

Annual Report 2009 - 2010

Operations Implemented under
the *Gas Act 2000*

CONTENTS

- Acronyms
- VISION
- OVERVIEW AND ADMINISTRATIVE STRUCTURE
- INTRODUCTION
- SUMMARY OF ACHIEVEMENTS
- REVIEW OF OPERATIONS

Paragraph	Subject	Page
1.0	Gas Distribution	11
2.0	Gas Installations	14
3.0	Gas Retailing	16
4.0	Gas Technical and Safety Standards	17
5.0	Gas Appliance and Components	19
6.0	Gas Emergency Planning	22
7.0	Staff Development	23
8.0	Gas Worker Training	24
9.0	Gasfitter Training & Accreditation	25
10.0	Communication and Gas Safety Education	28
11.0	Program Outputs	29
12.0	Conclusions	34

Acronyms

AGA	Australian Gas Association
AS	Australian Standards
ALPGA	Australian Liquefied Gas association of Australia
CNG	Compressed Natural Gas
COAG	Council of Australian Government
CCRESE	Committee to Coordinate the Response to Energy Supply Emergencies
DBYD	Dial Before You Dig (Vic/Tas Incorporated)
DIER	Department of Infrastructure Energy and Resources
DPAC	Department of Premier and Cabinet
Director	Director of Gas Safety
ESV	Energy Safety Victoria
ENA	Energy Networks Australia
ER	Economic Regulator
GIWG	Gas Industry Working Group
GSS	Gas Standards and Safety (unit of MIB)
GTRC	Gas Technical Regulators Committee
IGE&M	International Gas Engineers and Managers
ISO	International Standards Organisation
MCE	Ministerial Council of Energy
k Pa	kilo Pascals
LNG	Liquefied Natural Gas
LP Gas	Liquefied Petroleum Gas
MIB	Major Infrastructure Branch (unit of Workplace Standards)
NER	National Energy Regulator
NGSECC	Natural Gas Supply Emergency Coordinating Committee
NG	Natural Gas
NOLS	National Occupational Licensing Scheme
PIC	Plumbing Industry Commission - Victoria
RTO	Registered Training Organisation
S&OP	Safety and Operating Plan
TFS	Tasmanian Fire Service
TGN	Tas Gas Networks
TGSECP	Tasmanian Gas Supply Emergency Coordination Plan
TTMRC	Trans Tasman Mutual Recognition Agreement

VISION

To provide leadership, development and implementation of gas infrastructure safety and technical standards, ensuring the evolving natural gas, liquefied natural gas and LP Gas industry achieves levels of excellence in construction, operations, reliable supply, acceptable public safety and energy efficiency.

The Director of Gas Safety will:

- Ensure that gas infrastructure operations achieve high standards of safety, reliability and control of inherent risks.
- Coordinate enhanced gasfitter and gas workers competency and technical standards to ensure safe gas installations and infrastructure.
- Provide advice to the gas industry to achieve best practice in gas safety.
- Develop communications products and promote consumer understanding of gas safety through education and communication.
- Work with industry stakeholders to ensure the efficient and safe evolution of gas technology and work standards for Tasmanian consumers.
- In conjunction with national jurisdictions, work to achieve desired levels of national harmonisation in the regulation of gas safety technical standards.
- Work to achieve contemporary program delivery models to enhance efficient operations.

We achieve our vision through our values expected from our team at all times.

People First

We treat everyone with respect integrity and equality

Collaboration and Leadership

We work constructively with colleagues and stakeholders to identify our priorities and achieve our objectives.

Openness and Transparency

We communicate clearly and make decisions fairly.

Building Capacity

We seek opportunities for growth for our people and our organisation

Performance Matters

We are committed to our mission and to achieving outstanding results for the Tasmanian Community.

OVERVIEW and ADMINISTRATIVE ACTIVITIES

The administration of the *Gas Act 2000* has been undertaken by the Gas Standards and Safety Unit of Workplace Standards Tasmania, under the direction of Mr Roy Ormerod, General Manager of Workplace Standards Tasmania who is the appointed Director of Gas Safety pursuant to section 9(i) of the Gas Act.

The Gas Standards and Safety unit is managed by the Manager of Gas Safety, Mr Jeff Eastoe, who is delegated the role of the Director.

The Gas Standards and Safety (GSS) unit forms part of the Major Infrastructure Branch of Workplace Standards. This structure enables resource, knowledge sharing and efficiencies within the Branch for energy safety administration. The Office of the Director of Gas Safety comprises six "Authorised Officers" and one Administrative Officer.

Administrative functions are centralised in Launceston with capability for Gas Act safety and technical compliance programs in each region. Specialist policy functions are resourced from the Hobart based Principal Policy Officer in conjunction with the Workplace Standards' Policy and Planning Branch.

A regional services delivery is based in each region with capability for all downstream installations acceptances and infrastructure inspection services. Gas Entity infrastructure design acceptance and safety systems administration is centralised in Launceston.

The GSS unit operational structure and activities are shown in *Figure 1* below.

Partial transfer of the gasfitter licensing administrative functions to the Workplace Standards' Building Control Branch has occurred and will be administrated under the provisions of the *Occupational Licensing Act 2005*. Finalisation of this process will occur in 2011 following completion and declaration of classes of work for gas fitting and further enhancement of IT systems capability.

The major components of the Natural gas construction of phase 1 and 2 of the Tasmanian Natural Gas Project for network delivery and consumer supply have been completed with occasional network development or extensions expected to be reliant on future funding and industrial demand. New installation connections is continuing in all networks with increasing social and political drivers expected to see further extensions of the natural gas networks coverage. New natural gas utilisation equipment and processes are frequently proposed and require specific acceptance procedures and standards.

The *Gas (Safety) Amendment Regulations 2009* will require further development of gas safety programs in 2011 for cryogenics and liquid phase hydrocarbons, gas storage, gas installations for recreational and marine craft with a delivery capability to each region.

The evolution of the liquid natural gas production facility at Westbury is anticipated to encourage new natural gas cryogenic utilisation technology within Tasmania with the Director needing to meeting industry and new technical standards.

GAS STANDARDS and SAFETY
(Office of the Director of Gas Safety)

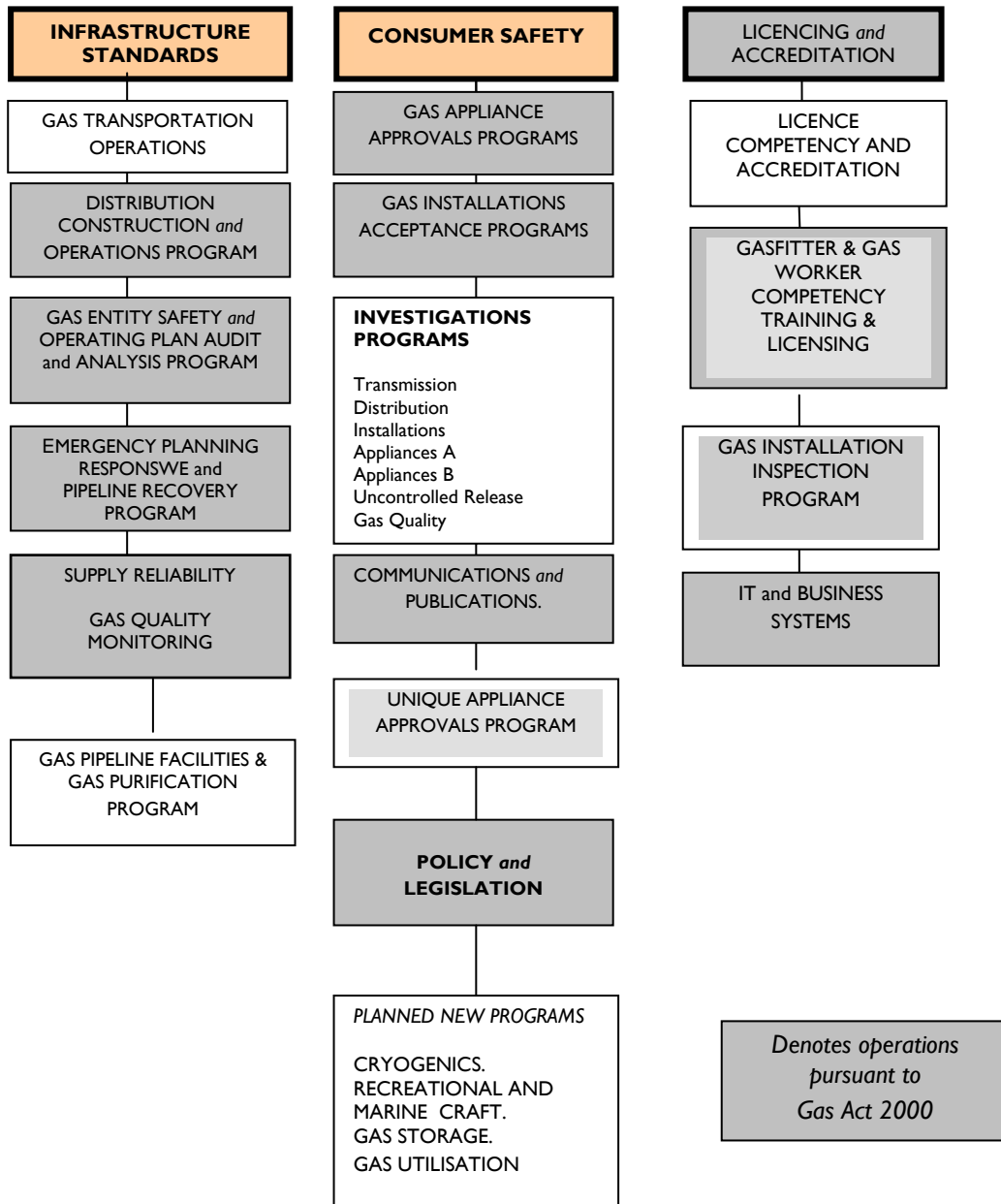


Figure 1

INTRODUCTION

Natural Gas (NG)

It is satisfying to report that natural gas (NG) networks continue to provide a reliable supply of natural gas to an increasing number of consumers through Natural Gas Distribution Facilities operated by Tas Gas Networks Pty Ltd (TGN).

