC) produced a guide on foundry health hazards in 1989.

No States other than Queensland are undertaking a RIS in relation to foundries.

Abrasive blasting

All States other than Victoria and the Australian Capital Territory currently have regulations in relation to abrasive blasting. However, the Victorian regulation on sandblasting is now administered by the Environmental Protection Agency as sandblasting is perceived as a public health hazard. Western Australia is the only state to have a code of practice for abrasive blasting which is currently in draft form.

No other states are currently undertaking Regulatory Impact Statements or Economic Impact Assessments in relation to abrasive blasting.

Legislative intent

What rights, obligations or circumstances does the proposed compliance standard change or establish?

The proposed compliance standard for foundry and abrasive blasting supports the Act but does not change any existing circumstances or obligations. The rural industry continues to be exempt from the application of this compliance standard. The objective of the proposed compliance standard is to prevent or minimise exposure to risks to workplace health and safety when carrying out foundry and abrasive blasting processes at a workplace. The obligation to ensure health and safety when carrying out

these processes at a workplace will continue to be imposed on employers and self-employed persons.

How will that work in practice—what is the overall effect of the compliance standard expected to be?

The proposed compliance standard will not change existing regulatory requirements and therefore the overall effect over the next 2 years is expected to be minimal.

Employers, self-employed person, workers and others are exposed to significant risks to their health and safety during foundry and abrasive blasting operations when work is not performed using properly designed and maintained equipment, adequate personal protective equipment, safe practices and adequate precautions. The proposed compliance standard has been designed to address these issues and the principal components are—

- construction, supply and maintenance of foundry area and equipment
- work practices in foundry work
- construction, supply and maintenance of blasting chambers or enclosures and equipment
- work practices in abrasive blasting work.

Construction, supply and maintenance of foundry area and equipment

Foundry area

An employer or self-employed person must ensure the foundry area where foundry work is carried out at the employer's or self-employed person's workplace is level and kept clear of articles, materials, stock or anything else that may obstruct or prevent foundry work being carried out safely in the area.

Cupola charging platforms

An employer or self-employed person must ensure a cupola charging platform used at the employer's or self-employed person's workplace—

- is large enough to allow safe and unimpeded handling of raw materials by furnace operators
- has a floor made of timber or steel plate firmly fixed to the decking which is strong enough to support its load and surrounded by a wall at least 760 mm high above the floor preventing objects falling from the platform
- is maintained in a level and safe condition
- has an access stair or ramp fitted with handrails
- has a roofed working area
- is ventilated to remove airborne noxious substances.

Ladles

An employer or self-employed person must ensure that—

- a ladle with a holding capacity of 500 kg or more used in a foundry at the employer's or self-employed person's workplace is fitted with a safety worm gear or an equivalent safety device to regulate its position
- a ladle (other than a ladle carried by hand) used at the employer's or self-employed person's workplace is fitted with safety clips
- all parts of a ladle used in a foundry at the employer's or self-employed person's workplace are regularly inspected and maintained in good condition and working order.

Pit furnace

An employer or self-employed person must ensure that a pit furnace at the employer's or self-employed person's workplace is ventilated to remove airborne noxious substances, dry and covered by a strong and substantial grating at the point at which metal is removed from the furnace.

Pouring pit

An employer or self-employed person must ensure that a pouring pit used at the employer's or self-employed person's workplace—

- is ventilated to remove airborne noxious substances and large enough to ordinarily leave at least 300 mm between all sides of the pit and any part of a ladle or box part placed in the pit
- has a strong and substantial grating or guardrails protecting the pit's opening when it is not in use.

Spare metal chills or moulds

An employer or self-employed person must supply at the employer's or self-employed person's workplace, chills or moulds into which spare molten metal can be poured.

Ventilation and temperature control

An employer or self-employed person must, if practicable, install flues extending to the open air to ventilate cooling racks and fixed heat sources.

Washing facilities in foundry operations

An employer or self-employed person must supply the following facilities for persons engaged or assisting in foundry work at the employer's or self-employed person's workplace—

- 1 wash basin with hot and cold water for every 5, or part of 5, persons
- 1 shower bath with hot and cold water for every 8, or part of 8, persons.

Work practices in foundry work

Drying ladles and moulds inside a foundry

An employer or self-employed person must ensure a kettle for use in a foundry at the employer's or self-employed person's workplace is prepared

outside the foundry and is not used in position until a clear fire is burning.

If a ladle or mould is dried inside a foundry during working hours at an employer's or self-employed person's workplace, the employer or self-employed person must ensure that the foundry's atmosphere remains free of airborne noxious substances.

Moulding or casting near a furnace

An employer or self-employed person must ensure moulding or casting work in a foundry at the employer's or self-employed person's workplace is not carried out within 3 m of a furnace, or a receiver used with a furnace, while the furnace is in use.

Restriction on mass lifted while using a ladle

An employer or self-employed person must ensure a person using a ladle in a foundry at the employer's or self-employed person's workplace does not lift a mass by hand—

- greater than 27 kg when using a single-handled ladle
- greater than a mass calculated on the basis of 38 kg per person operating the ladle when using a double-handled ladle.

Working under suspended castings or mouldings

An employer or self-employed person must ensure foundry work is carried out at the employer's or self-employed person's workplace under a casting, core or moulding box only if the casting, core or moulding box is supported securely on a trestle or similar support.

Construction, supply and maintenance of blasting chambers or enclosures and equipment

Blasting chambers and enclosures

An employer or self-employed person must ensure a blasting chamber or enclosure at the employer's or self-employed person's workplace—

- is constructed of hard wearing non-combustible material designed to prevent dust escaping, minimise internal projections including, for example, a ledge, on which dust can settle and kept in a way preventing dust escaping from the chamber or enclosure; and has an illumination of at least 200 lx, measured on a horizontal plane 1 m above the floor of the blasting chamber or enclosure
- an electrical installation complies with
    - AS 1076
    - AS 2381
    - AS 3000 in relation to hazardous areas, section 9.

Emergency exits

An employer or self-employed person must ensure a blasting chamber or enclosure at the employer's or self-employed person's workplace has an emergency exit door located at the furthermost position from the main entrance to the chamber or enclosure.

Windows and inspection ports in blasting chambers and enclosures

An employer or self-employed person must ensure that every window or inspection port in a blasting chamber or enclosure at the employer's or self-employed person's workplace—

- is fixed in a metal sash
- has toughened safety glass, laminated safety glass or safety wired glass complying with AS 2208 sections 2 to 5
- is kept in a way allowing inspection of the blasting operations.

Ventilation systems in blasting chambers and enclosures

An employer or self-employed person must ensure a blasting chamber or enclosure has a mechanical ventilation system that—

- is constructed and kept in a way that the extracted air passes through a filtering or cleaning device to remove airborne contaminants before the air is discharged

  for a blasting chamber or enclosure in a building—discharges air at least 2 m above the highest part of the building's roof or at a height preventing the air from re-entering the building or contaminating other buildings

- for a cross-draught air flow blasting chamber—produces an air velocity of at least 0.4 linear metres per second in the direction of extraction
- for a down-draught air flow blasting chamber—produces an air velocity of at least 0.3 linear metres per second
- has ducting fitted with inspection and cleaning ports at places where dust can accumulate.

Abrasive blasting equipment

An employer or self-employed person must ensure abrasive blasting equipment used at the employer's or self-employed person's workplace has the following—

- a fast acting mechanism under the direct control of the nozzle operator
- hose whip checks or hose coupling safety locks
- for dry blasting—a way of discharging static electrical charge from the abrasive blasting nozzle
- for wet blasting—a water flow rate capable of preventing dust.

Washing facilities in abrasive blasting operations

An employer or self-employed person must supply the following facilities for persons engaged or assisting in abrasive blasting at the employer's or self-employed person's workplace—

- 1 wash basin with hot and cold water for every 5, or part of 5, persons

- 1 shower bath with hot and cold water for every 8, or part of 8, persons.

Protective and respiratory equipment

An employer or self-employed person must supply each person engaged in abrasive blasting at the employer's or self-employed person's workplace with the following—

- a hood or helmet type airline respirator complying with section 12 of AS 1716 fitted with—
  - an inner bib
  - a shoulder cape, jacket or protective suit
- skin and foot protection to the extent the protection is not provided by the equipment supplied under the above mentioned protective devices.

An employer or self-employed person must supply each person engaged in cleaning, maintaining or repairing a blasting chamber, enclosure, or another area that has been used for abrasive blasting, with respiratory protective equipment complying with sections 2 to 4, 9 and 10 of AS 1716.

Air from respiratory equipment

An employer or self-employed person must ensure air breathed from airline respiratory equipment at the employer's or self-employed person's workplace—

- is supplied at a rate of at least 170 litres per minute
- contains at least 19.5% but not more than 22% oxygen.

The employer or self-employed person must also ensure the air breathed from the airline respiratory equipment has first passed through—

- a purifying device to ensure the air does not have an objectionable or nauseous odour and, if it is measured at 150°C and 100 kPa, would contain the following—
  - carbon dioxide of not more than 900 ppm

- carbon monoxide of not more than 11 ppm
- not more than 1 mg/m^3 of oil

- a conditioner to ensure that the air is supplied—
  - at a temperature of at least 15°C but not more than 25°C
  - within a humidity range of at least 20% but not more than 85%
- a condensate trap fitted with a drain cock to remove condensed liquid
- a ring circuit or controlled leak-off to eliminate stale air.

Maintaining air supply equipment

An employer or self-employed person must ensure equipment for supplying air for a person to breathe at the employer's or self-employed person's workplace is kept in working order in a place where it is protected from contamination.

The employer or self-employed person must also ensure the equipment has—

- a thermostatically controlled interlock to cut off the air supply to it if it overheats beyond the manufacturer's specifications
- fittings that are not capable of connection to other compressed air equipment at the employer's or self-employed persons's workplace.

Work practices in abrasive blasting work

Doors in blasting chambers and enclosures

An employer or self-employed person must ensure all doors in a blasting chamber or enclosure at the employer's or self-employed person's workplace—

- are kept closed during abrasive blasting

- (other than doors opening automatically to convey articles into or out of the chamber or enclosure) are interlocked to prevent blasting in the chamber or enclosure while the doors are open.

Mechanical ventilation systems in blasting chambers or enclosures

An employer or self-employed person must ensure the mechanical ventilation system is kept in continuous operation—

- at all times during abrasive blasting in a blasting chamber or enclosure
- at all times during cleaning, maintenance or repair of a blasting chamber or enclosure (except where operating the ventilation system may create a hazard—in this situation the employer or self-employed person must, instead, supply a positive pressure respiratory system)
- for at least 5 minutes after abrasive blasting in a blasting chamber or enclosure has finished.

