

Operations Implemented under the *Gas Act 2000*

Annual Report 2019/20



REPORT OF THE DIRECTOR OF GAS SAFETY

This is the annual report of the Director of Gas Safety pursuant to the *Gas Act 2000*. It describes the operations of the Director's office for the financial year 2019/20 as required by Section 16 of the Act.

The Director of Gas Safety is a statutory appointment established by Section 9 of the *Gas Act 2000*. Mr Peter Graham and Mr Andrew Goldsworthy held this position for the period covered in this report.

The *Gas Act 2000* requires the Director of Gas Safety to deliver to the Minister a report on the Director's operations during the previous financial year. The Minister must cause a copy of each report to be laid before both Houses of Parliament.

Director of Gas Safety:	Peter Graham
Office:	Consumer, Building and Occupational Services
Office Address:	30 Gordon Hills Road, Rosny Park 7018
Postal Address:	Director of Gas Safety PO Box 56 Rosny Park 7018
Telephone:	1300 654 499
Office hours:	9:00am to 5:00pm, Monday to Friday (except public holidays)
Website:	www.cbos.tas.gov.au
Email:	cbos.info@justice.tas.gov.au

Preface

This report covers the Director of Gas Safety's operations under the *Gas Act 2000* (the Act) as it was in force for the 2019/20 financial year.

Section 4 of the Act states that the objectives of the Act are:

- (a) to facilitate the development of a gas supply industry in Tasmania; and
- (b) to promote efficiency and competition in the gas supply industry; and
- (c) to promote the establishment and maintenance of a safe and efficient system of gas distribution and supply; and
- (d) to establish and enforce proper standards of safety, reliability and quality in the gas supply industry; and
- (e) to establish and enforce proper safety and technical standards for gas installations and appliances; and
- (f) to protect the interests of consumers of gas.

The Director of Gas Safety is appointed in accordance with Section 9 of the Act.

Section 10 of the Act states that the Director of Gas Safety has the following functions:

- (a) the monitoring and regulation of safety and technical standards in the gas supply industry;
- (b) the monitoring and regulation of safety and technical standards with respect to gas installations and gas appliances.

The Director of Gas Safety, in administering the Act, participates in a range of activities in cooperation with the gas industry and other Government agencies. This includes gas entity licensing functions and gas emergency management vested with the Regulator and Minister for Energy, Department of State Growth respectively.

The Director's actions in relation to these functions are dealt within this report.

Table of Contents

REPORT OF THE DIRECTOR OF GAS SAFETY	2
Preface	3
Office of the Director of Gas Safety.....	6
Vision.....	8
SECTION 1: Gas Distribution.....	9
1.1 Natural Gas Rollout	9
1.2 Network Incident and Accident Reporting.....	10
1.3 Distribution Network Equipment and Integrity Management.....	10
1.4 Dial Before You Dig.....	11
1.5 Isolated Gas Networks.....	11
1.6 Gas Distribution Network Life Cycle Auditing	12
Table 1: Director's Gas Network - Life Cycle Administration and Safety Program.....	12
1.7 Annual Distribution Gas Entity (TGN) Performance Report.....	13
Table 2: Gas Distributors Operational Performance 2019/20 (extracted from the TGN annual reporting data to the Director of Gas Safety 2019/20).....	13
SECTION 2: Gas Retailing	14
2.1 Gas Retailer Emergency Gas Curtailment Planning	14
SECTION 3: Gas Suppliers, Storage Systems and Conditioning	15
3.1 Liquefied Natural Gas (LNG).....	15
3.2 LP Gas (LPG)	15
3.3 Compressed Natural Gas (CNG).....	15
3.4 Biogas and Hydrogen	16
SECTION 4: Gas Installations and Appliances.....	16
4.1 Notification and Certification	17
4.2 Complex and Prescribed Standard Gas Installation Design Acceptance.....	17
4.3 Type B Gas Appliance Acceptance	18
Table 3: Tasmanian approved gas appliance external authorities.....	19
4.6 Type A Gas Appliance Acceptance - Individual Appliance Certification Schemes.....	20
4.7 Prohibition of Sale, Product Withdrawal and Recall of Gas Appliances and Components.....	20
Table 4: Tasmanian gas appliance and components prohibition of sale, product withdrawal, recall, and safety alert.....	20
4.8 Major Events	21
4.9 Carbon Monoxide.....	21
4.10 Gas Installation and Appliance Incidents.....	22

SECTION 5: Office of the Director of Gas Safety Programs/Achievements	23
5.1 Regional Delivery of Programs	25
Table 6: Summary of Achievements.....	25
5.2 Inspection Program	28
5.3 Technical Standards Development.....	29
Table 7: Technical Standards Development and Implementation 2019/20	29
5.4 Vehicle Gas Fitting and Stationary Engines.....	30
5.5 Gas Committees and Associations	30
Table 8: Participation in committees and organisations	31
5.6 Policy Development and Legislation.....	31
Table 9: Communication products.....	32
Gas safety and technical publications.....	33
Gas safety and technical publications.....	33
Expos and other public events	33
Social media (Facebook)	33
5.8 Emergency Incident Coordination	33
SECTION 6: Inter-government Industry Administration.....	33
SECTION 7: Conclusion.....	33
APPENDIX I: Glossary and Abbreviations	35

Office of the Director of Gas Safety

The Director of Gas Safety is supported by Gas Standards and Safety (GSS) within the Consumer, Building and Occupation Services (CBOS) output of the Department of Justice.

The GSS unit is managed by the Assistant Director Gas Safety, Mr Andrew Ayton, who is delegated the functions of the Director.

The CBOS output includes Building Standards and Safety, Electrical Standards and Safety, Compliance and Dispute Resolution, Consumer Affairs, and Occupational Licensing and Accreditation. This structure enables resource and knowledge sharing which results in efficiencies between technical standards and consumer protection in gas safety administration.

As described in the CBOS Strategic Plan, gas safety in Tasmania is a key focus of the public safety program. The capture of gas fitting work inspection data and a review and revision of enforcement practises allows for the implementation of tailored intervention programs. The aim of these programs is to decrease the community's exposure to harm through a reduction in gas-fitting non-conformances and resultant incidents. This is complimented by the CBOS web site and use of social media to provide convenient availability to gas safety information.

The Office of the Director of Gas Safety employs seven Authorised Officers including one Administrative Officer, with additional administrative support from CBOS administration and records staff.

Administrative and industry performance functions are centralised in Launceston, with the capability for gas industry safety and compliance programs in each region. Specialist policy functions are resourced from appliance installation and infrastructure Gas Safety Specialists in conjunction with the CBOS Policy, Projects and Communications team.

Satisfyingly, the availability of resources increased during the reporting period, providing full support for regionally based technical programs. Whilst COVID -19 impacted on the roll out of proactive field based inspection activities, core reactionary downstream installation and infrastructure inspection services, including industrial and commercial appliance (type B appliance) remained effective with no adverse effects experienced by industry or stakeholders.