One gas supply / quality problem occurred at a Victorian production facility which threatened Tasmanian security of supply in 2010 for a short period. Effective planning and response by gas entities and the Director's office and major consumers prevented a major interruption to Tasmanian supply.

Operation of distribution networks have been without serious property damaged or personal injury from uncontrolled gas releases or thermal hazards. A number of third party damaged infrastructure events continues to cause concern from the failure of civil contractors to identify gas main locations under the Dial Before You Dig process prior to excavation. These incidents often result in raised public risks and the need for area evacuation. Additional educational processes and procedural reviews have been implemented to identify causation and to avoid these incidents.

Another event occurred during network construction which resulted in the serious injury to three employees from old buried de-commissioned town gas infrastructure. De-commissioned gas infrastructure identification will receive priority within the scope of a Workplace Standards' horizontal directional drilling project.

Commercial retailing of NG is undertaken by licensed gas entities Aurora Energy Pty Ltd and Option One Pty Ltd to industrial, commercial and retail consumers with domestic connections programs increasing this financial year. This demand for connection to the gas network is seen as a competitive alternative to control rising costs of energy and is expected to continue.

The installation of gas "service connections" to industrial and commercial consumers has maintained a demand for the Director's natural gas installations and gas appliance, safety and technical compliance programs.

The Director has been involved in discussions for future NG transmission pipeline extensions, new distribution networks and network extension planning.

The demand for the Director's complex gas installations acceptance program has reduced. Refer Table 7, pp 31.

Applications for Type B gas appliance acceptances have reduced also from the initial rollout. This reduction will enable resourcing and program reviews to address new administrative requirements of gas legislation and new utilisation technology has commenced.

Liquefied Natural Gas (LNG)

The Westbury LNG purification project approvals have been ongoing including legislative requirements for the plant safety case and its impact on gas networks, state emergency services and local Westbury precinct preparedness.

It is pleasing to report the implementation of a new vehicle gasfitter worker competency training package for LNG vehicle gasfitters by Skills Institute Tasmania and worker licensing scheme by Workplace Standards identified for the LNG vehicle gas fitting industry has been completed and is fully implemented.

The proposed Westbury LNG purification plant approvals process is expected to be completed by late 2010 with new legislative and technology programs for liquefied natural gas utilisation, storage and operations requiring scoping and development in the next stage of this industry evolution in Tasmania.

LP Gas (LPG) and Compressed Natural Gas

A comprehensive drafting program for development of gas technical regulations enabling proclamation of the Gas (Safety) Amendment Regulations has been completed. These regulations provide continuity of previous dangerous substances regulations which were rescinded in the *Dangerous Goods Act 1995*.

Continuity of design and approvals process and public safety for the LP Gas storage, supply, installations, marine vessel and vehicle gas conversion industries has been maintained and will become part of the Director's administrative role. Compressed natural gas as an alternative fuel source is also under consideration for development by proponents.

Extensive stakeholder consultation during 2009-10 was conducted to inform the LP Gas industry of changing gas storage and installation legislative requirements.

High Pressure Pipeline Monitoring

The network of small bore high pressure distribution pipelines is now reaching its first condition review phase and will move the Director's focus to reliability and public safety from matters of public and land usage encroachment, infrastructure reliability and condition survey analysis and evaluation techniques programs.

Proactive planning and consultation for emergency management preparedness has also been prioritised and initiated with stakeholders.

Emerging Trends

Emerging downstream gas industry utilisation, and COAG initiatives to improve energy efficiencies and reduction of green house effects is increasing the Director's research and acceptance roles for expectant downstream gas technologies.

The GSS business model for identified new technologies, to meet foreseeable clean energy and electricity generation requirements is currently being progressively implemented by the Director and aligned to national and international engineering, technical and safety standards.

Safety management of high consequence installations is ongoing towards a fully integrated layer's of protection model.

International gas equipment suppliers are increasing their presence in Tasmania requiring the harmonisation of international technology with acceptable technical and public risk standards in Tasmania.

The Office of the Director of Gas Safety is continuing to experience increased stakeholder service requests for this widening scope of technical standards, public safety and gas utilisation issues and remains a central focus in ensuring safe, gas infrastructure, pipelines and gas installations supplying the Tasmanian communities energy demands.

SUMMARY OF ACHIEVEMENTS

ACTIVITY	FUNCTION	SAFETY OUTCOME
GAS DISTRIBUTION and STORAGE		
Investigated uncontrolled gas incidents on gas infrastructure.	Identify causation of incidents and review operational standards.	Prevent reoccurrence of uncontrolled gas incidents, and ensure acceptable levels of public risk.
Continued the compliance program for gas service connections.	Ensure safe service connections to domestic commercial and industrial premises.	Maintain supply safety and control public risk.
Implemented a procedure for embedded networks acceptance downstream of gas entity meter.	Defined ownership of gas installations and responsibility for strata titled common property.	Establish workable installation and network boundaries to ensure installation safety and supply integrity.
Extended development of network load shedding emergency guidelines.	Development of appliance conversion, gas storage and natural gas supply in emergencies.	Enhance commercial consumer continuity of supply and safe appliance conversion to alternate fuels.
Extended the Director's emergency, incident management plan for LP Gas storage.	Ensure timely response to any loss of containment incident or supply emergency.	Manage inherent public risks from uncontrolled gas emergencies. Assist emergency response organisations.
GASFITTER Licensing and GAS WORKER Accreditation		
Collaborated with stakeholders to identify required training and skills development for NG, LP Gas, LNG and CNG workers.	Ensure that comprehensive standards for training reflect national competency standards in Occupational Licensing.	Ensure that competent persons undertake all forms of gas fitting work.
Participated in the National Occupational Licensing Scheme (NOLS) project for gasfitters.	Harmonise gas fitting regulations development pursuant to the Gas Act, Occupational Licensing Act, and the objectives of the NOLS.	Align proposed national competency requirements with Tasmanian gasfitters competency standards.
Investigate non compliant gas installation work standards and resultant safety issues.	Issue gasfitter defects, consumer disconnect or rectification notices.	Ensure gas installation safety standards for consumers.
GAS APPLIANCES AND INSTALLATIONS		
Investigated uncontrolled gas incidents on in situ and portable gas appliances.	Identify causation of incidents and review technical standards.	Prevent reoccurrence, produce education materials, web information and implement product withdrawal standards.
Implement safety guide for gas installations on public land.	Minimise the likelihood of inadequate design.	Ensure a transparent safety model is implemented for consumers and the public.
Implemented policy for gas installations connected to imbedded networks.	Minimise risk of unsafe installations.	Ensure a robust safety model for consumers, property owners.
Reviewed "major" Type B gas appliance approval program.	Scoped siting analysis, risk modelling, reliability and emergency management requirements.	Minimise the likelihood of unsafe appliances, locations and improve reliability.