Blasting chambers or enclosures may only be used for abrasive blasting and incidental work

An employer or self-employed person must ensure only the following work is carried out in a blasting chamber or enclosure at the employer's or self-employed person's workplace—

- abrasive blasting
- work incidental to abrasive blasting
- cleaning, maintenance or repair of the blasting chamber or enclosure or equipment in it.

Abrasive blasting other than in a blasting chamber or enclosure

If abrasive blasting is carried out at an employer's or self-employed person's workplace other than in a blasting chamber or enclosure, the employer or self-employed person must ensure—

- the abrasive blasting is carried out in such a way that prevents abrasive blasting overspray, siliceous or toxic dust escaping from the area where the abrasive blasting is carried out
- the abrasive blasting overspray, siliceous or toxic dust is cleaned from all surfaces as soon as practicable after the blasting has finished.

Prohibited materials for abrasive blasting

An employer or self-employed person must ensure the following materials are not used in abrasive blasting at the employer's or self-employed person's workplace—

- for dry abrasive blasting—
  - any material containing more than 2% crystalline quartz
  - recycled material not treated to remove respirable dust
  - other material likely to harm the upper respiratory tract of a person
- for wet abrasive blasting—an inhibitor containing chromate, nitrate or nitrite
- any material containing any radioactive substance
- material containing more than 2% of 1 of the following substances
  - antimony
  - arsenic
  - beryllium
  - cadmium
  - chromium
  - cobalt
  - lead
  - nickel
  - tin.

Why is the proposed compliance standard reasonable and appropriate?

The proposed compliance standard provides continuance of the existing legislative protection while the issues of foundry and abrasive blasting processes are examined in greater detail over a period of 2 years. By following the proposed compliance standard, an employer of self-employed person may discharge their obligations under the Act. The compliance standard will be reviewed within 2 years.

Consistency with the authorising law

How does the proposed compliance standard contribute to the achievement of the overall objective of the authorising legislation?

The proposed compliance standard for foundry and abrasive blasting has been drafted to provide subordinate legislation consistent with the Act. The overall objective of the Act is to ensure freedom from disease or injury to persons caused, and the risk of disease or injury to persons created, by workplaces, workplace activities or specified high risk plant. The proposed compliance standard provides the requirements necessary to prevent or minimise exposure to risks to workplace health and safety when carrying out foundry and abrasive blasting work at a workplace.

Enforcement of the proposed compliance standard

The Division of Workplace Health and Safety will be responsible for enforcing the proposed compliance standard. The proposed compliance standard will be enforced primarily through—

- the issue of **improvement notices** that require corrective measures to be implemented by a certain date
- the issue of **prohibition notices** that can stop an activity or plant being used where it is considered that an immediate risk to workplace health and safety exists

- **prosecution** for failure to comply with the requirements of the proposed compliance standard, that is, the person has failed to meet his or her obligation under the Act. A person who breaches an obligation can be prosecuted. The maximum penalty for this is $30 000 or 6 months imprisonment for an individual. The maximum penalty for a body corporate is $150 000.

Options and Alternatives

The following alternatives were considered in developing this Regulatory Impact Statement—

1. Removal of regulatory control.
2. Remake the existing part 33 (Foundry and Abrasive blasting) of the regulation as the *Workplace Health and Safety (Foundry and Abrasive Blasting) Compliance Standard 1996*.

Option 1: Removal of Regulatory Control

With the removal of any form of regulatory control, employers or self employed persons will be responsible for developing their own systems to satisfy the intent of the Act.

The main aim of the compliance standard is to help provide certainty for employers or self-employed persons involved with foundry and abrasive blasting processes at a workplace, regarding requirements for minimising or preventing exposure to the risks involved, and therefore satisfy their obligations under the Act. If there is no compliance standard, employers or self employed persons are in positions where they must carry out their own research if they wish to ensure workplace health and safety.

A report commissioned by the division in 1994 on the development of an industry inspectorate contact and facilitation program, indicated that businesses generally fall into 4 groups.

1. Those that developed methods of ensuring the health and safety of their workers and others without any direction from Government or any other source.

2. Those that willingly ensured the health and safety of their workers and others when guidelines such as an Australian Standard were available.

3. Those that ensured the health and safety of workers and others only when governments regulated they do so.

4. Those that do not ensure the health and safety of workers and others even with government regulation, and accept the penalties imposed through noncompliance.

If regulatory control was removed, it is expected the reduction of any costs would affect those businesses in group 3 who develop safe work practices only when directed to do so by government. The possible savings for this group must be offset by the social and financial costs associated with increased fatalities, injuries and illnesses, lost productivity and industrial disputation likely to result because of noncompliance.

While the Queensland Government could rely on education and voluntary compliance in the absence of regulatory control, this educative approach would be unlikely to lead to better health and safety practices among groups 3 and 4. While short term savings might accrue to businesses who choose not to follow the suggested health and safety management practices contained in Australian Standards, it is considered the long term costs to the noncomplying workplaces would overshadow any short term savings.

Option 1 is not preferred because it is not considered prudent to remove enforceable regulatory requirements in regard to foundry and abrasive blasting and allied processes until the matter is fully reviewed in consultation with all the stakeholders. The available time frame is not sufficient to allow this to occur.

Option 2: Remake the existing part 33 (Foundry and Abrasive Blasting) as the *Workplace Health and Safety (Foundry and Abrasive Blasting) Compliance Standard 1996*

Under this option, changes are restricted to those necessary for consistency with the *Workplace Health and Safety Act 1995*, and to ensure fundamental legislative principles are not breached. The proposed compliance standard would expire and be reviewed within 2 years of its making.

It is estimated that the level of scrutiny required to address the problems will take 2 years. Therefore, there is insufficient time to complete the substantial research, development and consultation needed plus undertake the complex process to make subordinate legislation before the transitional arrangements in part 17 of the Act expire.

In the immediate available time frame, changes for the proposed compliance standard from the existing part 33 (Foundry and Abrasive Blasting) will be restricted to those necessary for consistency with the Act and to ensure consistency with Fundamental Legislative Principles. The proposed compliance standard would then be reviewed within 2 years of its making.

It is acknowledged that there are problems with this approach including—

- provisions in the proposed compliance standard may be out of date because of technological advancements and changes to the structure of businesses in these industries
- the calling up of Australian Standards in the proposed compliance standard which may cause concern because—
    - Australian Standards are not developed in tripartite forums and are not subject to extensive consultation
    - Australian Standards may impose obligations on persons who do not have obligations under the relevant occupational health and safety legislation
    - Australian Standards often call up other Australian Standards or other documents which can be costly and impractical
    - the development of, or changes to, Australian Standards are not subjected to any cost-benefit analysis
    - Australian Standards are not legally drafted and they can contravene fundamental legislative principles and modern legal drafting conventions.

Why is the proposed remake the best alternative?

Option 2 is considered the best alternative for the following reasons—

- it allows sufficient time to critically scrutinise the issue for regulatory efficiency or to consider alternatives in consultation with the stakeholders
- it provides certainty for employers or self-employed persons as to how they can comply with their obligations under the Act while this scrutiny takes place
- it continues to provide protection for employers, self-employed persons, workers and others against the risks to workplace health and safety associated with foundry and abrasive blasting at a workplace while this scrutiny occurs
- it minimises costs, if any, to business of possible inefficient regulation to as short a period as is reasonable possible
- the support of this alternative by the Workplace Health and Safety Council
- the opinion of the BRRU that this approach is in the best interest of all parties.

Cost Benefit Analysis of the proposed compliance standard

The content specifications contained in the *Statutory Instruments Act 1992* require a brief analysis of the costs and benefits where it is reasonable and practical to do so. The analysis that follows is in keeping with that requirement.

Methodology

The methodology used to assess the benefits and costs of implementing the proposed compliance standard was developed by the Department of Business, Industry and Regional Development (DBIRD). This approach is in accordance with Cabinet's decision of August 1994, which requires the application of this methodology to all new "significant" subordinate legislation. The methodology is a 4 stage process which demonstrates the qualitative or "intangible" and quantitative "dollar-value" impacts of the proposed compliance standard.

Limitations

Obtaining data in the available time frame is extremely difficult with this type of study. There is limited information relating the foundry industry and no collection of data relating to abrasive blasting as abrasive blasting is either a main activity conducted by a business or an activity conducted by workers across a wide range of industries.

The available data does not lend itself to analysis of the quantifiable cost or benefits for industry. To provide a meaningful analysis of the costs for industry, the necessary tasks include, but are not limited to, the following—

- assessing the number of workplaces that undertake foundry and abrasive blasting activities in all industrial sectors
- estimating the number of workers exposed to various risks associated with foundry and abrasive blasting
- identifying alternative methods which could be utilised to ensure that exposure to risks associated with foundry and abrasive blasting is controlled
- estimating and analysing the cost associated with each method
- quantifying the financial and socioeconomic costs or controlling exposure to the industry.

Because of the absence of much of the empirical data required, and the time constraints imposed by the transitional arrangement imposed by the Act, it was not reasonable or practical to quantify the "dollar value" impacts of the proposed compliance standard at this time. Advice was sought from BRRU who confirmed that this was an acceptable approach under the circumstances. The analysis was undertaken over a 2 year time horizon which is consistent with the undertaking to expire and review the proposed compliance standard within that time frame.

The analysis involved a qualitative estimation of the impact of the proposed compliance standard across financial and socioeconomic factors comprising some 80 issues from the perspective of the stakeholder groups of government, business and the community.

After aggregating the positive and negative impacts, this process concluded that overall there would not be a significant negative impact for any of the 3 stakeholders from the implementation of the proposed compliance standard in the next 2 years.

The following costs to government, business and the community of the proposed *Workplace Health and Safety (Foundry and Abrasive Blasting) Compliance Standard 1996* were identified in the analysis.

Costs and benefits for government

Government costs

The costs to government of implementing the proposed compliance standard come from 2 areas—

1. development of the standard; and
2. recurrent and ongoing.

Development cost

The cost of developing the proposed compliance standard is not significant because of minimal redrafting required but includes the following components—

- development of policy
- salaries of divisional staff
- time with the Parliamentary Counsel
- time in Cabinet
- cost of printing.

Recurrent and ongoing cost

The Division of Workplace Health and Safety is responsible for enforcing the Act. While the proposed compliance standard will not require any change to the government's allocation of resources, a proportion of the cost of inspection and auditing should accrue to this proposed compliance standard. Based on the number of registered foundry workplaces as a

proportion of the total number of registered workplaces and projects it is estimated that less than 1% of the Inspectorate budget will be used to enforce the foundry related part of the standard over the next 2 years. No equivalent estimate is able to be made for abrasive blasting, but it would not involve a significant amount of total Inspectorate budget.

Government benefits

By remaking the existing requirements for foundries and abrasive blasting into the proposed compliance standard, the government will benefit through—

- stimulation of economic growth
- continuing to meet community service obligations.