The GSS unit operational structure and activities are shown in Figure I.

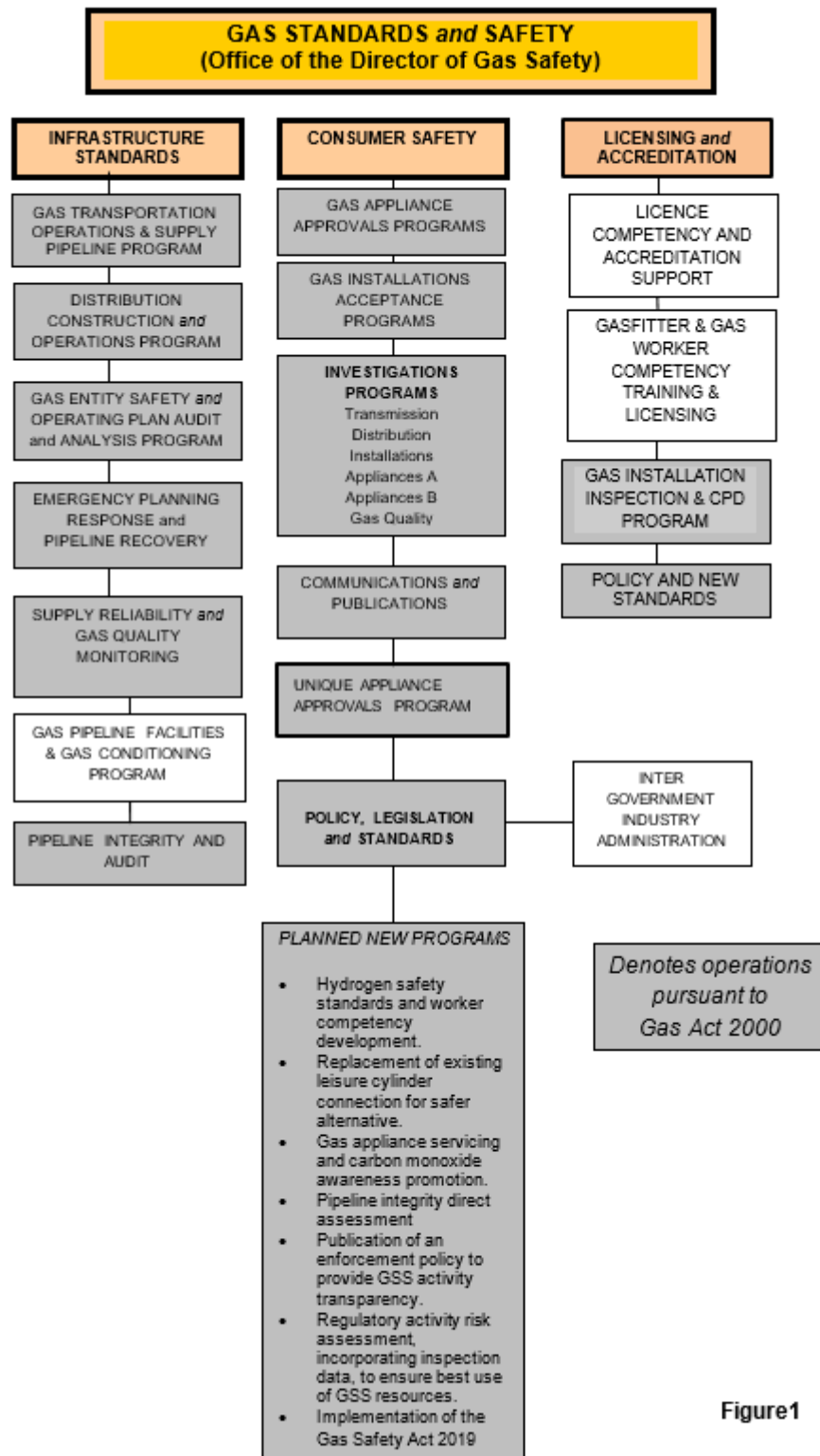


Figure1

Vision

Consistent with the guiding aim of the Department of Justice to provide ‘A safe, fair and just Tasmania’, and in accordance with the role of the Director of Gas Safety, CBOS strives to provide leadership and effective governance in respect to gas infrastructure, downstream installation safety and technical standards. This is achieved by ensuring the evolving natural gas, compressed liquefied natural gas, biogas, hydrogen and LP Gas industries achieve 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 inherent risks;
- provide advice to the gas industry to achieve best practice in gas safety;
- develop communication 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; and
- work to achieve contemporary program delivery models to enhance efficient operations.

We understand that achieving our vision means applying clear principles in the way we work with the community, businesses and partners, and the way we work together as an organisation. Therefore, we have adopted the following principles:

<i>Engagement:</i>	We listen to the community and users of our services about their service needs.
<i>Respect:</i>	We treat all users of our services, our partners and each other with respect and courtesy.
<i>Value:</i>	We deliver information that is clear and accurate and services that are prompt and efficient.
<i>Innovation:</i>	We tailor our services and use digital technology to meet the diverse circumstances of our service users.
<i>Collaboration:</i>	We work together and with partners, to continuously improve our services.

SECTION I: Gas Distribution

Gas networks continue to provide a reliable supply of natural gas to an increasing number of consumers through Natural Gas Distribution Facilities operated under licence by Tas Gas Networks (TGN). TGN changed ownership during the reporting period however there has been no apparent change to the operation of the gas supply.

Effective planning for natural gas supply and quality, and the successful response to incidents by gas entities, the Department of State Growth, major consumers and the Director's office has prevented any major widespread interruption to Tasmanian natural gas supply during the reporting period.

The Director continues to maintain regular meetings with TGN to facilitate the open exchange of information on network operational and regulatory matters. These meetings have been held quarterly and continue to be beneficial to both TGN and CBOS.

Network integrity is achieved by gas entities implementing robust safety management systems outlining systematic design, construction, operation and maintenance activities in conjunction with sound engineering principles prescribed in Australian standards.

Following a comprehensive review, the Director accepted a revised safety and operating plan from TGN, outlining overarching implementation strategies for network safety management systems. The Director's safety and operating plan approval is valid for 5 years unless a revised plan is required due to significant change to gas entity safety management systems, altered infrastructure or hazards resulting in increased levels of risk.

To ensure continued pipeline operational integrity, the implementation of the safety and operating plan also underwent an independent audit by an auditor approved by the Director. Pleasingly the independent auditor exhibited confidence in the compliance of TGN systems against the regulatory audit criteria.

Subordinate Tier 2 and 3 design and operation policy and procedures are living documents that are amended by the gas entity due to technological advancements and as risks are identified through formal safety assessments (FSA). TGN standards are consistent with existing activities and compliance requirements. Significant amendments to distribution standards were undertaken during the reporting period to align with the outcomes of a network safety management study and amended prescribed Australian standards.