Implemented a high pressure - gas installation, operations and layer protection model.	Ensure high pressure gas installations achieve acceptable levels of risk control and emergency preparedness.	Manage consequences and inherent risks.
GAS TECHNICAL STANDARDS & WORKING GROUPS		
Researched reviewed and adopt relevant technical standards and codes for emerging technology.	Ensure consistent national and international standards apply to Tasmanian gas industry.	Ensure currency of intrinsic safety in the gas industry emerging technologies.
Reviewed technical standards for natural gas quality.	Ensure currency of Tasmanian gas entities and gas shippers compliance with national standards and Tasmanian conditions.	Minimise public risk and maximise supply reliability and ensure gas quality.
STAKEHOLDER RELATIONS		
Member of the Workplace Standards' Occupational Licensing Act development committee.	Development of a contemporary licensing competency standards model.	Ensure competency for gas fitting work. Maximise consumer safety standards.
Contribute to national Gas Technical Regulator Committee programs.	Harmonise gas product and legislative outcomes to national and COAG standards.	Maximise safety and economic outcomes to gas consumers.
Participating member of the National Occupational Licensing Scheme.	Provide policy advice and review to legislation.	Harmonise state legislative outcomes to national COAG standards. Present contemporary gas fitting competency models to NOLS.
Emergency preparedness planning with TFS, TGN, DPAC and Workplace Standards.	Preparation and prevention strategies for major uncontrolled gas incidents	Facilitate enhanced natural gas supply and public and emergency worker safety.
COMMUNICATIONS & EDUCATION MANAGEMENT		
Administered a gas specific internet site and gas safety publications.	Facilitate stakeholder and consumer access to gas technical standards and safety information.	Provide timely delivery of industry communications products.
Contribute to the Workplace Standards' "Connections" Magazine.	Improve stakeholder and end user education on gas safety.	Enhance gas education policy and expand audience.
BUSINESS ADMINISTRATION		
Administered, reviewed and identified opportunity for business management improvement.	Continue development of contemporary business unit models.	Efficiently administer all business processes.
POLICY DEVELOPMENT		
Implemented vehicle gasfitter licensing and competency scheme for evolving LNG industry.	Development of contemporary licensing and competency standards.	Ensure highest competency standards for LNG vehicle industries.

Drafted Gasfitter Determinations for work, Classes of work, Eligibility to hold licenses.	Ensure adequacy of gas fitting standards. Inform stakeholders.	Safety of consumer installations.
Developed and implemented Gas (Safety) Amendment Regulations.	Maintenance of contemporary technical standards and regulation.	Ensure highest standards for NG, LNG and LP Gas industries.
Developed criteria for tolerable societal risk exposure from gas processing and conditioning industries.	Research and quantify tolerable public risk profiles.	Guidelines for gas industry fire and hazards in gas processing and local area precincts.

Table 1

REVIEW OF OPERATIONS

1.0 GAS DISTRIBUTION

1.1 Natural Gas Rollout

No new network extensions were approved this reporting period. Planning reviews for proposed new natural gas networks has commenced prior to design approvals and construction acceptance by the Director. Refer to *Table 2*, p13, for current network detail.

1.2 Gas Distribution Network Service Connections - Audit

Tas Gas Networks gas regional service connection program was subject to a reduced audit program. Service connection inspections are now completed during gas installation commissioning inspections. The Director's 2009 Distribution service installation audit and services rectification program was completed to technical and safety standards required in the S&OP.

1.3 Network Incident and Accident Reporting

Incident and accident reporting by the distributor has been ongoing with the collation of data now showing a reduced number of incidents.

Further incident modelling will be undertaken to facilitate improved collation, evaluation and purpose.

1.4 Infrastructure damage

Nine incidents of infrastructure damage from failure to utilise DBYD resources occurred in 09-10. The Director has continued to facilitate meetings with other utility infrastructure owners to identify improvements in buried infrastructure information collation, provision of information, notification of civil works and detail of information aimed at prevention of third party damage to gas mains.

The distribution entity has identified improvements in network "as constructed" information capture and implemented this into their public information and DBYD information generation scheme.

The utilisation of articles in the Workplace Standards' "Connections" magazine to reach a large potential audience of Tasmanian tradesman and affiliated professionals has commenced.

The distributor and Director are collaborating to deliver a program aimed at educating utility owners and trades contractors to meet their safety obligations when working in the vicinity of gas infrastructure, this will be on going during 2010 -2011.

1.5 Gas Distribution Standards

1.5.1 Natural Gas

A gas quality incident causing possible supply curtailment at Victorian production facility in June necessitated a review of the existing gas quality standard and communications arrangements for Tasmanian natural gas stakeholders.

An improved reporting process for gas entities (retailers and distributors) for advising the Director when transmission and distribution incidents involving gas curtailment and off specification gas quality is under refinement, in consultation with stakeholders.

Australian Standard, AS 4645 *Gas Quality*, is expected to be adopted into the new *Notification Of Request to Supply to the Distribution System Out of Specification Natural Gas* for gas entities when a incident occurs which could effect gas supply or network integrity.

The Director is proposing this standard for out of specification gas and the requirements of the Gas (Safety) Regulations 2002 to gas entities.

1.5.2 LP Gas

Australian Standard, AS 4670 *Commercial propane and commercial butane*, for heating purposes has been adopted for application on LP Gas fired equipment.

1.5.3 Buried Pipeline

Australian Standard AS 2566 *Buried flexible pipelines*, is under consideration for inclusion into the network design standards. This is as a result of failed construction procedures on 1050 kPa mains pipelines which in tern may affect long term reliability and safety.

TASMANIAN – LOCATION OF OPERATIONAL NATURAL GAS DISTRIBUTION FACILITIES and ISOLATED LP GAS NETWORKS

EXISTING NATURAL GAS DISTRIBUTION FACILITY	SUBURB / TOWN RECEIVING GAS SUPPLY	GAS FACILITY, NEW EXTENSIONS COMMISSIONED 2009 /10	New Facility Planning Reviews
BURNIE		Nil	
BELL BAY		Nil	
DEVONPORT		Nil	
HOBART		Nil	
LAUNCESTON		Nil	
LONGFORD		Nil	
ULVERSTONE	New transmission supply and distribution network.		Initial consideration
WESTBURY	Industrial network routing.	Nil	Industrial subdivision
WYNYARD		Nil	
Existing LP Gas ISOLATED GAS FACILITY			New Facility Planning Reviews
LAUNCESTON Glenara Lakes		na	Nil
ST HELENS Sunhaven Villas		na	Nil

Table 2

1.6 Service Connections Standards

A high percentage of commercial and industrial gas services to prescribed standard and complex gas installations are continuing to be field inspected by inspectors for safety prior to gas installation commissioning.

1.7 Gas Installation Approval, Notifications and Procedures

The Director's consumer installation approvals "connections process", with the NG distributor for complex and prescribed standard installations continues to operate satisfactorily.

This process is expected to be connected to the practitioner notification lodgement data during 2011 with restricted access for gas entities to improve the management of their section 51 responsibilities on new connections and "gas on" compliance obligations.

1.8 Emergency Response Capability

The NG distributor Tas Gas Networks (TGN) response times to uncontrolled gas escape incidents continues to be satisfactory. TGN cooperation with Tasmanian Fire Service (TFS) on operational protocols at incident scenes is currently under review.

The Director has completed an initial monitoring project to determine emergency response capability for LP Gas suppliers in Tasmania. Emergency response contact details for Tasmanian based LP Gas suppliers are now maintained and available for TFS and Workplace Standards incident response.

The Director maintained ongoing meetings with the TFS and State Emergency Services organisations and TGN. Aimed to improve the knowledge of inherent risks from NG networks and emergency conditions response this will continue in 2011 with excellent cooperation between stakeholders.

New gas network, sector isolation planning during emergencies has been completed by TGN and provided to Workplace Standards and TFS.

The Director undertook preplanning exercises with Department of Infrastructure, Energy and Resource (DIER), Department of Premier and Cabinet (DPAC) and Police and Emergency Services for a major emergency exercise planned for August 2010 in conjunction with national planning.

1.9 Distribution Networks Equipment Failure

A small number of repairs on NG mains “low flow” gas leaks on pipe to socket joints, in polyethylene strategic mains joints were monitored by the Director’s office. This has resulted in the reduced MAOP on one regional pipeline.

The continuation of this monitoring program is intended to ensure public risk is as low as reasonably practicable and measures are implemented for construction standards to prevent a re-occurrence

Regular leakage surveys of the main, education and notification of proposed works processes are implemented by the gas entity.

1.10 Isolated Gas Networks

No new isolated gas networks were constructed in 2009 - 2010.

1.11 Safety and Operating Plans

A program to review and update gas entity safety and operating plans was commenced. This will be ongoing for 2011.

The Director will examine with other government stakeholders a legislative short coming for inclusion of administrative requirements in the Gas Act on the operations of “shippers” of natural gas into Tasmania during emergency supply conditions.

1.12 Distribution Networks high pressure mains

The review of distribution high pressure pipeline maximum operating pressures has been commenced by TGN. The pipeline alignment risk review from population encroachment and pipeline condition monitoring program has been scoped and will be undertaken during 2011.

1.13 Emergency planning for defined precincts

Two zones of distribution and installation infrastructure have been included in high consequence emergency precinct plans in the Bell Bay and Westbury areas. This model aim is to prepare precinct neighbours in a case of a high consequence incident, improves preventative and preparedness response by the operator, precinct neighbours and emergency services.

The Brighton Transport Hub area will be assessed for this level of preparedness during 2011.

2 GAS INSTALLATIONS

2.1 Installations > 200 kPa - Safety Standards

These projects remain spasmodic, but require long term resourcing and knowledge management. The Aurora Energy - Tamar Valley Power Station open cycle Trent and closed cycle Mitsubishi turbines were successfully commissioned during late 2009.

Further gas power generation proposals are expected to require the Director’s consideration in 2011.