Economic growth

From the creation of uniform standards at foundry and abrasive blasting workplaces, benefits will be forthcoming from the proposed compliance standard through the promotion of open and fair rivalry between businesses which in turn stimulates competition.

Community Services Obligations

The proposed compliance standard contains requirements that will reduce the possibility of dust, other particulate matter, gases and vapours escaping into the areas surrounding foundry and abrasive blasting workplaces and also the reduce the risk from foundry explosions and fire. Compliance with these requirements should assist in protecting the environment and reduce the potential for injuries, illnesses or death for workplace participants and members of the public. This will ensure the government continues to meets its stated policy objectives for workplace health and safety.

Government will also benefit in the prevention or reduction in expenses for—

- cleaning up and investigations after major accidents where damage extends into public areas
- legal expenses incurred from prosecution

- the health system in dealing with persons who have incurred injuries or developed illnesses as a result of foundry and abrasive blasting work.

Costs and benefits for business

Business costs

As industry is already required to comply with part 33 (Foundry and Abrasive Blasting) of the 1989 regulation, any cost involved in complying with the proposed regulation should only apply to new businesses being established. To confirm this view, costs for business was sought from Metal Trades Industry Association (in particular the National Casts Metals Council—a body comprised of foundry owners) and the Association of Abrasive Blasters and Protective Coasters. These bodies did not consider there were any significant cost to their respective industries in implementing the proposed compliance standard over the next 2 years.

The cost to new businesses of implementing the proposed compliance standard is unlikely to affect foundries due it being unlikely that new foundries will be established. However, the abrasive blasting industry has experienced an upturn in its operations. The costs involved in establishing new businesses in the abrasive blasting industry are therefore relevant and are estimated below—

Blasting chambers and enclosures

The cost of a blasting chamber which complies with the proposed compliance standard is between $40 000 to $400 000 depending on the size of the chamber required. It is estimated that the average chamber costs around $60 000. For abrasive blasting conducted outside a blasting chamber (such as for blasting the exterior of houses, bridges or ships), a containment screen can fulfil the requirements of the compliance standard at a cost of $450 for a 40 metre roll. The cost of a dust recovery system to be used in conjunction with these containment screens costs about $1 200.

Blasting equipment

There are a number of different systems that can be purchased including a deadman system for around $900, pneumatic auto-remote system for $1 200 and an electric auto remote system for $1 350. For wet abrasive blasting, a nozzle can be purchased for approximately $600.

Blast Helmets

The cost of a complete blast helmet varies from $360 to $485. The cost of an airline filter is around $450 and a helmet air conditioner costs around $270.

The majority of other requirements involve supervision, housekeeping and handling which can be built into existing work processes with no additional costs.

In addition to establishment costs are the costs related to the type of abrasive materials used. Abrasive materials which comply with the requirements of the compliance standard include copper slag, garnet, environmite, ilmenite, glass beads, steel grit, and lime stone which vary in price from $100 to $1 100 per tonne. The real cost of these abrasive materials however, actually depends on the number of times the abrasive material can be safely recycled which can be anywhere up to around 15 times.

Business benefits

The principal benefits to business is the reduction of the likelihood and consequences of major accidents associated with foundry and abrasive blasting operations. Some of these benefits relate to avoidance of—

- loss of investment, business opportunity, income and reputation of the business
- loss of investment, income and business opportunity for nearby business
- cost of repairing damaged plant or equipment
- cost from loss of productivity if plant or equipment is rendered inoperative

- accident investigation costs
- costs to production efficiency due to replacement of injured staff
- loss of value of raw material, semi-finished or finished goods
- loss of profit due to inability to fulfil orders of time
- loss of employee morale and increases in worker absenteeism, turnover and inefficiency
- legal costs and statutory fines
- clean up costs
- cost of rehiring and retraining
- business interruption from industrial disputation
- compensation costs and penalties.

Costs and benefits for consumer/community

Consumer/community costs

Workers will not incur any costs from the implementation of the proposed compliance standard. It is not expected that the community will incur any significant cost through price increases as a similar level of regulatory control has been inexistence since 1962 and any increased cost would have already been passed on to the consumer.

Consumer/community benefits

The proposed compliance standard will continue to provide workers with statutory protection which obliges employers to prevent or minimise the risk of their workers being exposed to injuries, illness or death from foundry and abrasive blasting activities. This in turn will reduce potential loss of life, injury or illness, reduce anxiety, loss of income and additional medical costs.

The community will benefit from the prevention or reduction in—

- demand for emergency responses to incidents or major accidents
- demand for clean up procedures after major accidents

- damage to property
- fatalities, injuries or disease
- damage to the environment.

National Competition Policy

To what extent does the proposed compliance standard impose or encourage restrictions?

As the proposed compliance standard will apply to all employers and self-employed persons in foundry and abrasive blasting activities it is unlikely to impose any restrictions on a competitive market.

Fundamental legislative principles

To what extent is the proposed legislation consistent with fundamental legislative principles?

The proposed compliance standard does not infringe fundamental legislative principles.

Conclusion

The analysis undertaken in this Regulatory Impact Statement was subject to time constraints imposed by the transitional arrangements contained in the *Workplace Health and Safety Act 1995*, part 17 and the current resources available to the Division of Workplace Health and Safety.

The known risk of injury, illness or death associated with foundry and abrasive blasting at a workplace requires the continuation of some legislative control to prevent or minimise these risks until the appropriate level of deliberation on the type of regulation that is appropriate to current Queensland requirements can be undertaken in consultation with the stakeholders.

The qualitative analysis undertaken in this Regulatory Impact Statement has indicated the financial and socioeconomic benefits to the people of Queensland outweigh the costs associated with the implementation of the proposed compliance standard. The proposed *Workplace Health and Safety (Foundry and abrasive blasting) Compliance Standard 1996* is therefore recommended.

Glossary

"abrasive blasting" means cleaning, smoothing, roughing or removing of part of an object's surface by using abrasive material, propelled by a blast of compressed air, steam, water, or by a wheel.

"abrasive blasting material" includes metal grit, metal shot, sand, slag or other material used as an abrasive for abrasive blasting.

"airborne noxious substances" includes fumes, gases and respirable dust.

"AS" means a Standards Association of Australia standard.

"AS/NZS" means a joint Australian and New Zealand standard.

"blasting chamber" means a structure in which abrasive blasting is carried out.

"blasting enclosure" means an enclosed area in which abrasive blasting is carried out.

"dry abrasive blasting" means abrasive blasting conducted without adding water to the abrasive material or its propellant.

"fast acting mechanism" means a mechanism to quickly stop the flow of abrasive material to the nozzle.

"wet abrasive blasting" means abrasive blasting conducted by adding water to the abrasive material.

PROPOSED WORKPLACE HEALTH AND SAFETY (SPECIFIED DANGEROUS GOODS) COMPLIANCE STANDARD 1996

(MADE AS WORKPLACE HEALTH AND SAFETY REGULATION 1995, PART 17)

Executive summary

Specified dangerous goods are goods classified as dangerous under the Australian Dangerous Goods Code. The particular classes are described in the dictionary attached to this document and include certain classes of gases, flammable solids, oxidising agents, corrosives, toxic and infectious substances. The storage and handling of these goods is carried out by a broad range of people across all industries. Specified dangerous goods may be used for a variety of activities ranging from central elements of a manufacturing process, such as chemical production, to ancillary activities within a workplace involving the use of the contents of a gas cylinder. When these substances are not stored and handled using adequate control measures employers, self-employed persons, workers and members of the public are exposed to a significant risk to health and safety. In addition public property and the environment may be exposed to significant risk of harm as a consequence of inappropriate storage or handling practices.

Under current legislative transitional arrangements contained in the *Workplace Health and Safety Act 1995*, part 37 (Specified Dangerous Goods) of the regulation will automatically expire on 1 July 1996 unless remade as a compliance standard. If the proposed compliance standard is not made prior to 1 July 1996, any regulatory protection for the health and safety of workers exposed to risks associated with specified dangerous goods covered by the proposed compliance standard ceases to exist.

Where regulations are subject to "sunset" provisions of the *Statutory Instruments Act 1992,* any proposal to continue with them requires the preparation of a Regulatory Impact Statement. The regulatory impact process requires a high level of scrutiny and the analysis of alternative

options to ensure that regulatory requirements written into law will be both effective and efficient in their form and content.

It is estimated that the level of scrutiny required to address these requirements will take 2 years. There is insufficient time to complete the substantial research, development and consultation needed plus undertake the complex process to make subordinate legislation before the transitional arrangements in part 17 of the Act expire. Because of these problems the options considered were—

- removal of regulatory control

- remake the existing part 37 (Specified Dangerous Goods) of the regulation as the *Workplace Health and Safety (Specified Dangerous Goods) Compliance Standard 1996* with changes restricted to those necessary for consistency with the Act and to ensure Fundamental Legislative Principles are not breached. The proposed compliance standard would expire and be reviewed within 2 years of its making.

The analysis undertaken in this Regulatory Impact Statement indicates a continued need for the regulation of Specified Dangerous Goods at a workplace. The option of remaking the existing regulation into the proposed compliance standard that will expire and be reviewed within 2 years of its making is preferred because it provides for the continued protection of workers and minimises the impact if any on business to as short a period as is reasonably possible.

This Regulatory Impact Statement shows that overall, the financial and socioeconomic benefits to Queensland outweigh the costs associated with the implementation of the proposed compliance standard over the 2 year timeframe. This is in the best interest of government, business and the community. The proposed *Workplace Health and Safety (Specified Dangerous Goods) Compliance Standard* is therefore recommended.

Background

The Queensland Government has redefined the requirements regarding the development of subordinate legislation by amending the *Statutory Instruments Act 1992*. From 1 July 1995, development of subordinate

legislation requires the preparation of a Regulatory Impact Statement under the *Statutory Instruments Act 1992*, part 5.

In accordance with those requirements, the Regulatory Impact Statement for the proposed *Workplace Health and Safety (Specified Dangerous Goods) Compliance Standard 1996* is now made available for public comment.

The *Workplace Health and Safety Act 1995* (the Act) commenced on 1 July 1995. This Act repealed the *Workplace Health and Safety Act 1989* and retains parts of the *Workplace Health and Safety Regulation 1989* (the regulation) in its transitional arrangements.

Part 37 (Specified Dangerous Goods) of the regulation is retained in the transitional arrangements and expires on 1 July 1996 unless earlier repealed by regulation.

The proposed *Workplace Health and Safety (Specified Dangerous Goods) Compliance Standard 1996* re-makes the existing part 37 of the regulation so it is consistent with the Act and fundamental legislative principles.