The Director measures safety, reliability and structural integrity performance against these updated, independently certified and accepted, safety and operating plan and standards for the gas entity's natural gas networks.

1.1 Natural Gas Rollout

Natural gas network expansion and construction has been limited to an additional 1.6 kilometres. Natural gas network augmentation has been predominantly associated with major developments, with smaller additions to facilitate the connection of natural gas consumers when deemed commercially viable by TGN.

The Director is not aware of any intended major network extensions.

1.2 Network Incident and Accident Reporting

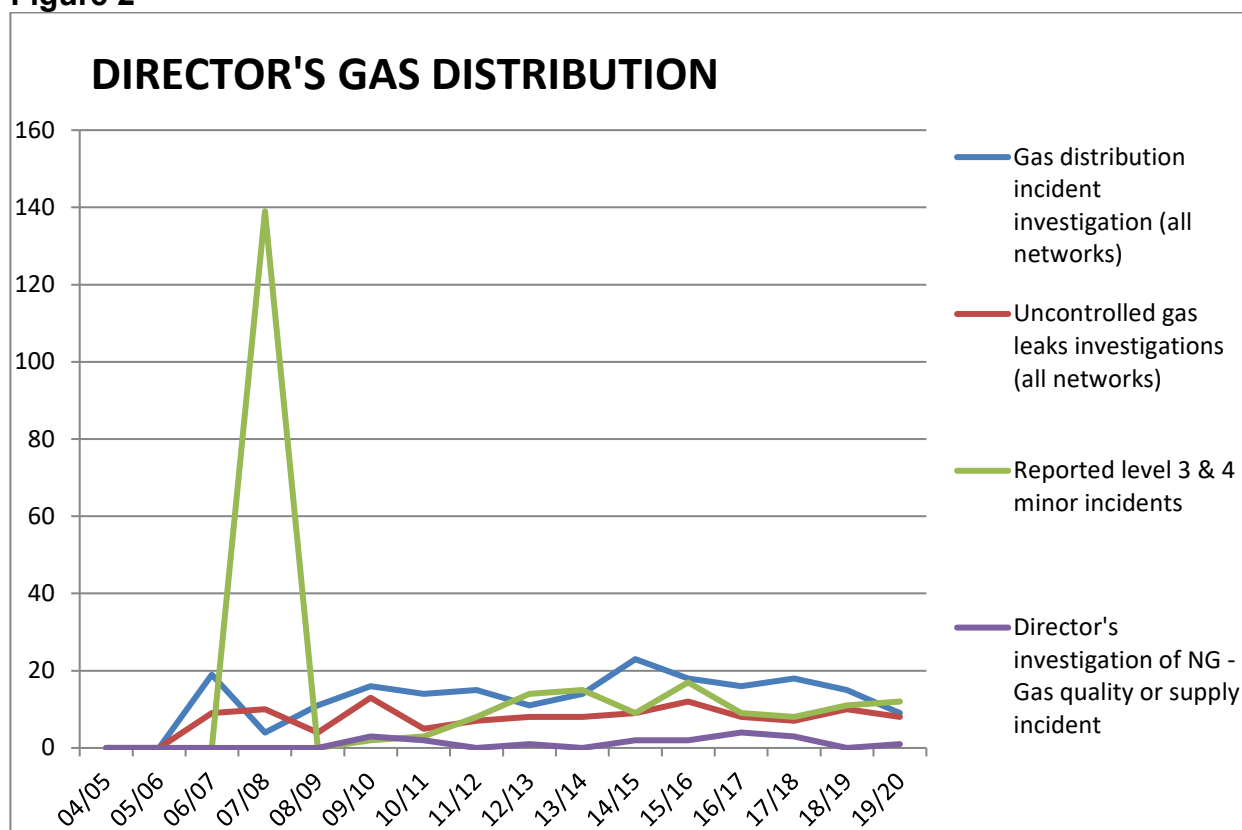
Incident and accident reporting by the distributor has been ongoing. Incident data is collated and assessed for trends to determine both the root cause and required risk controls. It is pleasing that a continued emphasis on investigating the vast majority of near miss third party activities has maintained a low rate of incidents.

Whilst data shows a slight increase in the number of incidents for the reporting period. (Refer Figure 2), the number of high risk uncontrolled releases of gas have decreased, reflecting the Director's renewed focus.

Considering ongoing proactive monitoring of near miss third party encroachments, application of lead and lag indicators and fresh analyses to determine the human factor elements causing such risk taking behaviour, the Director is confident that increasingly targeted prevention programs will continue to result in positive safety outcomes into the future. This approach has resulted in the identification of risks associated with untrained operation of dry hire machinery. This has led to the Director actively engaging with hiring companies and the provision of safety information to members of the public hiring this type of equipment.

No injuries to employees or the public have resulted from any incidents, and gas network metering and isolation design has been compliant and acceptable.

Figure 2



1.3 Distribution Network Equipment and Integrity Management

Due to limited network extensions the regulatory focus remains on assessment and validation of infrastructure integrity and operational management. Subsequent to last year's reviews, include remaining life, location class, safety management study, the gas entity undertook a series of programs involving the digging up and inspection of coating sleeves and station interconnecting pipeline coating to ensure the ongoing structural integrity of assets.

The distribution network integrity program implemented by the Director uses maintenance records, physical characteristics and operating history of the networks to predict the integrity of a given network. The Director received and reviewed cathodic protection, leakage survey, direct current voltage gradient (DCVG) reports during the reporting period.

Tasmania's population growth affects encroachment of urban development on existing pipelines. This is becoming a major issue in Tasmania and across Australia. Resulting from engagement with the Tasmanian Planning Commission and permit authorities the Director facilitated the inclusion of pipeline planning corridor layers on the LISTmap land information system and distributed targeted educational material. These actions are expected to assist permit authorities in their role in the event proposed developments are planned in close proximity to gas infrastructure, subsequently providing required gas infrastructure and public safety outcomes.

Prescribed standard AS 2885 – Gas Pipelines, requires gas entities to develop a pipeline integrity management plan (PIMP) describing systems and processes in the pipeline management system that ensure pipeline structural integrity for the design life of the pipeline and to demonstrate that appropriate systems are established, implemented and maintained. TGN amended their PIMP during the reporting period to capture indirect assessment actions required as a result of current operational constraints that do not allow the in-line inspection (unpiggable) of a number of high pressure steel pipelines.

1.4 Dial Before You Dig

The Director strongly encourages the use of the Dial Before You Dig phone and internet service by all infrastructure owners and contractors undertaking civil excavation in the proximity of gas infrastructure.

Considering recent incident data the Director's office has this reporting period actively engaged with excavation machinery dry hire businesses to assist in the distribution of education and guidance to the public who are undertaking home renovations.

The Director also met with Dial Before You Dig to examine the root cause of ongoing gas infrastructure encroachment incidents. The identification of offenders' rational, if disregarding well publicised advice, will shape future targeted regulatory and educational activity aimed at driving the use of the Dial Before You Dig system.