2.1.1 Installation Safety Acceptance Program

All installations >200kPa undergo a project safety management approval. The program requires certification and acceptance at design, fabrication, installation, testing, pre - commissioning and final commissioning of the installation and appliance. Technical standards and quality assurance compliance auditing is undertaken by the Director's office.

2.1.2 Installation sighting, fire hazard analysis from major incidents events, reliability, maintenance, staff training, integrity of safety implemented systems and detection systems as well as emergency preparedness and evacuation is assessed from a submission from the installation manager/owners.

2.1.3 A layer's protection modelling philosophy is implemented for high consequence low likelihood incidents.

2.2 Power Generation High Pressure Installations

High pressure gas supply to power generation installations will require long term staff knowledge management.

Design acceptance and layer protection development, requires succinct analysis and evaluation with the proponents and their equipment suppliers.

Receipt of the first consumer high pressure installation to supply "power generating gas turbines" to meet increasing cogeneration energy projects is expected during 2011.

2.3 Gas Installations, Notification and Certification

The Gas Act installation notification and certification procedures used by gasfitters to certify work compliance is working effectively, however a small number of repeated non notification cases have been identified for corrective actions.

New certification notice forms required to meet new Occupational Licensing, classes of work and the Gas (Safety) Amendment Regulations for evolving gas industries have been introduced

These enable notification for different gaseous fuels, marine, recreational vehicles, and gas storage facilities, CNG, LNG and LP Gas.

Amalgamation of all notifications onto one notice has proved cost efficient to government and gasfitters.

2.4 Complex Gas Installation Design Acceptance Program

Inspectors completed the design assessment of 137 complex gas installations primarily at industrial sites.

All components are assessed for functionality, pressure rating and currency of component safety certification.

Testing and commissioning plans continue to be assessed prior to inspection of live gas operations.

2.5 Prescribed Standard Gas Installations Acceptance Program

The Director accepted 29 submissions for prescribed standard gas installation connections.

The safety and technical factors considered for acceptance of designs on “multi residential” prescribed standard gas installations has seen the gas distributors service connection standards reviewed. Actions such as reduced supply pressure, relocation of remote supply points and relocation of service lines from the proximity of buildings have been implemented resulting in improved installation safety.

Owners site emergency management plans are assessed for safety standards and emergency preparedness.

2.6 Gas Technical and Safety Regulations

The Gas (Safety) Amendment Regulations were enacted.

Implementation of these regulations will require new programs for marine installations, recreational vehicles (caravans), liquefied fuel gases and gas storage. The scoping for the programs will commence during 2011.

3.0 **GAS RETAILING**

3.1 Emergency Gas Curtailment Planning

The requirements for natural emergency supply protocols by licensed gas retailers are embedded in the Tasmanian Natural Gas Supply Emergency Coordination Plan (TNGSECP) with a current review underway.

The Director is a member of the Natural Gas Supply Emergency Co Ordination Committee (NGSECC) which is a sub committee to coordinate the response to Energy Supply Emergencies (CCRESE) for the purpose of advising the Minister for Energy on how to respond to natural gas supply emergencies. The Manager of Gas Safety represents the Director on these committees.

Implementation of the Tasmanian Gas Supply Emergency Coordination Plan (TGSECP) to manage local supply curtailment issues and emergency incidents, industry and public notification protocols is ongoing.

Following the current review of communications protocols for gas curtailment the retail gas entities will be requested to commence their 5 year review of their Safety and Operating Plans during 2011.

3.2 Gas Retail Supply

Assessment of the Director’s notifications database indicates an increase in retail and residential connections to natural gas during 2010.

A new level of auditing is planned for standard gas installations. These installations are currently self-certified by gasfitters completing the installation.

The audit is based on analysis of incident causation from installation call outs attended by inspectors.

4.0 **GAS TECHNICAL and SAFETY STANDARDS**

4.1 Technical Standards Development

Development of safety and technical standards for the Tasmanian gas industry is ongoing to meet emerging trends and technology. Consultation between Workplace Standards, industry stakeholders, end users, interstate regulators and gas industry organisations is ongoing to ensure currency, relevance and completeness of Tasmanian gas standards.

4.2 LP Gas Standards

The Director's office held discussions with LP Gas suppliers and stakeholders on enhanced technical and safety standards for gas storage systems. The development and implementation phase for the gas storage design certification and work installation acceptances is planned for 2011 and will align with the Australian Liquefied Petroleum of Australia scheme.

4.3 Unique Equipment Standards

The Director's office has adopted acceptable international standards for the regulation of gas fired turbines and stationary engines for generation of electrical energy.

Policy development, for appliance operators specialised safety management requirements and Workplace Standards' audit programs have been completed and implemented for rotating and reciprocating co-generation engines.

Acceptable worker competency standards which combine requirements for gas fitting and specialists in engine plant and manufacturer trained operators are continuing to be reviewed.

Legislative amendment to capture bio gas combustion equipment is under consideration by the Director, due to an expected expansion of this energy recovery and cost efficiency technology.

4.3 Gas Committees and Associations

4.3.1 Gas Technical Regulators Committee (GTRC)

Membership of this national committee regularly provides Tasmania with current gas appliance and gas technical and safety information exchange.

Member communications frequently result in product warnings to the Tasmanian public, gasfitter communications or appliance safety investigations.

The national conference of the GTRC committee was held in Hobart during May 2010 with all member states attending.

Resourcing for new legislation drafting and a major gas pipeline facility program pursuant to the *Gas Pipelines Act 2000* has forced a reduction in activity with the GTRC.

Ongoing resources for this GTRC work commitment will be an issue for future program planning and resource allocation and roles within the unit.

4.3.2 National Occupational Licensing Scheme

Membership of this national group formed under COAG initiatives has enabled Workplace Standards contemporary gasfitter licensing requirements to be considered and modified under the national model. Work on Tasmanian gasfitter licensing and alignment with the NOLS is ongoing.

4.3.3 Committee to Coordinate the Response to Energy Supply Emergencies

The Director has attended meetings with DIER and industry stakeholders and:

- a. provided assistance to DIER in maintaining the Tasmanian Natural Gas Supply Emergency plan;
- b. regularly reviewed Tasmanian gas entities preparedness to manage a natural gas supply emergency; and
- c. provides advice on whether the TNGSECP effectively facilitates the management of natural gas supply in an emergency.

4.3.4 Tasmanian Electrolysis Committee

Workplace Standards' gas unit has recommenced attendance at this committee. The committee role identifies the needs for protection and design requirements for high pressure gas pipelines and infrastructure in the vicinity of high voltage electrical infrastructure. Capture of these issues under the Gas Act and the Gas Pipeline Act is anticipated as well as coordination of requirements with the electrical standards unit.

COMMITTEES & ORGANISATIONS

COMMITTEE	MEMBER ORGANISATIONS	COMMITTEE PURPOSE
National Occupational Licensing Scheme	Workplace Standards, Office of Post Compulsory Education & Training, Skills Institute Tasmania	Development of Occupational Licensing Regulations and implementation of the Occupational Licensing Act
Gas Technical Regulators Committee (GTRC)	All AUS states and New Zealand Gas Technical Regulators	Harmonisation of national gas safety standards and advice to COAG Electronic communications between member states continues regularly
Committee to Co Ordinate the Response to Energy Supply Emergencies (CCRESE)	Infrastructure Owners, Workplace Standards, DIER (Office of Energy & Planning)	A functional committee to coordinate across jurisdiction emergency gas supplies
Tasmanian Electrolysis Committee	Workplace Standards Aurora Transend Hobart City Council Telstra Southern Water Tas Gas Networks Private consultants	Functional committee to coordinate electrolysis standards for Tasmanian infrastructure

Table 3

5.0 **GAS APPLIANCES & COMPONENTS**

5.1 Gas Appliance Class Certifying “External Authorities”

The Director of Gas Safety approved Global Mark Ltd as an external authority for gas appliance – class safety certification in Tasmania.

Each certifying body is required to provide the Director with notification of gas appliances when certification is withdrawn due to a safety issue.

Tasmanian approved external authorities details are listed in *Table 4*, below.

APPROVED GAS APPLIANCE EXTERNAL AUTHORITIES

Gas Appliance External Authorities	
Organisation	Address
Australian Gas Association	1 Parkway, Braeside, VIC 3195
SAI Global	286 Sussex Street, Sydney, NSW 2000
IAMPRO R&T Oceana ‘Gas Mark’	249 Hawthorn Road, Caulfield North, Victoria 3144
Global Mark Pty Ltd	Suite 4.07, 32 Delhi Road, North Ryde, NSW 2113

Table 4

5.2 Appliance and Component Class Certification Standards

Technical and safety compliance standards for gas appliances and components are periodically reviewed and may be declared and notified in the Tasmanian gazette by the Director.