The proposed compliance standard, if made, will not alter existing rights, obligations or circumstances for workplace health and safety. It is intended that the proposed compliance standard should only remain in effect for 2 years during which time it will be reviewed for regulatory efficiency in consultation with all the stakeholders.

Title

The proposed subordinate legislation will be titled *Workplace Health and Safety (Specified Dangerous Goods) Compliance Standard 1996*.

Authorising law

Under section 38 of the *Workplace Health and Safety Act 1995* (the Act), the Governor in Council may make a compliance standard for workplace health and safety to prohibit, or prescribe a way to prevent or minimise exposure to risk from workplaces, workplace activities or specified high risk plant.

The Act imposes workplace health and safety obligations on certain persons and when a compliance standard is made about a risk, a person can only discharge an obligation for that risk by following the compliance standard. Under section 37 of the Act, this provides a defence to any prosecution about a person's obligation for that risk.

Consultation

The Workplace Health and Safety Council is the peak advisory body to the Minister for Training and Industrial Relations on matters about workplace health and safety. This council includes representatives from employer associations, unions, government, and health and safety experts. The council has endorsed remaking part 37 of the *Workplace Health and Safety Regulation* as a compliance standard so it is consistent with the *Workplace Health and Safety Act 1995* and fundamental legislative principles.

Policy objectives

What is the problem which needs to be solved?

The storage and handling of specified dangerous goods (SDG's) is carried out by a broad range of people across all industries. Specified dangerous goods may be used for a variety of activities ranging from central elements of a manufacturing process, such as chemical production to ancillary activities within a workplace involving the use of the contents of a gas cylinder. When these substances are not stored and handled using adequate control measures employers, self-employed persons, workers and members of the public are exposed to a significant risk to health and safety. In addition public property and the environment may be exposed to significant risk of harm as a consequence of inappropriate storage or handling practices.

What are the risks which need to be controlled?

Storage and handling of SDG's involves potential exposure to risks associated with toxicity, fire, explosion and corrosivity. The risks that need to be controlled include—

- *toxicity*—inhalation, ingestion or absorption of toxic chemicals caused by the uncontrolled release of substances or hazardous reactions of incompatible substances
- *fire and explosion*—caused by ignition sources or reactions between incompatible substances in combination with flammable materials, gases or liquids
- *chemical burns*—from corrosive substances.

Have the key stakeholders done what they can to control the risk?

Government

Historically, legislative provisions about the storage and handling of SDG's were contained in the *Health Act 1937–1988*, part 3 (Occupational Health), division 9. In 1989 the Health Act was amended following the introduction of the *Workplace Health and Safety Act 1989* and provisions relating to SDG's were relocated into the *Workplace Health and Safety Regulation 1989* as part 37 (Hazardous Substances). At that time the provisions of part 37, while titled Hazardous Substances, addressed the workplace health and safety risks associated with the storage and handling of SDG's. As a result of the making of specific hazardous substances regulations in 1995, part 37 was retitled Specified Dangerous Goods.

Business

Advice from Queensland Emergency Services (QES) and the Division of Workplace Health and Safety Inspectorate indicates that many businesses are complying with existing regulations, however, the storage of SDG's in some cases does not meet current (and hence proposed) standards. This situation continues to expose employers, self employed persons, workers and members of the public to unacceptable risks to their health and safety.

The following list provided by the QES gives an overview of the type of incidents which require the assistance of emergency response units in Queensland on a regular basis—

- leaks from bulk storage tanks of SDG's, for example, hydrofluoric acid, sulphuric acid

- ammonia leaks from refrigeration plants
- fires in stores containing SDG's
- leakage from deteriorated and/or damaged SDG packages at storage and transit facilities.

Community

Workers and members of the public are reliant on employers and self-employed persons to ensure that storage and handling of SDG's meets standards that will not jeopardise their health and safety. Workers also play their part by complying with their obligations under section 36 of the Act. Some of these obligations are—

- to comply with employer instructions given for health and safety at the workplace
- to use personal protective equipment supplied by the employer
- not to wilfully injure themselves or to recklessly or wilfully place at risk the health and safety of any other person at the workplace.

Is there a compelling case for Government involvement on the grounds of public health and safety?

There is a continuing case for Government involvement on the grounds of both public and workplace health and safety. This position is underpinned by 3 fundamental considerations—

1. The severity of the risk associated with the storage and handling of SDG's. Failure to implement adequate risk control measures creates a significant risk of death, injury or illness for persons.
2. The frequency with which these risks arise.
3. The nature of the risks posed by the storage and handling of SDG's require employers to adopt relatively complex management responses. It cannot be readily assumed that employers will always be willing and able to adopt such responses in the absence of explicit regulatory control.

It is generally acknowledged that a risk is unacceptable when—

- the person who creates the risk ignores the harm imposed on another person
- a person exposed to the risk is unaware of the degree of risk involved
- a person in control of or exposed to the risk lacks information to make an informed choice
- the task can be performed by using safer work practices or technology
- the risk is inflicted on vulnerable parties who ought to be protected.

Given the severity, frequency and nature of exposure to these risks it does not seem appropriate for the Government to rely exclusively on education and voluntary compliance as a means of ensuring that business adopts appropriate health and safety standards for this area of risk.

The proposed compliance standard provides a means to reduce these unacceptable risks.

What is the worst possible consequence of Government inaction?

Under current legislative transitional arrangements part 37 (Specified Dangerous Goods) of the regulation will automatically expire on 1 July 1996 unless remade as a compliance standard. If the proposed compliance standard is not made prior to 1 July 1996, any regulatory protection for the health and safety of workers exposed to risks associated with SDG's covered by the proposed compliance standard disappears.

If the Government does not provide specific regulatory control in respect to SDG's at a workplace, it could abrogate its long-standing responsibility for providing legislation for the protection of the health and safety of employers, self-employed persons, workers and members of the public who may be affected by SDG's. The lack of specific regulatory control also removes certainty for employers and self-employed persons who are responsible for identifying and managing the risks associated with SDG's at the workplace.

The proposed compliance standard is designed primarily to create certainty for employers and others, and to prevent or minimise the risks of injury, illness or death from SDG's stored or handled at a workplace.

National situation

Currently there are no consistent regulatory regime in the various State and Territory jurisdictions for the storage and handling of dangerous goods, however there is some consistency in the issues addressed. This consistency occurs in—

- information provisions for workers and emergency services
- location of storage away from people and sources of hazardous reactions
- separation of incompatible substances
- assessment and control of risk.

A tripartite working group established by Worksafe Australia is currently developing a uniform National Standard and Code of Practice. This standard is due for release within 2 years and will incorporate all the abovementioned issues as well as other onsite and offsite issues associated with storing and handling dangerous goods. This timeframe compliments the review period for the proposed compliance standard for SDG's.

Legislative intent

What rights, obligations or circumstances does the proposed compliance standard change or establish?

The proposed compliance standard for SDG's supports the Act but does not change existing circumstances or obligations. The rural industry continues to be exempted from the application of this compliance standard. The objective of the proposed SDG's compliance standard is to provide the minimum standards necessary to facilitate the prevention or minimisation of exposure to health and safety risks when storing or handling SDG's at a workplace. The obligation to ensure health and safety when carrying out

these processes at a workplace will continue to be imposed on employers or self-employed persons and suppliers.

How will that work in practice—what is the overall effect of the compliance standard expected to be?

The overall effect of this compliance standard will be the provision of remade subordinate legislation which aims to facilitate the prevention or minimisation of risks associated with the storage and handling of SDG's at a workplace. In practice this will occur primarily through requirements relating to—

- provision of information
- equipment design and construction
- work practices.

Provision of information

Employers and self-employed persons must ensure—

- material safety data sheets (MSDS) are obtained for all stored SDG's and are available to workers. The stored goods should be identified with a product name that allows the corresponding MSDS to be identified
- workers are instructed in relation to the hazards involved and precautions necessary when handling SDG's and that they are competent to operate all safety equipment such as shutoff valves, bund controls, pumps , safety showers
- pipe or piping systems that contain or are used for the transfer of SDG's are colour coded in accordance with AS—1345—Identification of the Contents of Piping, Conduits and Ducts
- risk assessments are performed that include the identification of the SDG's, the nature of hazards and the degree of risks to health. Risk assessments are revised whenever a change is made to processes or new SDG's are introduced or more information becomes available. Risk assessments are provided in writing to

the Director of the Division of Workplace Health and Safety when formally requested

- manifests of SDG's are maintained and readily available to emergency services
- consignment records for SDG's above prescribed amounts are kept

Suppliers must ensure—

- MSDS's are produced for all SDG's and provided when supplied and on request
- all containers of SDG's are labelled in accordance with the *National Code of Practice for the Labelling of Workplace Substances.*

Equipment design and construction

Employers and self-employed persons must ensure—

- equipment supplied for use with SDG's is suitable and safe
- design, installation and locations of tanks and cylinders for anhydrous ammonia and chlorine comply with AS 2022— Anhydrous ammonia—Storage and handling and AS 2927 (1987)—Storage and handling of liquefied chlorine gas
- sufficient capacity bunding is provided where liquid SDG's are stored
- storage depots that contain above prescribed exemption limits of SDG's are constructed of non-combustible materials
- incompatible SDG's are segregated
- laboratories in which SDG's are used are constructed in accordance with AS 2982—Laboratory Construction and that they are operated and maintained in accordance with parts 1, 2 and 6 to 8 of AS 2243—Safety in Laboratory.

Work practices

Employers and self-employed persons must ensure—

- all containers of SDG's stored or handled are labelled in accordance with the *National Code of Practice for the Labelling of Workplace Substances*
- that precautions are taken to prevent accidents through fire, explosion, leakage or other causes. Common types of precautions include segregation of incompatible substances, bunding or identification of pipes and conduit.
- security precautions are in place to restrict entry into the workplace and access to SDG's
- SDG's are not brought on, kept, conveyed or sold at a workplace unless they are safe and in good order and condition
- SDG's do not unintentially come into contact with water
- handling and exposure to SDG's is limited at the workplace. This will occur through requiring that the SDG's are immediately placed into a designated store, tank or receptacle and only removed for the purpose of dispatch from the workplace or for conveying within the workplace. Where the goods are conveyed within the workplace this should only be done in packages or containers that comply with the requirements of the Australian Dangerous Goods Code or by pipes from which vapour is unable to escape
- SDG's contained in damaged or defective packaging is repacked and spillage is cleaned up immediately and disposed of in a way that will not endanger any person
- depots are kept clean and in good order
- no article likely to cause fire or explosion is taken into or within 3m of a depot. The same restrictions apply to smoking
- storage and handling of organic peroxides comply with the requirements of AS 2714—Storage and handling of hazardous chemical materials—Class 5.2 substances (organic peroxides)

- storage and handling of pesticides comply with the requirements of AS 2507—The Storage and Handling of Pesticides

Workers must—

- report to the employer any defects regarding plant or any issue referred to above of which they are aware.