1.5 Isolated Gas Networks

No new isolated gas networks were constructed in 2019/20.

The Director reviewed and approved a revised safety and operating plan for the single inset network (LP Gas) at Glenara Lakes, Launceston. CBOS receives annual audits to ensure the satisfactory implementation of the approved safety and operating plan. The most recent audit report was received in the first quarter of 2020. Whilst the audit detailed the integrity of network was sufficient to provide a safe gas supply, it highlighted that broader emergency response exercises are required to test ongoing network reliability systems across diverse stakeholders. The Director of Gas Safety is actively monitoring the close out of all audit actions.

1.6 Gas Distribution Network Life Cycle Auditing

CBOS continues to implement an audit program in accordance with its gas infrastructure audit policy. The policy provides for a systematic, structured and consistent auditing approach across all gas infrastructure, gas entities and licensees. The policy also outlines audit principles and the underlying strategy adopted to ensure gas infrastructure is managed satisfactorily.

The Director's natural gas network and high-pressure distribution pipelines integrity management audits continued to be a priority during the reporting period which included adequacy of first responders' emergency response training and safety management processes for identified safety critical work.

Table 1: Director's Gas Network - Life Cycle Administration and Safety Program

Formal Safety Instrument	Administrative Program	Purpose
Gas Entity – Pipeline Integrity management plan	Initial document and implementation review	Pipeline system design, construction, operation and maintenance activities, in conjunction with the application of sound engineering principles with due regard to safety
Gas Entity Pipeline maximum operating pressure review	5 year review	Technical compliance and public safety
Steel pipeline integrity plan review	Direct current and ground variance for direct assessment	Detect and monitor deterioration of pipeline protective coating condition
	Inline inspection of pipelines	Detect and monitor internal condition of pipe and its capability to operate at MAOP
	Pipeline quality gas review	Detect out of specification product, frequency and effects analysis
	Finalisation of electrical installations in hazardous areas audit	Maintain safe electrical installations at meter stations to ensure acceptable network reliability and public safety
Gas Entity - Full Safety Assessments of gas networks	Review of infrastructure 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

Formal Safety Instrument	Administrative Program	Purpose
Gas Entity - Network design certifiers acceptance	Approval of Independent Design Certification	Technical compliance of new networks designs
Gas Entity Operations Auditing	Audit implementation of acceptance safety and operating plans	Maintenance of public safety through acceptable pipeline operations

1.7 Annual Distribution Gas Entity (TGN) Performance Report

In line with contemporary public safety strategies, nationally consistent reporting criteria provide lead safety and reliability indicators.

Lag (near miss) and lead indicators are collated and reviewed across reporting periods to determine the ongoing adequacy and effectiveness of risk mitigation actions including safety critical operations, maintenance activities, hazard identification, training, network integrity and emergency preparedness.

Table 2: Gas Distributors Operational Performance 2019/20 (extracted from the TGN annual reporting data to the Director of Gas Safety 2019/20)

Statistics	Polyethylene Mains		Steel Mains
	500 kPa	1000kpa	5.0 MPa
Length of distribution network (kilometres)	738.58	55.03	45.95
Public third party reported gas leaks	219		0
Gas escapes on mains not caused by third parties	0	0	0
Kilometres of network subjected to leak survey	197	70	46
Leaks detected during surveys	0	0	0
Emergency / Incident response			
Level 4 incidents	11		
Level 3 incidents	1		
Level 2 or 1 incidents	1		
Emergency response exercises planned	4		
Emergency response exercises completed	2		
Average time to respond to emergency notification	18 minutes		
Longest time to respond to emergency notification	50 minutes		
Dial before you dig enquiries	15,320		
Third party interference where Dial Before You Dig enquiries were performed	4		
Operational performance			
Scheduled audits	336		
Non-conformance identified	8		
Non-conformance not corrected in scheduled time	0		
Gas quality tests	3		
Gas quality excursions (including odorant)	0		
Pressure/ temperature excursions	1		

Cathodic protection system surveys conducted	2
Unsatisfactory CP system test results	0

SECTION 2: Gas Retailing

The Director approved Aurora Energy's revised safety and operating plan and another for a third natural gas retailer during the reporting period, allowing Weston Energy Pty Ltd to supply natural gas to industrial, commercial and domestic retail consumers alongside existing licenced gas entities Aurora Energy Pty Ltd and Tas Gas Retail Pty Ltd. Weston Energy reportedly operate a new and innovative business model, activities limited to purchasing gas from the mainland gas markets and arranging client's transportation.

Consumer connections to the natural gas network increased by 2% this financial year.

The Regulator licenced a fourth gas retailer during the reporting period, GloBird Energy Pty Ltd. The Director's office is working with the retailer on the development and approval of their Safety and Operating Plan detailing how they intend to manage the safety of regulated activities.

2.1 Gas Retailer Emergency Gas Curtailment Planning

Gas Entity Safety and Operating Plans are reviewed on a five yearly cycle unless major changes to operational risk values require a review sooner. As a result the Director assessed and accepted a revised Aurora Energy Pty Ltd plan. Gas entity plans continue to be aligned with industry agreed gas quality and emergency gas supply coordination provisions.

In support of these provisions the Director will shortly release a Communications Protocol for Off specification Natural Gas incidents. This communication protocol provides a collaborative framework, endorsed by stakeholders, for the management of any future off specification NG incidents.

The Director remains in the role of the Tasmanian Jurisdictional Contact Officer (JCO) under the National Gas Emergency Response Advisory Committee (NGERAC). NGERAC was convened during the reporting period to manage cross border gas supply risks associated with COVID-19. The Director was also involved in weekly national teleconference over the summer period to discuss potential gas production/storage, weather and gas fired power generation matters to establish any potential threat to Tasmanian natural gas supplies. This has required the Director to further resource the coordination and response to supply emergencies for the purpose of advising the Minister on how to respond to natural gas supply situations.

A staff availability roster is operational for after-hour response to onshore gas infrastructure and installation incidents, as well as intrastate, interstate and offshore supply or gas quality issues. This resource is invaluable to providing technical support to first responder agencies and in the recovery of essential energy to households and industry in a timely manner.

Ongoing gas supply emergency response exercises provided valuable learning opportunities with respect to communication protocols between the Department of State Growth, Australian Energy Market Operator (AEMO), NGERAC and the Director. This also offered the opportunity to consider responses and interoperability processes when managing major electricity and gas supply shortfalls.

Determination of minimum gas supply volumes required to maintain supply to essential services that are critical to the Tasmanian public were incorporated into Phase I of NGERAC's base load modelling study. This information improved understanding during the Director's involvement in weekly summer energy outlook summaries. These briefings were aimed at enhancing industry communication and response protocol, and the preparedness for emergency call out and response to incidents that occur after-hours.

SECTION 3: Gas Suppliers, Storage Systems and Conditioning

Co-operation with all gas suppliers continues to result in improved gas safety standards and compliance.