Additional Technical Standards Accepted by the Director

Standard No	Standard Description	Appliance / Engine type
AS 3645	Essential requirements for gas appliances.	Type A and B appliances
AG 806	Approval requirements for vehicle refuelling appliances	Gas Compression Equipment
AG 809 AS 5092	CNG Refuelling Stations	CNG storage and refuelling equipment
ISO 21789	Gas Turbines	Type B appliance (Work engines - Rotating Turbines)
NFPA 37	Standard for the installation and use of stationary combustion engines and gas turbines 2006 Ed	Type B appliance (work engine - reciprocating engines)
Standards under consideration		
NFPA 52	Compressed Natural Gas (CNG) Vehicle Fuel Systems Code	Gas compression and storage
ISO 19372	Micro Gas Turbines (under consideration)	Type B appliance (work engines - Rotating Turbines)

Table 5

5.3 Gas Appliances - Individual Appliance Certification Schemes

Pursuant to section 70 of the Gas Act Tasmanian Type B licensed gasfitters have been approved to conduct individual gas appliance certification.

This scheme allows new or manufactured – non certified individual appliances imported in to Tasmanian to undergo inspection for safety certification against relevant technical standards determined by the Director.

A shift away from gasfitter designed appliances is anticipated with the adoption of the NOLS scheme.

Consideration of a certification regime for unique gas appliances has commenced with a reliance on manufacturers intended to fill the appliance certification void. This process is expected to align with manufacturer certified gas engine and thermodynamic acceptance process currently under consideration.

Mutual recognition arrangements with interstate gas regulators enable importation of unique appliances previously approved by other interstate regulators. No such scheme exists for work engines.

5.3.2 Products Withdrawn from Market

A model for notification by external authorities and interstate regulators, of gas appliance product suspension from the market, and appliances withdrawn from market is operational.

Current information is provided to gasfitters through the Director's web site and the Workplace Standards, Connections magazine.

5.4 Australian and New Zealand Gas Appliance Certification Standards

The Director is continuing work through the national GTRC to meet the requirements of the MCE to implement an Australian and New Zealand uniform model for gas appliance safety certification.

New Zealand legislative amendments are required to enable this program to be completed these amendments are expected to be completed in 2010. Final harmonisation of both countries standards is still to be resolved.

New Zealand has developed regulations to enable this program to progress, however a number of issues associated with these regulations are still be resolved and a special meeting of the GTRC is proposed, in an effort to bring this important TTRMA (Trans Tasman Mutual Recognition Agreement) to a conclusion by 2010.

When resolved, this TTRMA resolution will require Tasmanian legislative amendment to the Gas Act to accommodate this COAG gas appliance harmonisation requirement.

5.5 Prohibition of Sale and Recall of Gas Appliances

The Director of Gas Safety now has responsibilities pursuant to section 79A-C for prohibition of supply of unsafe gas appliances. This is a result of Economic Regulator (Consequential Amendments) Bill 2009.

A safety issue due to potential emission of high levels of carbon monoxide has been identified on a nationally distributed inbuilt model space heater.

The Director's office liaised with the AGA the product original certifier and GTRC to determine potential number of appliances that may be installed in Tasmania.

The appliances were initially installed in the late 1970's. Workplace Standards research so far indicates small numbers have been installed in Tasmania with no consumer safety issues reported to the Director.

Due to the large numbers installed in Victoria a recall notice in relation to the appliance has been issued. Work nationally in relation to this notice is still in progress, but the numbers of appliances involved is diminishing. The Director is continuing monitoring this matter.

5.7 Sale of Non-Certified Gas Appliances

The Director issued an order to a national retailer prohibiting the sale of an un-certified gas appliance in Tasmania. Appropriate procedures were implemented to prevent a reoccurrence nationally.

The Director has determined that a single appliance imported in Tasmania may undergo individual site safety certification and acceptance. Importation in excess of 5 appliances will however require class certification by an approved external authority in accordance with an appropriate technical standard and the requirements for class certification in the Act.

5.8 Acceptance of Type B Gas Appliances

The office completed acceptances for 56 Type B gas appliance designs and 6 modifications to appliances.

The Director has implemented a quality acceptance scheme requiring ISO 9000 certification of the manufacturer, to assess Type B appliances manufactured internationally before being considered for use in Tasmanian.

Further work is planned for a scheme designed to enable manufacturers to seek acceptance of their appliance design thus enabling installation of pre-design approved appliances.

This is intended to enhance Type B gasfitter services for installation and commissioning of appliances and improving efficiencies for industrial consumers in Tasmania.

5.9 Internet Sale of Gas Appliances

It is again disturbing to report the sale of new non-certified products, imported into Australia and purchased via the internet by Tasmanian consumers, continues to be difficult for gas regulators to regulate.

Wholesaling of gas appliances via internet based sales sites without certification is creating an unacceptable void in the appliance safety certification scheme and increasing public risk.

Importers often move to alternate interstate locations to avoid regulators attempts to implement legislative actions. Importers are prepared to undertake significant actions to avoid detection and administrative powers of regulators.

It is pleasing that NSW as the major point of importation of these appliances into Australia is working towards an improved compliance regime in that state to capture imported appliances prior to internet distribution.

The Gas Act is currently without powers for enforcing certification standards for gas appliance importers located interstate.

This is a national issue, and under consideration at GTRC meetings. It is envisaged that strategies will be developed and implemented through this committee, in an effort to counter this growing problem.

6.0 GAS EMERGENCY MANAGEMENT

6.1 High Pressure Gas Installations

High pressure installations (>1050kPa) have been audited for emergency preparedness and emergency response planning, with the Director's office facilitating meetings with high use consumers, transporters and emergency response organisations to establish gas precincts and preparedness planning.

The examination of inherent risk and the use of layer protection modelling to enhance new installation siting and location risks, plant reliability, long term maintenance and change of risk level management will enable performance standards and indicators to be linked to organisations safety management systems to achieve acceptable public safety.

6.2 Emergency Management of Embedded Networks

Technical policy for embedded networks emergency management is complete. This policy focuses on the building owner and consumer's responsibility for gas emergency planning in buildings of multiple consumers. Legislative drafting is planned to commence with DIER in 2011.

6.3 Tasmanian Gas Supply Emergency Coordination Plan – Staff Availability

The Director has committed to the Tasmanian Gas Emergency Response and Co-ordination Plan (TGESCP) requirements. A staff "availability roster" is operational for after hour response to onshore gas incidents, intrastate, interstate and offshore supply or gas quality issues. Response to 56 installation and supply incidents over two years has been beneficial to TFS, Tasmania Police Service and with enhanced enforcement of non compliance and real time isolation of dangerous situations completed through the Director's incident response management system.

Improved notification and conditional response planning has been implemented for gas entity notification procedures and high risk appliance combustion requirements when gas quality or curtailment affects gas Tasmanian supplies. Evaluation of current plans is ongoing.

An exercise in pipeline emergency management and recovery planning with licensed gas entities and the Department of Infrastructure Energy and Resources, DPAC and Police and Emergency Services is planned for August 2010.

6.4 Emergency Incident Coordination

The Director maintains management plans and internal procedures for Workplace Standards "on shore", emergency gas incident response protocols. Emergency Incident Response Management plans and staff availability roster for after hour response has operated successfully.

Documents for gas appliance gas conversion, and standby liquefied gas storage approvals procedures during gas curtailment periods have been finalised.

Gas distribution network sector isolation plans have been completed by the network gas entities for sectoral closure and isolation of gas networks during a long term curtailment to preserve supply to critical consumers and ensure system integrity.

6.5 LP Gas Emergency Protocols

The Director's office maintains internal emergency communication protocols and contact data for Tasmanian based LP Gas suppliers. Data is provided to TFS as part of the co-operative program.

This data enhances industry communication protocols and Workplace Standards emergency call out to incidents during after hour's response.

6.6 LP Gas Technical Working Group

Following gas emergency planning and the current development program for the Gas (Safety) Amendment Regulations, initial consultation with all LP Gas supplier companies has been completed.

Ongoing program development for LP Gas storage, emergency preparedness and safety standards is planned for this sector of the gas industry in 2011.

7.0 **STAFF DEVELOPMENT**

7.1 Professional Development

Continuous development is encouraged by all authorised officers and administration staff. Staff development and mentoring is ongoing with additional staff training requirements identified for:

Issue or Risk	Currency	Development
Rotating appliances -.	On going	Turbine standards adopted. Combustion engineering standards.
Non consuming gas equipment	Ongoing	Adiabatic energy transfer systems - safety standards.
Permitting Fuel cells (hydrogen)	Ongoing	Certification and building standards.
Reciprocating engines	Ongoing	Internal combustion, work engine safety.
Unique gas component safety certification standards.	Ongoing	International manufacturer quality certification standards.
High pressure gas infrastructure fabrication quality assurance standards.	Complete	Model to compliment layer protection philosophy implemented.
LNG technical and safety standards.	Ongoing	Layer protection philosophy for safety of gas processing and conditioning plants.
Societal thermal risk quantitative modelling.	Ongoing	Models implemented for Quantitative risk assessment. Fire thermal radiation. Equipment failure rate frequencies. Estimation of harmful effects on humans.
Thermodynamics	Ongoing	Adiabatic compression or expansion, work engines entropy.
Gas storage	Ongoing	Liquid storage, vapour generation, dehydration and cryogenics.
Gas measurement	Ongoing	Liquid and gas chromatography, mass measurement and meter proving.