Why is the proposed compliance standard reasonable and appropriate?

The potential for catastrophe involving fatalities, injuries or illness for employers, self-employed persons, workers and members of the public exists where storage and handling of SDG's takes place. This potential becomes unacceptably high when there is insufficient knowledge about the hazards of SDG's, when workplaces do not have or maintain adequate storage facilities or equipment is not provided to manage any hazardous situation.

The proposed compliance standard will provide a continuation of subordinate legislation that aims to prevent or minimise the workplace health and safety risks associated with the storage and handling of SDG's and will provide a method through which persons may discharge their obligations under the Act.

Consistency with the authorising law

How does the proposed compliance standard contribute to the achievement of the overall objective of the authorising legislation?

The proposed compliance standard for SDG's has been drafted to provide subordinate legislation consistent with the *Workplace Health and Safety Act 1995* (the Authorising Law). The overall objective of the Act is to ensure freedom from disease or injury to persons caused, and the risk of disease or injury to persons created, by workplaces, workplace activities or specified high risk plant. The proposed SDG's compliance standard provides the requirements necessary to facilitate the prevention or minimisation of exposure to health and safety risks associated with SDG's at a workplace.

Enforcement of the proposed compliance standard

The Division of Workplace Health and Safety will be responsible for enforcing the proposed compliance standard. The proposed compliance standard will be enforced primarily through—

- the issue of **improvement notices** that require corrective measures to be implemented by a certain date
- the issue of **prohibition notices** that can stop an activity or plant being used where it is considered that an immediate risk to health and safety exists
- **prosecution** for failure to comply with the requirements of the proposed compliance standard, that is, the person has failed to meet his or her obligation under the Act. A person who breaches an obligation can be prosecuted. The maximum penalty for this is $30 000 or 6 months imprisonment for an individual. The maximum penalty for a body corporate is $150 000.

Options and alternatives

The following alternatives were considered in developing this Regulatory Impact Statement—

1. Removal of regulatory control.
2. Remake the existing part 37 (Specified Dangerous Goods) of the regulation as the *Workplace Health and Safety (Specified Dangerous Goods) Compliance Standard 1996*.

Option 1: Removal of regulatory control (not preferred)

With the removal of any form of regulatory control employers or self employed persons will be responsible for developing their own systems to satisfy the intent of the Act.

The main aim of the compliance standard is to help provide certainty for employers or self employed persons involved with SDG's at a workplace, regarding requirements for minimising or preventing exposure to the risks involved, and therefore satisfy their obligations under the Act. If there is no compliance standard, employers or self employed persons and suppliers are

in positions where they must carry out their own research if they wish to ensure workplace health and safety.

A report commissioned by the division in 1994 on the development of an industry inspectorate contact and facilitation program, indicated that businesses generally fall into 4 groups—

1. Those that developed methods of ensuring the health and safety of their workers and others without any direction from Government or any other source.

2. Those that willingly ensured the health and safety of their workers and others when guidelines such as an Australian Standard were available.

3. Those that ensured the health and safety of workers and others only when governments regulated they do so.

4. Those that do not ensure the health and safety of workers and others even with government regulation, and accept the penalties imposed through noncompliance.

If regulatory control was removed, it is expected the reduction of any costs would affect those businesses in group 3 who develop safe work practices only when directed to do so by government. Against the possible savings for this group must be compared the social and financial costs associated with increased fatalities, injuries and illnesses, lost productivity and industrial disputation likely to result because of noncompliance.

While Queensland could rely on education and voluntary compliance in the absence of regulatory control, this educative approach would be unlikely to lead to better health and safety practices among groups 3 and 4. While short term savings might accrue to businesses who choose not to follow the health and safety management practices contained in Australian Standards and the Australian Dangerous Goods Code, it is considered the long term costs to the noncomplying workplaces would overshadow any short term savings.

Option 1 is not preferred because it is not considered prudent to remove enforceable regulatory requirements in regard to SDG’s until the matter is fully reviewed in consultation with all the stakeholders. The available time frame is not sufficient to allow this to occur.

Option 2: Remake the existing part 37 (Specified Dangerous Goods) as the *Workplace Health and Safety (Specified Dangerous Goods) Compliance Standard 1996* (preferred)

Under this option, changes are restricted to those necessary for consistency with the *Workplace Health and Safety Act 1995*, and to ensure fundamental legislative principles are not breached. The proposed compliance standard would expire and be reviewed within 2 years of its making.

The proposed compliance standard will continue to make references to the Australian Dangerous Goods Code and call up the following Australian Standards—

- AS 1345 (1982)—Identification of the contents of piping, conduits and ducts
- AS 2022 (1983)—Anhydrous ammonia—Storage and handling
- AS 2927 (1987)—Storage and handling of liquefied chlorine gas
- AS 2714 (1993)—Storage and handling of hazardous chemical materials—Class 5.2 substances (organic peroxides)
- AS 2507 (1984) —The storage and handling of pesticides
- AS 2982 (1987) —Laboratory construction
- AS 2243 Parts 1,2 and 6 to 8—Safety in laboratories.

There are problems associated with calling up Australian Standards under the *Workplace Health and Safety Act 1995*. These include, but are not limited to, the following—

- Australian Standards are not developed in tripartite forums and are not subject to extensive consultation
- Australian Standards may impose obligations on persons who do not have obligations under the relevant occupational health and safety legislation
- Australian Standards often call up other Australian Standards or other documents. This can be costly and impractical.

The development of or changes to Australian Standards are not subjected to any cost-benefit analysis.

Australian Standards are not legally drafted and they can contravene fundamental legislative principles and modern legal drafting conventions.

It is estimated that the level of scrutiny required to address all of the problems will take 2 years. Therefore there is insufficient time to complete the substantial research, development and consultation needed plus undertake the complex process to make subordinate legislation before the transitional arrangements in part 17 of the Act expire.

In the immediate available time frame changes for the proposed compliance standard from the existing part 37 (Specified Dangerous Goods) will be restricted to those necessary for consistency with the Act and to ensure consistency with fundamental legislative principles. The proposed compliance standard would then be reviewed within 2 years of its making and include consideration of issues addressed in the proposed National Standard for Storing and Handling Dangerous Goods.

Why is the proposed remake more appropriate?

Option 2 is considered the appropriate alternative for the following reasons—

- it allows sufficient time to assess the issue for regulatory efficiency and to consider alternatives in consultation with the stakeholders
- it will ensure future regulation is in accordance with the proposed National Standard for both “onsite” and “offsite” risks associated with storing and handling dangerous goods. This national standard is due for release within the next 2 years
- it provides certainty for employers or self-employed persons as to how they can comply with their obligations under the Act while this scrutiny takes place
- it continues to provide protection against the risks to health and safety for employers, self-employed persons, workers and members of the public associated with or affected by the storage and handling of SDG’s at a workplace while this scrutiny occurs
- it minimises costs, if any, to business of possible inefficient regulation to as short a period as is reasonable possible

- the support for this alternative by the Workplace Health and Safety Council
- the opinion of the Business Regulatory Review Unit (BRRU) of the Department of Business, Industry and Regional Development (DBIRD that this approach is in the best interest of all parties.

Cost benefit analysis of the proposed compliance standard

The content specifications contained in the *Statutory Instruments Act 1992* require a brief analysis of the costs and benefits where it is reasonable and practical to do so. The analysis that follows is in keeping with that requirement.

Methodology

The methodology used to assess the benefits and costs of implementing the proposed compliance standard was developed by DBIRD. This approach is in accordance with Cabinet's decision of August 1994, which requires the application of this methodology to all new "significant" subordinate legislation. The methodology is a process which demonstrates the qualitative or "intangible" and quantitative "dollar-value" impacts of the proposed compliance standard.

Limitations

Obtaining data in the available timeframe is extremely difficult with this type of study. There is very little information readily available that will allow a cost-benefit analysis to be carried out. An indication of the difficulties is given by the following outline of the main tasks necessary for an analysis—

- assessing the number of workplaces that store and handle SDG's in all industrial sectors
- estimating the number of workers exposed to various risks associated with the storage and handling of SDG's at workplaces
- identifying alternative methods which could ensure control of exposure to SDG's risks

- estimating and analysing the cost associated with each method
- quantifying the financial and socioeconomic costs or benefits of controlling exposure to SDG's risks.

Because of the absence of much of the empirical data required, and the time constraints imposed by the transitional arrangement imposed by the Act, it was not reasonable or practical to quantify the "dollar value" impacts of the proposed compliance standard on an industry level at this time. Advice was sought from BRRU who confirmed that this was an acceptable approach under the circumstances. This analysis was undertaken over a 2 year time horizon which is consistent with the undertaking to expire and review the proposed compliance standard within that timeframe.

The analysis involved a qualitative estimation of the impact of the proposed compliance standard across financial and socioeconomic factors comprising some 80 issues from the perspective of government, business and the community.

After aggregating the positive and negative impacts, this process concluded that overall there would not be a negative impact for any of the 3 stakeholders from the implementation of the proposed compliance standard for the next 2 years.

NOTE—The 1993 Economic Impact Assessment (EIA) on the National Hazardous Substances Regulatory Reform Package estimated the cost of some similar requirements to those contained in this proposed compliance standard. Where relevant these costs have been included to allow assessments to be made by individual business's.

Costs and benefits for government

Government costs

The cost to government of implementing the proposed compliance standard come from 2 areas—

1. development of the standard; and
2. enforcement.

Development cost

The cost of the development of the proposed compliance standard are not significant because of minimal redrafting required but include the following items—

- development of policy
- salaries of divisional staff
- time with the Parliamentary Counsel
- time in Cabinet
- cost of printing.

Recurrent cost

The Division of Workplace Health and Safety is responsible for enforcing the Act. While the proposed compliance standard will not require any change to the Government's allocation of resources a proportion of the recurrent cost of inspection and auditing should accrue to this proposed compliance standard. This expenditure is not a significant proportion of the total Inspectorate budget.

Government benefits

By remaking the existing requirements for SDG's into the proposed compliance standard, the government will benefit through—

- stimulation of economic growth
- continuing to meet community service obligations.

Economic growth

From the creation of uniform standards at workplaces for the storage and handling of SDG's, benefits will be forthcoming from the proposed compliance standard through the promotion of open and fair rivalry between businesses which in turn stimulates competition.

Community service obligations

The proposed compliance contains requirements that will reduce the possibility of SDG's escaping through poor containment, packaging or accidental spillage. Compliance with these requirements should assist in protecting the environment. In addition the standard should reduce the potential for injuries, illnesses or death for workplace participants and members of the public. This will ensure the Government continues to meet its stated policy objectives for workplace health and safety.