3.1 Liquefied Natural Gas (LNG)

Supply of LNG to industrial consumers is an alternate energy option for large and small consumers isolated from the NG transmission system.

The consumption of LNG as a fuel to propel ships has ensured the full utilisation of BOC's Westbury LNG gas pipeline facility. The Director has been in discussions concerning other vessel operators considering the economic energy advantages provided by LNG. Additional vessel bunkering in Tasmania will require the expansion of the current LNG production facility.

CBOS continues to audit the safe management of BOC's Westbury LNG gas pipeline facility and LNG suppliers' in consultation with the Major Hazard Facility (MHF) branch of WorkSafe Tasmania. The audit undertaken this reporting period included the review and acceptance of BOC's Emergency Response Management Plan and an extensive review of contractor management system performance including competency, permit to work, monitoring, maintenance management and safety critical instrument functional testing.

3.2 LP Gas (LPG)

LPG connections remain high in areas not serviced by NG networks.

Public safety for the LPG storage, supply, installation, and vehicle gas conversion industries, has been maintained as part of the Director's administrative role. This involves ongoing coordination and consultation between the Director, WorkSafe Tasmania and LPG suppliers.

Ongoing engagement with LP gas suppliers has increased LPG supply location compliance and safety. The subsequent review of delivery driver training, compliance checklists, and non-conformance reporting continues to drive considerable consumer requests for gas installation safety and compliance assessments.

Incident causation data compelled the investigation into the replacement of the current POL connection used to connect gas cylinders and portable appliances. The Director and the Gas Technical Regulator Committee (GTRC), through consultation with industry, expects the roll out of a safer Type 27 valve in the leisure gas portion of the industry to commence by mid 2021. It is expected that the replacement valve will provide measurable public safety value as a result of incorporated leakage prevention features.

3.3 Compressed Natural Gas (CNG)

The CNG conditioning and storage process is managed under the Director's gas safety management plan and gas storage approvals system.

The Self Point CNG facility owned and operated by natural gas distributor TGN remains the solitary CNG dispenser in Tasmania. Further expansion of this fuel's availability to industrial and commercial fleets has not yet eventuated.

Dependent on the success and viability of current Victorian gas infrastructure developments using CNG storage as a means of gas supply to isolated natural gas distribution networks, the Director continues to anticipate the development of similar systems to supply isolated industrial and commercial precincts.

3.4 Biogas and Hydrogen

The search for alternative energy is driving new projects to offset energy costs and meet environmental expectations.

Accordingly, the Director has participated in the advancement of National and State policies and strategies for the development of a hydrogen economy. Excitingly, this has resulted in CBOS meeting with potential hydrogen development proponents intending to utilise hydrogen as a transport fuel and injection into existing natural gas networks.

This new program has required substantial resources and is not without its challenges, associated with the safety risks of hydrogen storage, transport and utilisation, and the need to develop appropriate safety standards without unduly restricting hydrogen application. To ensure Tasmania is at the forefront of such standardisation development the Director is a contributing member of the Hydrogen Technologies Australian Standards Committee and contributes to the development of a Tasmanian industry through the Department of State Growth.

In parallel with hydrogen, biogas is attracting increased interest. The expectation is that Biogas (dairies, rural husbandry), municipal and industrial waste gas capture and combustion for energy generation will increase due to the increased frequency of enquires received by the Director's Office. This includes the development of biogas generation and utilisation systems at two dairy companies in North West Tasmania and TasWater's continual upgrade and use of biogas resources at waste water sites.

Due to the specialist knowledge required for the ongoing safety and technical management of these evolving industry sectors the Director expects to review the current resourcing structure during the 2020/21 reporting period. This will ensure the outputs existing competencies are utilised to provide a contemporary regulatory environment that meets stakeholder and imminent alternative gas project expectations.

SECTION 4: Gas Installations and Appliances

The installation of new gas installations and gas appliance continues to maintain a high demand for the Director's safety and technical compliance programs.

Applications for new and alterations/additions to existing Type B gas appliance and complex gas installation acceptances have marginally increased this year. The regulatory focus for these higher risk installations is by nature resource intensive due to the need to undertake desktop design reviews and an increased onsite compliance focus.

The ability to undertake standard gas installation site inspections was reduced during the reporting period due to COVID-19 and resources. Standard gas installation inspections remain a priority for the Director and the slowdown in activity has allowed the enhancement of this

program's productivity in line with industry and public expectations. Notwithstanding these constraints this program achieved 260 standard gas installation compliance inspections, 7% of all notified standard gas installation gas fitting work, resulting in substantial reduction in public risk.

4.1 Notification and Certification

The *Gas Act 2000* installation, notification and certification procedures used by gasfitters to certify installation compliance continue to operate effectively.

The Director is undertaking development of further improvements in the installation, notification and connections process by the development of electronic lodgement of applications for acceptance and certificates of compliance. This is a response to industry calls to streamline and upgrade current paper based processes. It is envisaged over time that the system will allow for the management of enforcement actions, integration of occupational licensing and other current data to drive educated risk based compliance programs and scheduling for gas installation safety inspections.

Collaboration between TGN and the Director has identified a minor number of gasfitters who continue to not notify that they have undertaken prescribed work. Given the importance of information provided in gas fitter notifications for the targeted remediation of unsafe gas appliances, a targeted education program is being implemented. Building on this education, the Director anticipates a further review gas fitters notifications later in 2020 and intends to implement further regulatory actions aimed at promoting compliance.

4.2 Complex and Prescribed Standard Gas Installation Design Acceptance

An increase in complex gas installation submissions resulted in CBOS completing the design assessment of 221 complex gas installations, primarily at commercial sites. This prescribed function is essentially reactive to industry demand and linked to consumer gas uptake.