Specialised technical library resources continue to be sourced to meet expected gas industry emerging technology, energy efficiency, fire hazard analysis and risk modelling and analysis.

Staff training and qualification schedule

Course	Staff completed 2010	Staff studying 2010
Diploma of Government (Workplace Inspection)	4	
Diploma of Business (Quality Auditing)	1	
Cert IV Restricted Type B Gas Fitting	2	
Cert IV Unrestricted Type B Gas Fitting	1	1

A review of the regional program requirements, delivery capability and role diversity in cryogenics, gas storage, gas conditioning, gas utilisation and network analysis has commenced to fulfil the implementation requirements of the Gas (Safety) Amendment Regulations.

The planned Occupational Licensing Regulations and work determinations will require additional skills and resources to enable programs in liquefied gas storage, marine installations, recreational vehicle installations, vehicle gas fitting.

Longer term needs identification also require individual skills and additional equipment for gas measurement, advanced instrumentation and control, gas conditioning and gas thermodynamics to keep abreast of expectant new technology and upstream gas transmission and conditioning.

All program delivery capability is under review with the changing focus from major natural gas transmission and distribution construction programs to downstream industries adopting new gas utilisation technology, requiring expanded compliance monitoring, industry and unit education, enforcement and program expansion review.

7.2 Type B Appliance, Design Assessment Capability

Ongoing staff training in Type B gas appliance, design assessment and combustion engineering is continuing enabling the southern regional Type B appliance capability to now functioning with inter region mentoring available for unique appliances and gas conditioning issues. This capability provides the gas unit with enhanced efficiencies for staff utilisation.

7.3 Vehicle Gas Fitting

This area is subject to an observed increase in vehicle gas incidents. Incident analysis identifies a need for government action in work accreditation and work standards audits enabling appropriate actions and penalties on non compliant work.

Eventual transfer to the Occupational Licensing Act administration model will enhance legislative program delivery.

8.0 **DISTRIBUTION “GAS WORKER” TRAINING and ACCREDITATION**

8.1 Gas Distribution Training

Further collaboration with the NG distribution industry and the Tasmanian Skills Institute to ensure that relevant safety standards are adopted into the gas industry, training package has been identified for trenchless mains laying.

Delivery of the Gas Distribution, Certificate II in Gas Utility programs is now functioning at the Hobart campus of Tasmania Skills Institute.

8.2 National Training Harmonisation

Energy Networks Australia (ENA), through COAG has proposed a nationally recognised gas skills passport for gas distribution and transmission workers.

This proposal is being refined during the current COAG established, Energy Technical and Safety Harmonisation Enhancement Plan coordinated through the MCE.

Major issues were identified during the Victorian bushfires when cross jurisdictional requirements prevented efficient use of resources due to variations in training and competencies between states.

9.0 **GASFITTER TRAINING and ACCREDITATION**

9.1 Gasfitter Certification

In total 327 gasfitters have certificates of competencies for NG gas fitting, issued by the Director of Industry Safety under the *Workplace Health and Safety Act 1995*.

Worker certification requirements apply to NG, consumer installation gas fitting work, pursuant to the Gas Act. Refer *Table 4*, page 19.

This interim arrangement is planned to cease when the Occupational Licensing Act, administrative gas regulations and work determinations are introduced. This will coordinate natural gas and the LP Gas licensing scheme within one legislative structure.

Draft gas fitting work determinations and competency standards pursuant to the Occupational Licensing Act have been under review to facilitate national requirements under the National Occupational Licensing Scheme and Tasmanian conditions.

Final implementation of the OLA administration scheme for gas fitting has commenced by the Workplace Standards occupational licensing and IT sections with completion expected in December 2010.

9.2 Council of Australian Governments - National Occupational Licensing System

The Director continued to provide policy advice and participated in the development of the NOLS for gas fitting through the Gas Fitting project committee.

The Director's representative attended interstate regulator and stakeholder workshop meetings, these meetings identified and prescribe drafting instructions for:

- Eligibility and renewal criteria.
- Granting, renewal, retention of licence and licence lending.
- License disqualification register.
- Enforcement modelling, including worker offences and penalties.
- Administrative review and appeal processes.

The Director will have an ongoing input to this project, pending the proposed national implementation of the NOLS on 1 July 2012.

9.3 Industrial Gas Fired Engines – Worker competencies

The review of worker training and competency standards for defined gas work on large industrial stationary engines (reciprocating or rotating) supplied by reticulated gas fuel systems greater than 1 GJ/hr (LPG or natural gas), for gas consumption or work generation is continuing. Non consuming appliances will not be considered as gas appliances.

It is proposed to examine in conjunction with operators and educators, Type B gas fitting work within five categories:

- Combustion equipment referenced in the scope of AS 3814 Industrial fuel fired appliances.
- Rotating engines (gas turbines) prescribed in ISO 21789 Gas turbines or IGE/UP/9 Applications of Natural gas and Fuel oil systems to gas turbines or AS 3814.
- Reciprocating engines (combustion engines). AS 3814, and NFPA 37.
- Rotating industrial stationary engines (up to 1,000 MJ/hr) fuelled by LPG, natural gas or CNG prescribed in Draft ISO 19372 Gas turbines or AS 3814.
- Reciprocating industrial stationary engines (up to 1,000 MJ/hr) fuelled by LPG, natural gas or CNG. AS 3814 and NFPA 37.

Workplace Standards is endeavouring to harmonise and influence the proposed NOLS. This is rapidly evolving, and a number of different possible classes of Type B gas fitting licenses are currently being proposed by the working group. These include a maximum appliance rating (MJ/hr), or a possible risk based approach.

Gasfitter Practitioner (Certifier) - Type B Standard Level 1

Gasfitter Practitioner (Certifier) - Type B Standard Level 1

Gasfitter Practitioner (Certifier) – Type B Standard Level 3

9.4 Tasmanian Gasfitter Examinations

The alliance with the Victorian, Plumbing Industry Commission for access to an electronic examination system has been ongoing but is expected to be outdated by the NOLS and new training provider determination of worker competency.

Successful completion of Tasmanian Skills Institute, training packages in type B gas appliances enables a gasfitter to be deemed competent by the Registered Training Organisation.

The Director's examinations will be discontinued for restricted Type B gasfitters when the state OLA scheme is introduced. This class of license is expected to have site and appliance conditional restrictions for unique equipment.

Future Type B un-restricted gasfitter competency assessment will require significant review along with equipment acceptance standards pursuant to section 77 of the Act.

The soon to be introduced NOLS scheme will not cater for this higher level of un-restricted Type B appliance - gas fitting who undertake design of gas combustion systems.

Tasmania will need to decide in what form or if this class of licensing will exist under the OLA in the future.

9.5 Assessment and Training Criteria for Overseas Gasfitters

Under current overseas mutual recognition agreements, Workplace Standards is obliged to issue overseas gas fitting applicants with a provisional certificate of competency (must work under supervision), pending formal assessment of their qualifications and identification of any gap training requirements by GSS.

In consultation with the Registered Training Organisation (RTO) - Tasmanian Skills Institute, the Director operates an appropriate assessment and gap training criteria (theoretical and practical) for overseas gas fitting applicants. This arrangement enables applicants to be appropriately assessed and trained to local standards.

Successful completion of gap training enables the applicant to apply to the Director of Industry Safety, for a Certificate of Competency in Gas fitting (unrestricted). The gasfitter is then able to certify their own gas fitting work, enhancing their employment portability.

A policy document in relation the following remains in use including the:

- ANZRA mutual recognition licensing requirements (overseas applicants).
- VETASSESS mutual recognition licensing requirements (overseas applications – off shore skills assessment).

9.6 Automotive Gas Fitting

It is pleasing to report a complete licensing administrative and Tasmania Skills Institute training system for automotive gas fitting work competency for CNG, LNG and LPG has been declared a 'specified task' under the Workplace Health and Safety Act.

Future development of Automotive Gas Fitting Regulations pursuant to the Occupational Licensing Act is pending.

Two new classes of LNG license are available;

- a. Work involving installation and conversion of engines; and
- b. Work involving maintenance and servicing of LNG fired engines.

Existing dangerous goods legislation coverage of vehicle, CNG, NG and LP Gas installations for automotive purposes was rescinded on 1 July 2009 and new legislation giving equivalent coverage was introduced with the Gas (Safety) Amendment Regulations in October 2010.

9.7 Gas Fitting, Work Certification Monitoring

A Workplace Standards' database for recording all gas fitting certifications is maintained by the Director. Interpretative and administrative systems for monitoring the performance of gasfitters are undertaken.

A new gasfitters notification form also suitable for the new gas industries CNG and LNG, Vehicle Gas Fitting, LP Gas storage has been introduced.

9.8 Vehicle Gas Fitting – Work Certification

Workplace Standards maintains a data base of all self certifying licensed vehicle gasfitters. Auditing of work and compliance monitoring has been identified as a priority through the maintenance of a completed work notification scheme.

Coordination with DIER vehicle licensing division will link vehicle registration and fuel conversion certification requirements and scope further work needs.