Government will also benefit in the prevention or reduction in expenses for—

- cleaning up/investigations after major accidents where damage extends into public areas
- legal expenses involved in prosecution
- the health system in dealing with persons injured in possible major accidents

COSTS AND BENEFITS FOR BUSINESS

Business costs

The significant cost for business occur in the following areas—

- administrative tasks
- business processes.

Administrative tasks

The proposed compliance standard involves certain administrative tasks that will incur costs—

Risk assessments—the cost of risk assessment in most cases will be a one-off expense that is dependant on types and quantities of dangerous goods stored and handled. Only when new SDG's are introduced or processes change will the risk assessment need to be reviewed. Based on the EIA the average cost is estimated at $50 per assessment. Some companies may choose to hire a professional service to complete this task and also provide assistance with bunding and separation of incompatible SDG's.

Material safety data sheets—obtaining, maintaining and making available MSDS's to workers is estimated to cost $25 -$50 per year.

Consignment records—these records require simply the name and address of the consignee, date of consignment plus a description and quantity of SDG's consigned. As the records may be kept in any form and are only required for consignments over prescribed quantities, it is considered that existing dispatch or invoicing records would suffice and hence there would be no additional cost for business.

Manifests—the requirements are for details of types plus maximum and average quantities of SDG's to be available in accessible places for the use of emergency services personal. For most businesses this would be a minor one-off task with little if any cost. The greatest impact will be on storage workplaces for major transport companies, however it is believed that most have computer inventory systems in place.

Business processes

The proposed compliance standard will have some impact on the cost of business processes. These cost will arise mainly through training, equipment design and construction, work processes and noncompliance.

Training—training cost will be incurred through instructing workers in relation to the hazards involved with SDG's and how to operate safety equipment. The EIA assessed these type of cost at $35 per hour with an average time of 2.2 hours.

Equipment design and construction— it is not practicable to estimate these cost due to the wide variation of SDG's and their particular storage and emergency equipment requirements.

Work processes— it is assumed that existing labelling requirements are already being complied with and any additional expense will be related to producing labels for new products or updating existing labels. Estimates obtained from major chemical companies during the 1993 EIA indicate that the development of labels for new products would cost about $655 and updating a label about $320. These costs include the assessment of requirements, artwork and printing plates.

Security precautions needed to restrict access to SDG's depends on the complexity of the workplace. As the choice of control option may vary from a padlock to the provision of fencing, estimates of costs have not been attempted. Other requirements involve supervision, housekeeping and handling which can be built into existing work processes with no additional costs.

Business benefits

Queensland has fewer large scale industrial developments than other States with some of these developments located away from major population areas. This may be one factor contributing to why only dangerous goods incidents have been experienced rather than disasters of the magnitude experienced at Seveso (Italy) where a chemical plant exploded injuring 250 people.

While there has been an absence of major accidents in Queensland and the size of storage plants in this state are smaller, some appreciation of the benefits for business can be drawn from the 1991 Coode Island (Melbourne) chemicals plant fire. The estimated cost of this accident was between $34.92 million to $35.3 million and resulted in the company incurring fines of $1.3 million from charges laid by the Victorian Department of Labour and the State Environmental Protection Authority. Large installations of this type may in future be covered by the soon to be released National Major Hazard Facility Standard, however, there will still be some large storage of SDG's outside the scope of that standard which would cause significant hazards in catastrophic circumstances.

The principal benefits to business is in the reduction in both the likelihood and consequence of major accidents associated with the storage and handling of significant quantities of SDG's. Some of these benefits relate to avoidance of—

- loss of investment, business opportunity, income and reputation of the business
- loss of investment, income and business opportunity for nearby businesses
- cost of repairing damaged plant or equipment

- costs from loss of productivity if plant or equipment is rendered inoperative
- accident investigation costs
- costs to production efficiency due to replacement of injured staff
- loss of value of raw materials, semi-finished or finished goods
- loss of profit due to inability to fulfil orders on time
- loss of employee morale with attendant loss of efficiency
- legal costs and statutory fines
- clean-up costs
- business interruption from industrial disputation
- compensation costs and penalties.

COSTS AND BENEFITS FOR CONSUMER/COMMUNITY

Consumer/community costs

Workers will not incur any costs from the implementation of the proposed compliance standard. It is possible that consumers may incur minor increased costs for some goods however it is more probable that the cost have already been passed on or have been absorbed by industry.

Consumer/community benefits

Workers will benefit from the prevention or reduction of— potential loss of life, injury of illness; reduced anxiety; loss of income; and additional medical costs.

The community will benefit from the prevention or reduction in—

- demand for emergency responses to incidents or major accidents
- demand for clean up procedures after major accidents
- damage to property
- fatalities, injuries or disease
- damage to the environment.

National competition policy

To what extent does the proposed compliance standard impose or encourage restrictions?

As the proposed compliance standard will apply to all employers and self-employed persons that store and handle SDG's at a workplace it is unlikely to impose any restrictions on a competitive market.

Fundamental legislative principles

To what extent is the proposed legislation consistent with fundamental legislative principles?

The proposed compliance standard does not infringe fundamental legislative principles.

Conclusion

The analysis undertaken in this Regulatory Impact Statement was subject to time constraints imposed by the transitional arrangements contained in the *Workplace Health and Safety Act 1995*, part 17 and the current resources available to the Division of Workplace Health and Safety.

The known potential risk of injury, illness or death for workplace participants and members of the public associated with the storage and handling of specified dangerous goods at a workplace requires the continuation of some legislative control to prevent or minimise these risks until deliberation on the type of regulation appropriate to current Queensland requirements can be undertaken in consultation with the stakeholders.

The qualitative analysis undertaken in this Regulatory Impact Statement has indicated the financial and socioeconomic benefits to the people of Queensland outweigh the costs associated with the implementation of the proposed compliance standard. The proposed *Workplace Health and Safety (Specified Dangerous Goods) Compliance Standard 1996* is therefore recommended.

Definitions

"ADG Code" means the Australian Code for the Transport of Dangerous Goods by Road and Rail, published in the Commonwealth of Australia Gazette No. P15 on 7 April 1987.

"depot" means a building, structure, room, compartment, tank, store or receptacle where specified dangerous goods are kept.

"handling" means the controlled movement, transport or decanting of specified dangerous goods within the workplace.

"Hazchem code" means the Hazchem Emergency Action Code set out in section 9 of the ADG Code.

"package" means the complete product of the packing operation, consisting of the packaging and its contents.

"packaging group" means the division of dangerous goods of Classes 4, 5, 6.1, 8 and 9 into 3 groups according to the degree of danger they present for packaging purposes—"I" (great danger), "II" (medium danger) and "III" (minor danger).

"specified dangerous goods" means goods classified under the ADG Code as dangerous goods of a following class—

Class 2—Gases—compressed, liquefied or dissolved under pressure

Class 2.1 Flammable gases

Class 2.2 Nonflammable gases

Class 2.3 Poisonous gases

Class 4—Flammable solids

Class 4.1 Flammable solids

Class 4.3 Substances liable to spontaneous combustion

Class 4.3 Substances which emit flammable gasses on contact with water

Class 5—Oxidising agents and organic peroxides

Class 5.1 Oxidising agents

Class 5.2 Organic peroxides

Class 6—Poisonous (toxic) and infectious substances

Class 6.1(a) Substances which are liable to cause death or serious injury to human health if swallowed, inhaled or ingested.

Class 6.1(b) Substances which are harmful to human health if swallowed or inhaled or by skin contact.

Class 6.2 Infectious substances

Class 8—Corrosives

Class 9—Miscellaneous dangerous substances.

PROPSED WORKPLACE HEALTH AND SAFETY (SPRAY PAINTING) COMPLIANCE STANDARD 1996

(MADE AS WORKPLACE HEALTH AND SAFETY REGULATION 1995, PART 18)

Executive summary

Uncontrolled spray painting at a workplace exposes employers, self-employed persons, workers and others to toxic vapours or mists. Other risks include splashes to the eyes, dermal effects from toxic liquids, electrical shock and electrocution, paint injection from airless spray guns, inhalation of toxic dusts generated from grinding and sanding, fire and explosion where flammable paints and solvents are used, manual handling and noise. Spray painting is carried out in motor repair workplaces, in the furniture industry and in the spray painting of houses, other buildings, structures, machinery, ships and aircraft.

Part 31—Spray Painting of the *Workplace Health and Safety Regulation 1989* provides a legislative framework to prevent or minimise certain risks to workplace health and safety from spray painting. Under current legislative transitional arrangements contained in the *Workplace Health and Safety Act* 1995, part 31—*Spray Painting* of the 1989 regulation will automatically expire on 1 July 1996 unless remade as a compliance standard. If a compliance standard is not made prior to 1 July 1996, regulatory protection in relation to workplace spray painting will disappear.

Where regulations are subject to "sunset" provisions of the *Statutory Instruments Act 1992*, any proposal to continue with them requires the preparation of a regulatory impact statement. The regulatory impact process requires a high level of scrutiny and analysis of options to ensure regulatory requirements written into law will be both effective and efficient in their form and content. It is considered that a comprehensive review of regulatory requirements in relation to spray painting needs to occur in

consultation with business and worker representative groups and this process would take up to 2 years.

As the current regulation for spray painting ceases on 1 July 1996, there is insufficient time and resources to complete a thorough assessment of the health and safety issues related to workplace spray painting. Because of these circumstances, the 2 options considered were—

- removal of regulatory control
- remake the existing part 31—Spray Painting—of the 1989 regulation as the *Workplace Health and Safety (Spray Painting) Compliance Standard 1996* with changes restricted to those necessary for consistency with the *Workplace Health and Safety Act 1995* and to ensure fundamental legislative principles are not breached. The proposed compliance standard would expire within 2 years during which time research into workplace spray painting would occur.

Overall, from a qualitative perspective, this regulatory impact statement shows the proposed compliance standard will not negatively impact on stakeholders to any significant degree over the 2 year time frame as it is a remake of the 1989 regulation.

It is recommended the proposed compliance standard be adopted because the risks of injury, disease or death associated with workplace spray painting require the continuation of some legislative control to prevent or minimise the risks.

Short title

1. This standard may be cited at the *Workplace Health and Safety (Spray Painting) Compliance Standard 1996*.

What standard does

2. This standard prescribes ways to prevent or minimise certain risks to health and safety from spray painting performed at a workplace.

Who standard applies to

3. This standard applies to an employer or self-employed person.

Definitions

4. In this standard—

"lead paint" means a paint or other substance used in painting which, when analysed, yields to an aqueous solution of hydrochloric acid, a quantity of soluble lead compound (calculated as lead monoxide) of mor ethan 5% of the substance's dry weight.

Examples of 'other substance'—

1. filling
2. paste
3. stopping.

"protective booth", for spray painting, means a booth constructed, arranged and equipped so as to confine and control exhaust air motion in a way that protects the spray painter and anyone else nearby from harmful effects of the spray painting.