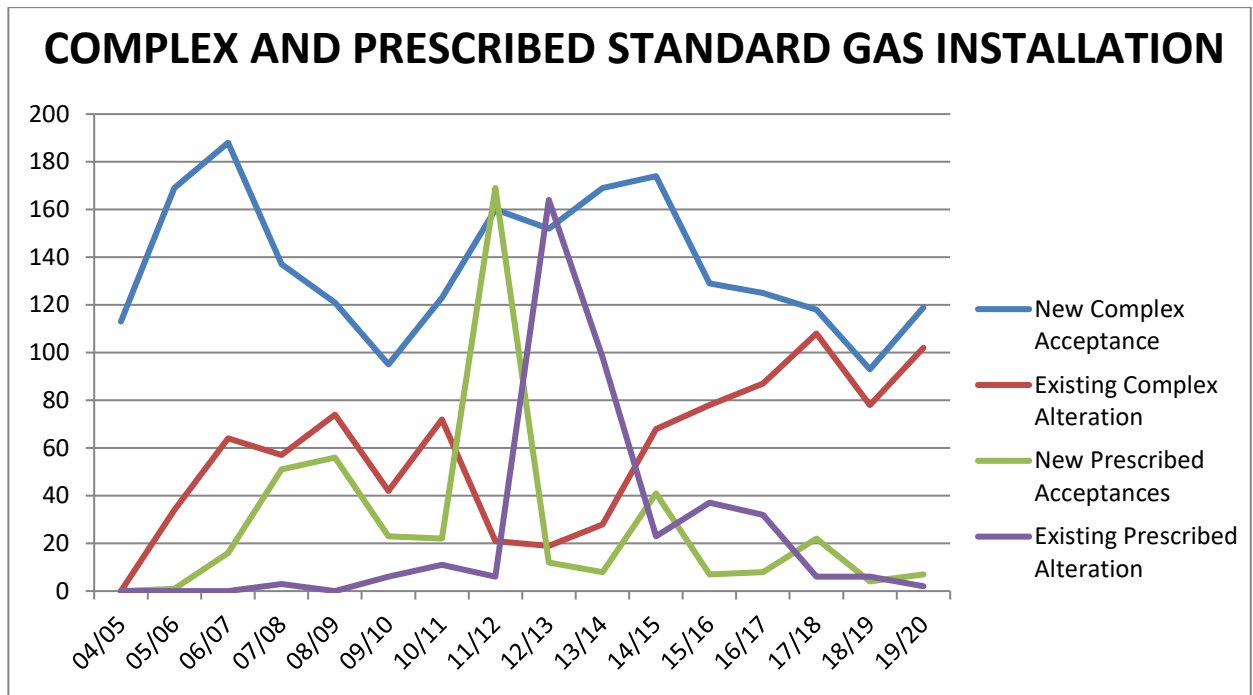
The ongoing number of alterations and additions to existing gas installations illustrates that those that have previously shifted to gas as a source of energy have experienced benefits and are looking to further increase costs and business efficiencies.

The Director of Gas Safety remains focused on safety and technical design for multi-residential prescribed standard gas installations. This includes gas distributor's gas metering system location and installation standards, and maintenance and operation of consumer installations with the principal owner of the prescribed installations, Housing Tasmania.

The Director accepted 9 applications for prescribed standard gas installation connections. This continues the downward trend of total prescribed standard gas installation applications for acceptance received by the Director's office.

A significant resource was allocated to major gas installations including the recently commissioned Biomar fish meal factory at Westley Vale, Royal Hobart Hospital, UTAS student accommodation and the Crown Plaza Hotel. Due to the size, location and associated risks the Director received and reviewed safety management systems developed for the ongoing integrity and safety of these gas installations.

Figure 3



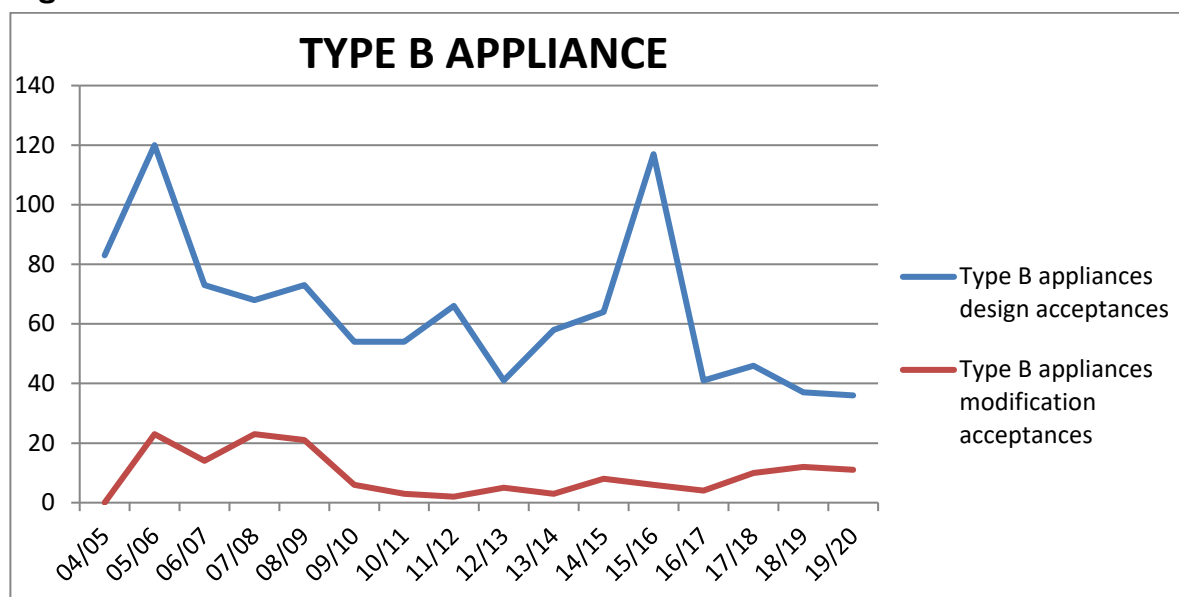
4.3 Type B Gas Appliance Acceptance

The Director's office completed acceptances for 47 Type B gas industrial appliance designs. Significant projects continue to impact on the demand for the services of the Director's office and staff expertise including acceptance and integrity management of the Biomar fish feed dryer and Royal Hobart Hospital.

The expansion of appliance control functions and their use in the gas industry to provide energy efficiencies has increased the complexity of Type B appliances and demanded extended application review and acceptance time frames.

The Director through investigations into appliance failures due to maintenance, modification to PLC programs and operators training failures has allowed the identification and implementation of safety integrity programs on installed equipment.

Figure 4



4.5 Type A Gas Appliance Class Certifying External Authorities

Six external authorities are approved by the Director to certify that Type A gas appliances and components are compliant with safety standards before being made available for sale in Tasmania.

Energy Safety Victoria (ESV) audited the certifying bodies for the purpose of testing performance against appliance conformance standards. Performance reporting is supplied to each state and the Director accepts the interstate regulator's audit results.

Recognised external authorities activities are measured against nationally consistent gas appliance certification rules published by the GTRC. These rules provide for greater consumer protection owing to harmonised requirements across Australian and New Zealand jurisdictions and consistency of information to external authorities and other stakeholders.

Following a cost benefit analysis that advocated 2 yearly safety critical testing of high risks gas appliances, a further external study has considered how high risk gas appliances should be identified and options for administration of such appliances on and off the high risk appliance list. This report supported the current hazard based model where risks associated with appliance use and national incident data are considered. The results of this report are currently being discussed with appropriate stakeholders and any resultant actions are expected to be implemented within the scheme rules in the first half of 2021.