Development of a holistic scheme to administer licensing and work standards within the Occupational Licensing regime has been identified for development and recruitment of a resource for specialised field inspection programs.

10.0 **COMMUNICATIONS AND GAS SAFETY EDUCATION**

Emphasis is placed on the development of policy and educational information to inform stakeholders of legislative and technical matters. *Table 5* summarises these activities and outputs.

COMMUNICATION PRODUCTS

PROGRAM	NEW or MANAGED OUTPUT 2009-10	TARGET AUDIENCE
Gas Standards and Safety "Internet site"	Maintained a "gas safety & technical standards" web site.	<ul style="list-style-type: none">• Gas Consumers• Gasfitters• Gas Workers• Gas Distributors• Community• Rural landowners• Infrastructure owners
Gas quality curtailment standards	Final draft for Emergency Gas Supply conditional approval procedure. <ul style="list-style-type: none">• Quality specification for distributors.• Gas entity notification protocol.	<ul style="list-style-type: none">• Workplace Standards• Director• Distribution entity• Retailers
Emergency response standards	Director's Emergency <i>Incident</i> Management Plan including: <ul style="list-style-type: none">• Guide for gas storage when natural gas load shedding occurs.• Information for converting complex gas installations.• Approval standard for "stand by" natural gas systems.	<ul style="list-style-type: none">• Staff of the Office of the Director of Gas Safety
Emergency supply management	Director's Emergency supply and notification procedures for implementation of load shedding.	<ul style="list-style-type: none">• Staff of the Office of Gas Safety• Gas entities

PROGRAM	NEW or MANAGED OUTPUT 2009-10	TARGET AUDIENCE
Gas Installation Major guide	Director's Guide and requirements for "layers of protection" model for gas safety management.	<ul style="list-style-type: none"> • Consumers • Designers • Gas staff • Gasfitters • Equipment certifiers
Complex gas installation guide	Director's policy for work in public land and on electrical utility easements.	<ul style="list-style-type: none"> • Gasfitters
Complex gas installation application	Director's new application form.	<ul style="list-style-type: none"> • Gasfitters
Gas Installation work notification form	Director's new gasfitter notification forms.	<ul style="list-style-type: none"> • Gasfitters • Gas entities
Gas safety and technical publications.	Policy for estimation of harmful effects to humans	<ul style="list-style-type: none"> • Director • Designers
	Policy for Societal risk criteria	<ul style="list-style-type: none"> • Director • Designers
	Policy for thermal radiation	<ul style="list-style-type: none"> • Director • Designers
	Policy on failure rate frequencies	<ul style="list-style-type: none"> • Director • Designers
	Connections magazine	<ul style="list-style-type: none"> • Gasfitters • All building trades

Table 6

11.0 **PROGRAM OUTPUTS**

11.1 Policy Development and Legislation

The Director provided policy resources as part of the working group which developed the new Gas (Safety) Amendment Regulations. The unit's gas expertise was required to enable translation of gas storage, caravan and marine craft technical requirements from the now rescinded Dangerous Goods Act to the new gas safety legislation.

DIER and the Director's office have commenced developing policy for "embedded gas networks" in line with a policy for installation and on going management of multiple installations in strata title properties where "common property" exists. This policy is designed to allow administration of installation safety, work notification, gas quality and consumption metering. Commercial supply and reliability obligations on multi consumer sites where the gas supply is retailed by an individual property owner or manager will be enhanced.

A significant resource was allocated to the policy development of gas fitting competency standards and work determinations for the Occupational Licensing Regulations – Gas Fitting, work determinations. This project is nearing completion and will align with the National Occupational Licensing Scheme.

Development of a gas surveyor competency is under consideration.

COAG policy for the National Energy Technical and Safety Harmonisation has been considered in conjunction with DIER - Office of Energy and Conservation and is subject to further consideration and recommendations by a national working group.

Advice to DIER policy unit is provided on gas safety matters.

11.2 Business Administration, Office of the Director of Gas Safety

Operation and maintenance of administrative systems primary outputs are identified below in Table 7.

BUSINESS MANAGEMENT SYSTEM	OUTPUTS	REASON
Business Document Control	Administer the document and publications register.	Maintenance of document and publications standards.
Web Development and Management	Review and update the gas web site.	Quality control of public documents.
Certificate of Competency Examinations	Administer applications, licensing, records and databases.	Administer the licensing examination program.
Gasfitter licensing	License assessment and renewal.	Verification of training and license standards.
Gasfitter installations notification database	Gasfitter certification data.	Verify gasfitter certifications of gas installations.
Communications Management System	Internal deliver of relevant and timely publications.	Identification of safety, training and educational needs and stakeholder expectations.
Gas distribution commissioning and services program	Deliver 3 regional distribution infrastructure, approvals and inspection program.	Control public risk.
Gas installations Acceptance program	Deliver 3 regional installation technical compliance programs.	Consumer safety.
Gas appliance (Type A) safety management	Identify and implement unsafe gas appliance notifications.	Consumer safety.
Gas appliance design and installation acceptance (Type B)	Deliver 3 regional Type B appliance technical compliance programs.	Consumer safety.
Gas appliance approval (Type A) program	Conduct safety approval procedures for appliances and establish national alliances.	Consumer safety.
Gas External Authority approval	Enable competent organisations are approved to examine gas appliances for safety	Consumer safety.
Gas Entity network approval program	Review proposed network submissions	Ensure construction standards compliance.
Accident and incident investigation program.	Respond to risk to supply and public safety on gas transmission, distribution and installations.	Community safety. Gas emergency response.
Installation disconnections and reconnection procedures.	Deliver timely disconnection orders.	Control unsafe or non compliant gas installations.
Undertake “commercial sensitivity” assessment of gas infrastructure information records.	Deliver timely “Freedom Of Information” requests.	Preserve information confidentiality.
Gas Entity safety and	Ensure suitable schedule of	Meet changed operating

BUSINESS MANAGEMENT SYSTEM	OUTPUTS	REASON
operating plan review	gas infrastructure life cycle review	conditions.
Management Reporting	Deliver management reports, quarterly and annual reports.	Report operations of the Office of the Director of Gas Safety.

Table 7

11.3 Field Operations Gas Inspectorate Unit

11.3.1 Statistical Information

General statistical information on the field operations is attached. Refer to *Table 8*, below.

11.3.2 Complex Gas Installations Standards

The trend for total acceptances of complex gas installation reached a plateau in 2008. The level of gasfitter applications received for acceptances is reducing and will be dependent on new gas network construction.

LP Gas storage, monitoring and approval programs have increased with the introduction of the Gas (Safety) Amendment Regulations.

Planned installation monitoring and compliance programs in rural and country regions have not increased due to demands of major NG projects. This remains a priority.

Supply acceptances to non certified gas appliances and work engines requiring safety management systems are expected to increase.

11.3.3 Multi Residential Installations

All prescribed standard installations (multi residential premises) acceptances continue to be assessed and field inspected. This program remains succinct with a consistent assessment model and is centred primarily in the greater Hobart region.

FIELD OPERATIONS (Gas program criteria)	09/10	08/09	07/08	06/07	1/6/05 to 31/5/06	04/05	03/04	02/03
Gas Installations								
Complex Gas Installations Design Accepted.	95	121	137	188	169	113	68	27
Complex Gas Installation Design Modification Accepted	42	74	57	64	34	na	na	na
Prescribed Standard gas installation design Accepted.	23	56	51	16	1	na	na	na
Prescribed Standard gas installation design modification accepted.	6	0	3	nil	na	na	na	na
Prescribed Standard gas installation field inspections.	26	56	na	11	na	na	na	na
Standard gas installation disconnection inspections	0	0	11	13	na	na	na	na

FIELD OPERATIONS (Gas program criteria)	09/10	08/09	07/08	06/07	1/6/05 to 31/5/06	04/05	03/04	02/03
Major installations > 1050 KPa operating pressure acceptances.	0	8	na	na	na	na	na	2
Gas Appliances								
Type "B" Appliances Designs accepted.	54	73	68	73	120	83	44	41
Type "B" Appliance Modifications accepted.	6	21	23	14	23	-	-	-
Type "B" field commissioning.	78	104	96	111	141	111	83	167
Type A appliance approval by Director	3	2	1	4	na	na	na	na
Major appliance (gas turbines) commissioning acceptances	4	7	na	na	na	3	na	na
Gasfitter Licensing								
Number of Type A and / or Type B certificate of competency/natural gas issued.	28	37	32	59	51	54	12	20
Total Tasmanian certificated natural gas, gasfitters	327	309	272	241	180	112	58	na
Total licensed LP Gasfitters	na	na	333	na	na	na	na	na
Gas Distribution								
Gas distribution incident investigations. (all networks)	16	11	4	19	na	na	na	na
Uncontrolled gas leaks investigated. (all networks)	13	4	10	9	na	na	na	na
Uncontrolled gas leaks reported (level 3 & 4 minor incidents)	nil	139	na	na	na	na	na	na
Director's investigation of NG - Gas quality or supply incident	3	-	-	-	-	-	-	-
Gas Installation or storage Incident investigation. [LPG & NG]	12	22	14	9	na	na	na	na

Table 8

General Statistical Data na = not available or applicable.