"silica paint" means a paint or other substance (including glaze, paste and spray) containing free silica in a quantity of not more than 2% of the substance's dry weight.

Protective booth

5.(1) An employer or self-employed person must provide a protective booth at the employer's or self-employed person's workplace where spray painting is performed.

(2) However, subsection (1) does not apply if—

(a) the spray painting is performed in the open air and with a complete surrounding isolation of at least 10m; or

(b) in an engineering or boilermaking establishment where other work is separated from the other by an incombustible wall; or

(c) for a minor spotting or touching up operation—the spray painting is performed in an open workroom for not more than a total of 90 minutes in 1 day; or

(d) in a workplace where vehicles or other articles are made, assembled or repaired—the spray painting is performed in an open workroom for not more than 15 minutes in every 2 hours and does not involve the use of lead or silica paint.

Construction of protective booth

6. An employer or a self-employed person must ensure the protective booth provided at the employer's or self-employed person's workplace has the following—

(a) interior walls and ceilings lined with 1mm thick steel or an equivalent material for easy cleaning;

(b) all windows made of safety glass in fixed metal sashes;

(c) the floor and floor area within at least 900 mm of the booth entrance constructed of impervious incombustible material;

(d) emergency exits, comprising a door or panel capable of being easily opened in an outward direction allowing rapid egress, situated as far as practicable from the normal means of entry to the booth.

Exhaust ventilation for protective booth

7. An employer or a self-employed person must ensure the protective booth provided at the employer's or self-employed person's workplace is fitted with suction exhaust capable of producing and keeping within the breathing zone of the spray painter—

(a) uniform air movement of not less than 0.5 metres per second; or

(b) if only electrostatic spray painting equipment is used—uniform air movement of not less than 0.3 metres per second.

Prohibited substances

8. An employer or self-employed person must ensure the following substances are not used in spray painting performed at the employer's or self-employed person's workplace—

(a) arsenic or an arsenic compound;

(b) carbon bisulphide;

(c) carbon tetracloride;

(d) material containing more than 1% of benzol or methyl alcohol by volume;

(e) tetraclorethane.

Expiry

9. This standard expires 2 years after it commences.

Title

The title of the proposed subordinate legislation is the *Workplace Health and Safety (Spray Painting) Compliance Standard 1996.*

Background

The *Workplace Health and Safety Act 1995* (the Act) commenced on 1 July 1995. This Act repealed the *Workplace Health and Safety Act 1989* but retains parts of the *Workplace Health and Safety Regulation 1989* (the regulation) in its transitional arrangements.

Part 31 (Spray Painting) of the regulation is retained in the transitional arrangements and expires on 1 July 1996 unless earlier repealed by regulation.

The proposed *Workplace Health and Safety (Spray Painting) Compliance Standard 1996* re-makes the existing part 31 of the regulation so it is consistent with the 1995 Act and fundamental legislative principles. Fundamental legislative principles are the principles which guide the development of legislation in Queensland.

The proposed compliance standard, if made, will not alter existing rights or obligations for workplace health and safety. It is intended the proposed compliance standard will remain in effect for only 2 years during which time the standard will be reviewed, in consultation with stakeholders, for regulatory efficiency and effectiveness.

Authorising law

Under section 38 of the Act, the Governor in Council may make a compliance standard for workplace health and safety to prohibit, or prescribe a way to prevent or minimise, exposure to risk from workplaces, workplace activities or specified high risk plant.

The Act imposes workplace health and safety obligations on certain persons and when a compliance standard is made about a risk, a person can only discharge an obligation for that risk by following the compliance standard. Under section 37 of the Act, this provides a defence to any prosecution about a person's obligation for that risk.

Consultation

The Workplace Health and Safety Council is the peak advisory body to the Minister on matters about workplace health and safety and comprises representatives from employer associations, unions, government and health and safety experts. The Council has endorsed remaking the *Workplace Health and Safety Regulation 1989*, part 31 as a compliance standard so it is consistent with the Act and fundamental legislative principles.

The Queensland Chamber of Commerce and Industry (QCCI), the Australian Council of Trade Unions—Queensland Branch and the Metal Trades Industry Association were consulted about the difficulties faced because of the expiry of part 31 of the regulation on 1 July 1996. Opinions were sought in regard to remaking the 1989 regulation and preparing a limited RIS. All parties supported the proposal to remake the 1989 regulation for a 2 year period, however QCCI support was conditional upon the preparation of an extensive RIS that met the requirements of the *Statutory Instruments Act 1992.*

The Division of Workplace Health and Safety sought advice from the Business Regulation Review Unit (BRRU) of the Department of Business, Industry and Regional Development about the preparation of an extensive RIS. While BRRU was in agreement with QCCI that the requirements of the *Statutory Instruments Act 1992* should be applied in full, they acknowledged that if the analysis called for by QCCI was attempted at this juncture, the Regulation would expire before it could be replaced. They further advised this was not in the best interests of any of the parties and the most appropriate course of action would be to undertake a limited RIS and remake the Regulation now, and carry out a full analysis at a later date. This could be achieved through the insertion of a review clause which would expire the compliance standard in 2 years' time.

Policy objectives

What is the problem which needs to be solved?

While statistics are not available on the number of persons exposed to the hazards of workplace spray painting in Queensland, 1 442 motor vehicle repair workplaces are registered with the Division of Workplace Health and Safety. 5 359 persons are employed at these workplaces and spray painting is a significant activity of this industry. It is considered these figures would underestimate the real numbers involved because many small workplaces and backyarders involved in the spray painting of motor vehicles would not be registered with the division.

Motor vehicle repair workplaces are, of course, only one industry which carries out spray painting. This activity is carried out in the furniture industry and in the spray painting of houses, other buildings, structures, machinery, ships and aircraft. When spray painting is carried out without adequate precautions, it exposes employers, self-employed persons, workers and members of the public to significant health and safety risks.

What are the risks which need to be controlled?

Paints frequently contain hazardous substances and when these are sprayed into the atmosphere, spray painters and other persons nearby are at risk of exposure to toxic vapours and mists.

The hazardous substances contained in paint can irritate the skin, eyes and mucous membranes or enter the body through inhalation of vapour and mists or through skin absorption. Associated disease risks include—

- respiratory diseases such as asthma and lung cancer
- other forms of cancer
- irritant or allergic dermatitis
- acute or chronic neurological deficiencies such as memory loss and mood disturbances.

Other risks include splashes to the eyes, dermal effects from liquids, electrical shock and electrocution, paint injection from airless spray guns, inhalation of toxic dusts generated from grinding and sanding activities, fire and explosion where flammable paints or solvents are used, manual handling and noise.

These risks can be controlled through several ways, for example, by replacing a hazardous chemical with one less hazardous, by using appropriate personal protective equipment, through the use of a spray booth which is appropriate to the task being undertaken or by a combination of these control measures.

The proposed compliance standard refers mainly to the provision and requirements of a booth for spray painting. Issues relating to hazardous substances are addressed by the *Workplace Health and Safety (Hazardous Substances) Compliance Standard 1995.*

Have the key stakeholders done what they can to control the risk?

Government

Historically, regulation of workplace spray painting has existed in different forms in Queensland since 1962 commencing with rule 4 of the *Factories and Shops Act 1960-1975*. Rule 4 was repealed when the *Workplace Health and Safety Regulation 1989* (the regulation) commenced on 31 July 1989. Part 31- Spray Painting—of the regulation replaced rule 4 of the *Factories and Shops Act 1960-1975.*

The *Workplace Health and Safety Act 1995* commenced on 1 July 1995 and repealed the *Workplace Health and Safety Act 1989*. The 1995 Act

provides transitional arrangements for the *Workplace Health and Safety Regulation 1989* with part 31—*Spray painting* remaining in force until 1 July 1996 unless repealed by a regulation.

In addition to administrating the workplace health and safety legislation, the Division of Workplace Health and Safety also provides information and education on workplace health and safety and carries out workplace health and safety audits and investigations to assess and enforce compliance with the *Act.* The Chemical Risks Management Reference Group was set up by the division to provide specialist advice and assistance to the Workplace Health and Safety Council, Industry Committees and sub committees. Council, industry and subcommittees along with the Chemical Risks Management Reference Group consist of government, employer and worker representatives and workplace health and safety experts. The council and committee structures allow for regular and ongoing input and consultation in the development of programs designed to protect the workplace health and safety of persons.

Business

Current legislative provisions put the onus on employers/self-employed persons to protect the health and safety of themselves, workers and others at a spray painting workplace. The Inspectorate within the division is of the view, however, that the level of compliance with the Act in relation to spray painting at workplaces is generally low. Over the last 2 years, the Inspectorate found spray painting workplaces were not meeting their health and safety obligations mainly in the following areas—

- spray drift, provision of an adequate booth
- material safety data sheets for the hazardous substances in use
- use, selection and maintenance of personal protective equipment (PPE)
- training and supervision of workers.

Community

Although workers and members of the public are heavily reliant on employers/self-employed persons to protect their workplace health and

safety, workers and other persons at a workplace play their parts by complying with their obligations in section 36 of the Act. Some of these obligations are—

- to comply with instructions given for workplace health and safety at the workplace by the employer
- to use personal protective equipment supplied by the employer, if the worker has been trained in its use
- to refrain from wilfully placing at risk the workplace health and safety of any person at the workplace.

Is there a compelling case for Government involvement on the grounds of public health, safety?

There is a strong case for Government involvement on the grounds of public health and safety. Research has indicated that workplace spray painting exposes persons to health and safety risks. While some spray painting employers/self-employed persons have adequate controls to safeguard the health and safety of their workers and others, the view of the Division's Inspectorate is that many spray painting workplaces expose persons to unacceptable levels of risk.

Compliance with the proposed standard will prevent or minimise the exposure of workers and others to certain risks associated with spray painting.

What is the worst possible consequence of Government inaction?

Under current legislative transitional arrangements of the *Workplace Health and Safety Regulation 1989*, part 31 (Spray Painting) will automatically expire on 1 July 1996 unless remade as a compliance standard. If the proposed compliance standard is not made before 1 July 1996, any regulatory protection for the health and safety of persons exposed to risks associated with spray painting covered by the proposed compliance standard disappears.

If the Government does not provide specific regulatory control in respect of spray painting at a workplace, it may abrogate its responsibility for providing a framework for protection of workplace health and safety of

persons. The lack of specific regulatory control also removes certainty for employers who are responsible for identifying and managing risks associated with spray painting. The absence of specific risk control measures is likely to increase the instances when employers place the health and safety of workers and others affected by spray painting activities at risk.

National situation

The National Occupational Health and Safety Commission has completed a *Draft National Code of Practice for Spray Painting.* It is not known when the final document will be completed.