Table 3: Tasmanian approved gas appliance external authorities

Organisation	Address
Australian Gas Association	66 Malcolm Road, Braeside, VIC 3195
BSI Group Australia	Suite 5.02, 484 St Kilda Road Melbourne VIC 3004
Global Mark Pty Ltd	Suite 4.07, 32 Delhi Road, North Ryde, NSW 2113
IAMPO R&T Oceana 'Gas Mark'	1040 Dandenong Road, Carnegie, VIC 3163
SAI Global	286 Sussex Street, Sydney, NSW 2000
Vipac Engineers & Scientists Ltd	279 Normanby Road, Port Melbourne VIC 3207 Australia

4.6 Type A Gas Appliance Acceptance - Individual Appliance Certification Schemes

The Director continues to maintain a policy that single gas appliances imported into Tasmania may undergo individual site safety certification and acceptance. This scheme allows unique new non-certified individual appliances to undergo inspection for safety certification against relevant technical standards determined by the Director. Appliance testing undertaken under the individual appliance scheme is less rigorous than laboratory assessment offered by main stream type testing schemes. Subsequently the scheme must be utilised for genuinely unique gas appliances as opposed to financial gain from importing gas appliances.

No Tasmanian specific certification scheme approval occurred during 2019/20.

Notwithstanding this, the availability of overseas gas appliances through the internet is expected to maintain a demand for individual certification.

Individual appliance mutual recognition arrangements with interstate gas regulators are in place providing national consistency, system efficiencies and consumer choice. Legislation enables importation into Tasmania of unique appliances previously approved by other interstate regulators.

4.7 Prohibition of Sale, Product Withdrawal and Recall of Gas Appliances and Components

The Director has responsibilities pursuant to Section 79 A-C for the prohibition of supply of unsafe gas appliances. Due to proactive voluntary recalls and appliance remediation actions taken by gas appliance manufacturers and importers there were no prohibitions issued on the sale of unsafe and non-compliant gas appliances during 2019/2020.

Modern building construction requirements including reduced ventilation, and particularly where there is a negative pressure environment caused by operating kitchen range hoods or bathroom exhaust fans (or both), has caused concerns nationally with respect to open-flued gas heaters. The combination of a negative pressure environment and new building standards significantly increases the risk of fatality or serious injury from carbon monoxide poisoning. The Director is awaiting the results of a Regulatory Impact Statement currently being undertaken on behalf of the Victorian Government, following deaths in that state, before developing Tasmanian specific regulatory programs to further reduce risks associated with these appliances. It must be noted that the Director is not aware of any similar incidents in Tasmania.

The Director's office is actively assisting and supervising gas appliance recalls and safety alerts detailed in Table 4, including subsequent remedial programs instigated during the reporting period.

Table 4: Tasmanian gas appliance and components prohibition of sale, product withdrawal, recall, and safety alert

Appliance	Action	Reason for Action
Pacific Gas & Heating Pty Ltd — Chant Gas Hose Assembly model A003 as attached to Jumbuck Stardom 4 Burner BBQ	Voluntary national recall, Connections magazine article and social media	The last thread of the hand wheel on the hose assembly may not be completely machined. A hose assembly with this fault will not seal correctly with an LPG cylinder and gas may leak from the connection point. Risk of leaking gas at the connection with an LPG cylinder could lead to burns and/or a fire and/or explosion, which may result in serious injury.

Coast RV Pty Ltd — Suburban Recreational Vehicle Water Heater	Voluntary national recall, Connections magazine article, direct mail out to identified caravan retailers and repairers.	If the unit is powered by gas and is operated in an enclosed area – such as caravan or motorhome - carbon monoxide may spill into the vehicle and poisoning could occur resulting in serious illness, injury or death.
Rinnai Australia Pty Ltd — Rinnai Energy Saver Power Flued Space Heaters	Safety Alert directly emailed to all gas fitters licenced in Tasmania.	If the heater is installed contrary to Rinnai installation instructions, the incorrect installation method may result in products of combustion potentially emanating into the space being heated, rather than vented to the outside atmosphere. This situation may present a Carbon Monoxide (CO) risk to occupants, especially if room vents are sealed.

4.8 Major Events

Significant resources continue to be deployed to ensure public safety at significant Tasmanian events such as The Taste of Tasmania, Dark Mofo, Taste the Harvest and Festivale. CBOS inspectors continued to expand this successful regulatory and safety focus to include smaller boutique events in regional areas during the reporting period.

Whilst gas installation compliance is a primary emphasis, CBOS also works with event organisers to develop and implement gas safety management plans for the safe use of gas appliances and emergency response in the event of a gas related incident. This has included, in consultation with all relevant stakeholders, a comprehensive review of a plan aimed at managing public and gas consuming vendor safety at Salamanca Market. CBOS will continue to monitor the implementation of this agreed plan once the Market is reopened following the lifting of COVID-19 restrictions.

4.9 Carbon Monoxide

A carbon monoxide awareness program continues to be a priority of the Director and the program is consistent with the national strategy for exposure to carbon monoxide.

A significant safety focus has resulted from recent fatal incidents in Victoria from exposure to carbon monoxide emitted from an open flued gas heater. Subsequently, the Director remains actively engaged with other national gas technical regulators, certification assessment bodies, suppliers, gasfitters and the manufacturers of open flued gas heaters to ensure the ongoing safety of the Tasmanian public.

This has resulted in considerable education activities targeting gas fitters on the safety testing of open flued gas heaters they install and service. Education has been delivered through state wide training sessions in partnership with Master Plumbers Association Tasmania and implementation of minimum heater service compliance standards. The Director expects to deliver further on-line gas appliance servicing forums for gas fitters in the latter half of 2020.

More broadly, public focused open flued heater safety educational programs have included warnings on the installation of air extraction systems and the safety benefits of regularly servicing appliances.

The Director is closely monitoring the findings of a Regulatory Impact Statement (RIS) currently being drafted for the Victorian Government into the potential phase out options for open flued gas space heaters. The RIS is expected to also explore potential complementary measures that could be implemented in addition to a chosen core option to reduce the risk

posed by existing open flued gas space heater installations. Notwithstanding ongoing Tasmanian policy, following the release of recommendations contained in the RIS, any phase out of appliances in Victoria is expected to influence the availability of these heaters due to the significant size of the Victorian gas appliance market.