11.4 Distribution Networks Accidents and Incidents

11.4.1 Gas Networks Incidents

The Director receives quarterly, mandatory incident reporting with Tas Gas Networks Pty Ltd. Incident data is assessed for trends to determine causation and risk control requirements. Refinements to reporting criteria are under consideration between parties.

Data collected on gas networks mains accidents and incidents has identified loss of containment issues.

No injuries to employees or the public have resulted from these incidents.

All incidents involving gas leaks from third party damage are being investigated to determine public and stakeholder education requirements and administrative requirements.

Failure of gas mains caused by third party damage remains a primary concern. Education of civil and trade contractors through the Workplace Standards' Connections magazine is the current primary communications effort.

Additional 1050kPa gas socket to mains joints have experienced minor leaks. The distributor is investigating the cause of these incidents.

The Director is continuing to monitor the engineering assessments to identify the root cause, remedial requirements and ongoing leakage surveys.

Mains operating pressures have been reduced in one area to contain consequential release issues.

11.4.2 Infrastructure Owners Construction Programs

The policy of the Director continues to encourage the use of the "Dial Before You Dig" phone 1100 service by all infrastructure owners and contractors undertaking civil excavations in the vicinity of gas mains.

The Director and the natural gas distributor have a targeted program with utility owners who conduct civil excavations work in the vicinity of live gas mains.

Stakeholder education, their worker competencies, "Dial Before You Dig" notifications and emergency gas leak management has been targeted for improvement programs. This program will be ongoing in 2010-11.

The Director is continuing to facilitate Tasmanian Fire Service cooperation in monitoring the management of uncontrolled gas mains emergency response and gas incident fire investigations and notification protocols.

This co-operation has facilitated an improvement in incident investigation with corrective actions in all regions being implemented.

11.4.3 Land Owner and Civil Contractors Education

Civil contractor and landowner education to improve notification to gas infrastructure owners, prior to excavating in proximity to live gas and high pressure mains continues to be a priority.

An educational pamphlet for transmission pressure pipelines is due for release to the public in late 2010 following industry consultation.

11.4.4 Mains and Service Connections

The proportion of Workplace Standards' inspections on pipeline mains, service connections remains high. Damage by civil contractors to terminated service connections on new land subdivisions has resulted in new gas entity service termination and construction standards being planned for implementation.

11.4.5 Gas Entity Life Cycle Auditing

Refining of audit models for the life cycle audit of gas networks maintenance management plans and cathodic protection management is continuing.

The Director's first five year review of gas entity safety and operating plans has commenced and will be ongoing.

Life cycle administration and safety program

Formal instrument	Safety	Administrative program	Purpose
Gas Entity - Safety and operation plan		5 year review	Maintain currency and compliance auditing.
Gas Entity - Safety and operating plan		5 year independent audit	Review findings of independent auditor.
Gas Entity Pipeline maximum operating pressure review		5 year review	Technical compliance and public safety.
Gas Entity - Full Safety Assessments of gas networks		Review of hazards and currency of protective systems.	Maintenance of public safety and pipeline management from encroachment.
Gas Entity – Safety management systems		Review currency with operations and construction.	Maintain acceptable network reliability and public safety.
Gas Entity - Network design certifiers acceptance		Appointment of suitable certifiers for new network expansion program	Technical compliance of new networks designs.

12.0 CONCLUSIONS

I am pleased to advise that the Director of Gas Safety has achieved completion of the gas industries infrastructure and installations design acceptance programs and acceptable progress of the planned outputs for the Gas Act policy and operational program delivery and scoping.

These programs include:

- administration;
- policy and legislative development;
- gas installations acceptance;
- gas distribution approvals programs;
- gas appliance and components certification and approvals;
- gasfitter and vehicle gas fitter licensing;
- gas storage;
- incident and accident investigations; and
- education and communications.

Note: this does not include gas transmission programs pursuant to the Gas Pipelines Act.

The delivery of these programs has been achieved in parallel with expanding NG, LNG and LPG industry initiatives, emerging technology, a major energy generation project and an extensive gasfitter licensing policy and a gas safety legislative development program.

Due to the demands of major projects, some delays have again been experienced in the public communications program. The Workplace Standards "Connections" magazine has been highly beneficial in communicating specific messages with all building trades, professions and gasfitter industries. Targeted new audiences have been identified for an expanding gas industry communications audience.

The gas entity safety management system auditing and review program has grown since the construction programs commenced. There are growing needs for specialist analyst and adviser capacities within the gas unit to deliver long term specialist outcomes for public safety and supply reliability in upstream gas delivery and specialised gas utilisation markets.

Policy

Amendments to the Gas Act and Gas (Safety) Regulations 2002 and policy communications, on gas safety standards has seen a partial refocus of resource towards stakeholder education, compliance and performance for LP gas storage and use of liquefied gases in the evolving LNG sector.

These industries are expected to exhibit continued growth.

Coordination of gas storage programs aimed at technical work standards, safety management and compliance will be coordinated with the *Dangerous Substances (Safe Handling) Act 2005* requirements for new major hazardous facilities and large dangerous substances locations approvals and on going compliance through recognition of common synergies in safety management systems.

Emerging climate change issues

The political recognition of greenhouse issues and commercial demand for control of costs in energy generation continues to impact on the demand for the services of the Directors office and staff expertise as forecast.

The Director will monitor national greenhouse policy and commercial developments likely to affect Tasmanian gas supply and appliance industries and work with DIER to achieve acceptable gas appliance standards and benefits to consumers.

Bio gas collection and combustion systems are expected to become an energy efficiency alternative process adopted by some industries.

Emerging technology

Increase use of advanced equipment control technology for specialised appliance combustion control will require additional administrative review and acceptance models. This technology will continue to demand increasing levels of staff commitment and training to deliver preventative and safety programs for appliances.

Demand for new natural gas technology including high pressure supply, pressure raising and the LNG industry will see emerging new gas technology, requiring a further need for gas legislation development, newly prescribed technical standards and land and building use models for control of inherent risks.

Land use, energy efficient building standards in relation to gas installations and outcomes from the Victorian Commission into the 2009 bushfires will require cooperation policy within branches of the Department of Justice.

Education Program

The Director's education program delivery model, is predominately restricted to the use of electronic media, web publications, the Workplace Standards' Connections magazine and targeted program stakeholders.

This delivery method is seen as the primary model for maximum penetration to stakeholders with a restricted deliver capability.

Individual stakeholder meetings are held frequently to provide early advice on new policy and to gain industry consensus for change.

Vehicle Gas Fitting Program

The vehicle gasfitter program for the LNG industry appears to be functioning satisfactorily in conjunction with the Skills Tasmania Institute training and deliver program.

The LP Gas, vehicle gas fitting industry has not previously had work standards administered through the Gas Act. This will require consideration for further specialised resourcing when all licensing converts to the Occupational Licensing Act legislative program.

National Gas Safety Policy

Council of Australian Government through the Ministerial Council of Energy (MCE) is driving national reforms for harmonised legislation in the areas of:

- gas appliances safety certification standards;
- worker licensing (gas fitting) through the NOLS;
- energy (pipelines and networks) technical and safety standard harmonisation and enhancement planning; and
- new gas appliance certifying models.

This has been recognised in the Workplace Standards' Strategic Plan 2010 – 2012. Resource planning will need to be provided to meet these challenges. At this stage most issues are being handled by national working parties to reach a harmonised approach for all states.

The structure and resources of the GSS unit are being closely monitored with the implementation of the new worker licensing program, the new gas technical safety regulations amendments and the evolution of technology within the gas industry. Planning within the Major Infrastructure Unit and its capabilities requires assessment of duplicity and for efficiency gains to be identified.

New organisational models based on meeting the gas industry growth and the Major Infrastructure Branch opportunities has enhanced outputs between the gas unit and the major hazardous facilities unit and their legislative operating models.

Funding restrictions are inhibiting the delivery of some programs, any further reductions will inhibit the Director's capability to meet all current programs and maintenance of public safety standards. Assessment against delivery expectations of future legislative program activities, legislative obligations of the Director and the risk of partial implementation of new work programs is ongoing.

With extended functions and roles under the Amended Gas (Safety) Regulations and industry expansion future funding options are being considered.

In part the Director's program delivery is transitioning from an major natural gas industry construction and network evolution phase, with an educative role to stakeholders since the introduction of natural gas in 2003, towards an administrative and enforcement focus which will be introduced in particular to matters involving, interference with gas infrastructure, gasfitter work standards and new gas installation compliance during 2010-2013.

The common use by industry of the expertise within the GSS may require consideration of new fee structures for services to be paid to the Director in respect of the Director's role and powers on any matter under this Act.

A handwritten signature in black ink, appearing to read 'R Ormerod', written in a cursive style.

Roy Ormerod
DIRECTOR of GAS SAFETY