All Australian states and territories except Victoria and the Australian Capital Territory have workplace health and safety regulations for spray painting.

Legislative intent

What rights, obligations or circumstances does the proposed compliance standard change or establish?

The proposed compliance standard for spray painting at a workplace supports the Act but does not change existing circumstances or obligations. The obligation to ensure health and safety when carrying out spray painting at a workplace will continue to be imposed on employers and self-employed persons. The rural industry continues to be exempted from the application of this compliance standard.

How will that work in practice—what is the overall effect of the compliance standard expected to be?

The overall effect of this proposed compliance standard will be the provision of remade subordinate legislation which aims to facilitate the prevention or minimisation of risks to health and safety for employers, self-employed persons, workers and others from spray painting at a workplace through—

- the provision of a protective booth, except in certain circumstances
- exhaust ventilation for a protective booth
- construction features of a protective booth
- prohibition of certain substances.

The primary purpose of the booth is to isolate the spray painting process in the workplace so that other persons are not exposed to hazardous substances. The booth can also offer some protection to the spray painter, in addition to that offered by personal protective equipment.

The proposed compliance standard imposes obligations on employers or self-employed persons at spray painting workplaces and expires 2 years after it commences. During this 2 year period, comprehensive research and analysis would be carried out to review the issue for regulatory efficiency.

Why is the proposed compliance standard reasonable and appropriate?

The proposed compliance standard provides continuance of the existing legislative protection while the issue of workplace spray painting is examined in greater detail. By following the proposed compliance standard, an employer or self-employed person may discharge their obligations under the Act.

Consistency with the authorising law

How does the proposed compliance standard contribute to the achievement of the overall objective of the authorising legislation?

The proposed compliance standard for spray painting has been drafted to provide subordinate legislation consistent with the *Workplace Health and Safety Act 1995* which is the authorising law. The overall objective of the Act is to ensure freedom from disease or injury to persons caused, and the risk of disease or injury to persons created, by workplaces, workplace activities or specified high risk plant. The proposed compliance standard contributes to this objective.

Enforcement of the proposed compliance standard

The Division of Workplace Health and Safety will be responsible for enforcing the proposed compliance standard. The proposed standard will be enforced primarily through—

- the issue of **improvement notices** that require corrective measures to be implemented by a certain date
- the issue of **prohibition notices** that can stop an activity or plant being used where it is considered an immediate risk to workplace health and safety exists
- **prosecution** for failure to comply with the requirements of the proposed compliance standard, that is, the person has failed to meet his or her obligation under the Act. A person who breaches an obligation can be prosecuted. The maximum penalty for this is $30 000 and/or 6 months imprisonment for an individual. The maximum penalty for a body corporate is $150 000.

Options and alternatives

During the development of this RIS, the following alternatives were considered—

1. Removal of regulatory control.
2. Remake the existing part 31 (Spray Painting) as the *Workplace Health and Safety (Spray Painting) Compliance Standard 1996*.

Option 1: Removal of regulatory control

With the removal of any form of specific regulatory control for spray painting, persons with relevant obligations under the Act will continue to retain their obligations to ensure spray painting does not create a risk to workplace health and safety. However, they will do so in the absence of a compliance standard which provides a defence under the Act. In essence, this removes the certainty a compliance standard provides in terms of discharging workplace health and safety obligations.

A report commissioned by the division in 1994 regarding the development of an industry inspectorate contact and facilitation program, indicated that businesses generally fall into 4 groups—

1. Persons who develop methods of ensuring the health and safety of their workers and others without any direction from Government or any other source.
2. Persons who willingly ensure the health and safety of their workers and others when guidelines like national standards are available.
3. Persons who ensure the health and safety of workers and others only when governments regulate for them to do so.
4. Persons who do **not** ensure the health and safety of workers and others even with government regulation, and accept the penalties imposed through noncompliance.

If regulatory control is removed, it is expected the reduction of any costs would affect those businesses in group 3 who develop effective workplace health and safety practices only when directed to do so by government. The possible savings for this group must be offset by the social and financial costs associated with increased fatalities, illnesses, lost productivity and industrial disputation likely to result because of noncompliance.

While the Queensland Government could rely on education and voluntary compliance in the absence of regulatory control, an educative approach is unlikely to lead to better workplace health and safety practices among groups 3 and 4.

Option 2: Remake the existing part 31 (Spray Painting) of the *Workplace Health and Safety Regulation 1989* as the *Workplace Health and Safety (Spray Painting) Compliance Standard 1996*

This remake limits changes to those necessary for consistency with the Act and fundamental legislative principles. The proposed compliance standard essentially provides continuance of the existing legislative protection while the issue of workplace spray painting is examined in greater detail. The proposed compliance standard will expire within 2 years of its commencement.

Why is the proposed remake the appropriate alternative?

Option 2 is considered more appropriate because—

- it continues to provide an enforceable standard for certain risks to health and safety from exposure to spray painting
- it allows sufficient time to assess spray painting activities in Queensland workplaces, to consult with stakeholders, and to consider ways to remove or minimise health and safety risks
- it provides certainty for persons with relevant workplace health and safety obligations under the Act as to how they can discharge their obligations while comprehensive research into workplace spray painting takes place
- of support from employee and employer groups
- the Business Regulation and Review Unit has stated this approach is in the best interest of all parties.

Cost benefit analysis of the proposed compliance standard

The content specifications contained in the *Statutory Instruments Act 1992* require a brief analysis of the costs and benefits where it is reasonable and practical to do so. The following analysis is in keeping with that requirement.

Methodology

The methodology used to assess the benefits and costs of implementing the proposed compliance standard was developed by the Department of Business, Industry and Regional Development. This approach is in accordance with Cabinet's decision of August 1994, which requires the application of this methodology to all new "significant" subordinate legislation. The methodology demonstrates the qualitative or "intangible" and quantitative "dollar-value" impacts of the proposed compliance standard.

Limitations

Obtaining data in the time available is extremely difficult with this type of study. There is very little information readily available that will allow a cost-benefit analysis to be carried out. An indication of the difficulties is given by the following outline of the main tasks necessary for an analysis—

- assessing the number of workplaces in Queensland where spray painting is carried out
- assessing the number of persons at risk from exposure to workplace spray painting
- identifying alternative methods which could ensure control of the risks associated with spray painting
- estimating and analysing the cost associated with each method
- estimating the financial and socioeconomic effects of controlling the risks of spray painting.

Because of the absence of much of the required data, and the time constraints imposed by the transitional arrangements in the Act, it is not reasonable or practical to quantify the dollar value inputs of the proposed compliance standard at this time. Advice was sought from BRRU who confirmed this was an acceptable approach under the circumstances. The analysis was undertaken over a 2 year time horizon which is consistent with the undertaking to expire and review the proposed compliance standard within that time.

The analysis involved a qualitative estimation of the impact of the proposed compliance standard across financial and socioeconomic factors comprising some 80 issues from the perspective of the stakeholder groups of government, business and the community.

After aggregating the positive and negative impacts from a qualitative perspective, this process concluded that overall, there would not be a significant negative impact for any stakeholder from the proposed compliance standard in the 2 year time frame.

Costs and benefits for stakeholders

The following costs to government, business and the community of the proposed *Workplace Health and Safety (Spray Painting) Compliance Standard 1996* were identified in the analysis.

Government costs

Government costs in implementing the proposed compliance standard come from 2 sources—

- the development of the standard
- recurrent and ongoing costs.

Development cost

The cost of the development of the proposed compliance standard is not significant but includes the following—

- development of policy
- salaries of divisional staff
- resources of the Office of the Queensland Parliamentary Counsel
- time in Cabinet
- cost of printing.

Recurrent and ongoing costs

The Division of Workplace Health and Safety is responsible for enforcing the Act. While the proposed compliance standard will not require any change to the Government's allocation of resources, a proportion of the cost of inspection and auditing should accrue to this proposed compliance standard. It is estimated that less than 2% of the Inspectorate budget would be used in enforcing the standard over the next 2 years.

Government benefit

The proposed compliance standard serves to prevent or minimise certain risks to health and safety from spray painting performed at a workplace. In so doing it will, if adopted, assist the Government to meet its community service obligations for the health and safety of workers and other persons.

Business costs

The costs for business of the proposed compliance standard would vary according to the extent and type of spray painting activities being carried out in a workplace, and to the level of compliance with the 1989 regulation.

The major costs of the compliance standard relate to the provision of a ventilated protective booth, if one is required. Considerable variation occurs in the types and qualities of spray painting booths on the market, however, as an example of costs, a down draft booth for the spray painting of a motor vehicle could cost between $19 000 and $42 000 while an end draft booth for a motor vehicle could cost up to $32 000.

The major impact of the proposed compliance standard would fall on new businesses entering the market. Offset against this would be the benefits to a business of having a quality spray painting booth which better protects the health and safety of workers and others, and which allows for superior spray painting work.

Business benefits

The benefits for business of the proposed compliance standard could include—

- discharging workplace health and safety obligations under the Act
- minimising industrial relations disputes about particular risks associated with workplace spray painting
- reducing business disruption due to worker absenteeism, staff turnover and training of new staff
- reducing business disruption because of fire or explosion
- reducing workers' compensation and common law costs.

Community costs

It is not expected the community will incur any cost through price increases because of the proposed compliance standard. A similar level of regulatory control has been in existence since 1989 and any increased cost would have already been passed on to the consumer.

Community benefits

The proposed compliance standard will continue to provide workers and other persons with statutory protection which obliges employers to prevent or minimise the risk to themselves, their workers and other persons from spray painting activities at a workplace.

National competition policy

To what extent does the proposed compliance standard impose or encourage restrictions?

As the proposed compliance standard will apply to all employers and self-employed persons of spray painting workplaces, it is unlikely to impose any restrictions on a competitive market.

Fundamental legislative principles

To what extent is the proposed legislation consistent with fundamental legislative principles?

The proposed compliance standard complies with fundamental legislative principles.

Conclusion

The analysis undertaken in this Regulatory Impact Statement was subject to time constraints imposed by the transitional arrangements contained in

the *Workplace Health and Safety Act 1995*, part 17 and the current resources available to the Division of Workplace Health and Safety.

The known risks of injury, disease or death associated with spray painting at a workplace require the continuation of some legislative control to prevent or minimise these risks until the appropriate level of deliberation on the type of regulation appropriate to Queensland requirements can be undertaken in consultation with the stakeholders.

The qualitative analysis undertaken in this Regulatory Impact Statement indicates the benefits to the people of Queensland outweigh the costs associated with the implementation of the proposed compliance standard. The proposed *Workplace Health and Safety (Spray Painting) Compliance Standard 1966* is therefore recommended.

ENDNOTES

1. Laid before the Legislative Assembly on . . .
2. The administering agency is the Department of Training and Industrial Relations.