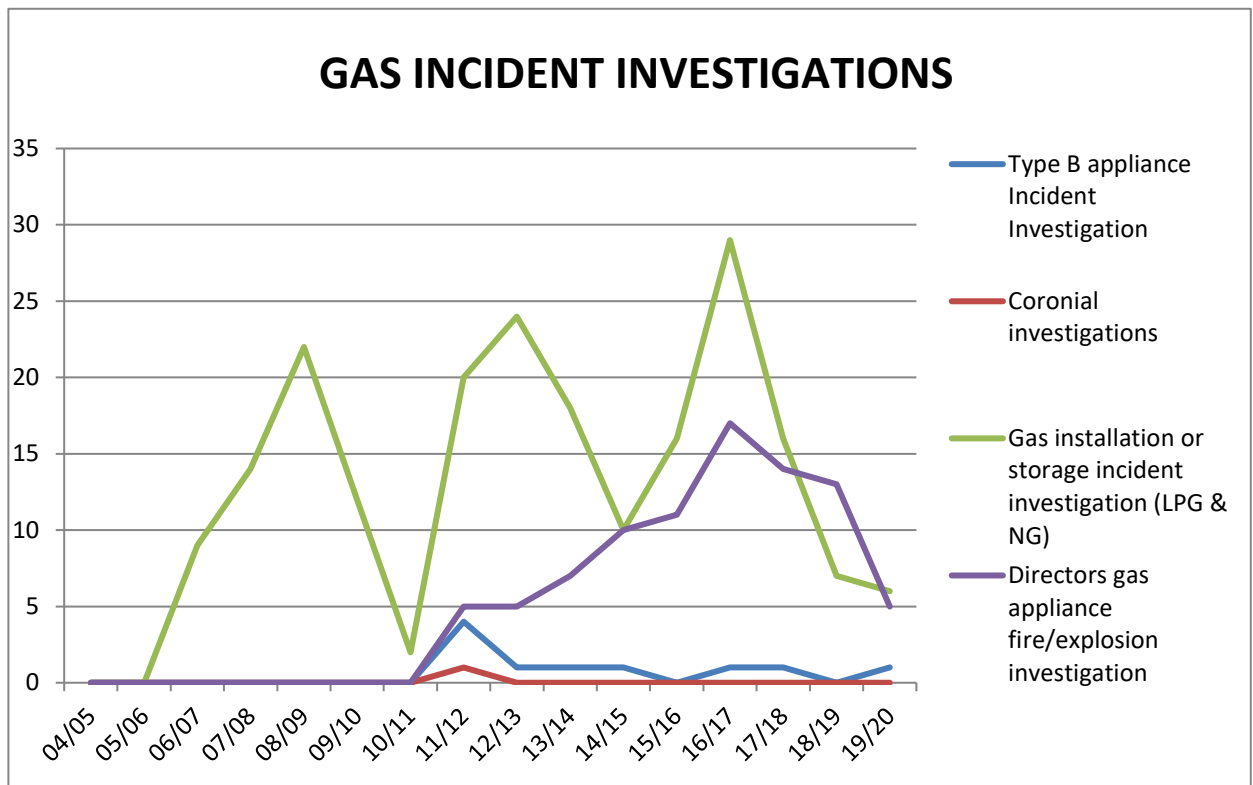
4.10 Gas Installation and Appliance Incidents

CBOS responded to 12 gas storage, installation and appliance incidents in this reporting period. This is a decrease for a third year (refer figure 5), providing confidence in the Director's risk based targeted intervention programs.

LP Gas storage and appliance incidents remain the predominant cause of incidents, resulting in nine investigations. In contrast with natural gas installations, that only accounted for three. These Tasmanian statistics are consistent with national trends showing a disproportionate number of incidents involving LP Gas storage and appliances compared to other forms of gas installations. This has compelled national gas safety regulators to investigate the replacement of the current POL connection between gas cylinders and appliances. Following considerable industry and stakeholder engagement the roll out the safer leisure cylinder connection (Type 27 valve) is expected to commence mid-2021.

The continued collection and maintenance of reliable local and national incident data allows the Director to identify trends in incident root cause. This provides the Director's office with the evidence to deliver appropriate targeted program strategies in respect to leisure type gas appliances, open flued heaters and carbon monoxide safety including management of Australian Standards development, and public and gas fitter educational programs.

Figure 5



SECTION 5: Office of the Director of Gas Safety Programs/Achievements

The Director has accomplished all reactive programs and is nearing completion of the Gas Safety Legislation restructure including the development of valuable and accountable regulatory models to meet public safety expectations.

The following programs are mandated under the *Gas Act 2000* and the *Gas Pipeline Act 2000*.

Table 5: Operation and maintenance of administrative systems primary outputs

Industry Segment	Business Management System	Output	Reason
Management	Annual report output and statistical collation	Annual report on activities of the Director	Legislative requirement Gas Act 2000
	Time allocation data collation for gas entity activity	Time records	Recovery of reasonable cost pursuant to Gas Act 2000
	Communicate with national gas regulators	Maintenance of technical and evolving standards	Safe gas installations and appliances
	Policy development	Monitoring, review and improvement of legislation and prescribed standards	Maintain contemporary regulation in an ever evolving industry
Business administration and appliance programs	Business document control	Administer the document and publications register	Maintenance of document and publications standards
	Web development and management	Review and update the gas website	Quality control of public documents
	Communications management system	Internal delivery of relevant and timely publications	Identify safety, training and educational needs and stakeholder expectations
	Gas appliance (Type A) safety management	Identify and implement unsafe gas appliance notifications	Consumer safety
	Gas appliance approval (Type A) program	Conduct safety approval procedures for appliances and establish national alliances	Consumer safety
	Gas External Authority approval	Ensure competent organisations are approved to examine gas appliance safety	Consumer safety

	Accident and incident investigation program	Respond to accidents and incidents on gas transmission, distribution and installations that pose a risk to supply and public safety.	Community safety Gas emergency response
	Undertake commercial sensitivity assessment of gas infrastructure information records	Deliver timely Freedom of Information requests	Preserve information confidentiality
	Gas safety management plan (GSMP) acceptances	Ensure adequate GSMP for large or high risk installations	Safety and reliability of installations
Gasfitter administration	Gasfitter installations notification database	Gasfitter certification data	Verify gasfitter certifications of gas installations
	Gas installations Acceptance program	Deliver 3 regional installation technical compliance programs	Consumer safety
	Gas appliance design and installation acceptance (Type B)	Deliver 3 regional Type B appliance technical compliance programs	Consumer safety
	Gasfitter education and management of CPD opportunities	Deliver targeted training and accept external CPD training	Legislative requirement <i>Occupational Licensing Act 2005</i> , Consumer Safety
	Gasfitter Licence applications	Verify and endorse gasfitter licence applications	Legislative requirement <i>Occupational Licensing Act 2005</i> , Consumer Safety
Gas Distribution	Gas Entity network approval program	Review proposed network submissions	Ensure construction standards compliance
	Gas Entity network integrity monitoring	Review of safety and operating plans	Ensure acceptable levels of public risk and supply integrity
	Installation disconnections and reconnection procedures.	Deliver timely disconnection orders	Control unsafe or non-compliant gas installations
Gas Storage and Conditioning	Gas Storage Systems	Design acceptance and supplier / stakeholder management project	Target supplier compliance in existing and new gas storage products
	Gas Storage Systems safety management and	Approval of GSMP	Consumer and public safety enhancement

	emergency response planning		
--	-----------------------------	--	--

5.1 Regional Delivery of Programs

The Director continually improves programs to meet the expectations and safety outcomes of industry and the public in line with the CBOS Strategic Plan. Programs that have substantially reduced regulatory and public risk include; the enhanced proactive standard gas installation inspection program, increased enforcement activity, targeted portable amenity unit safety program and increased use of compliance data to target and align regulatory activities with demonstrated risks. To ensure transparency in the delivery of these programs the Director expects to publish in the late 2020 a dedicated gas industry enforcement policy as part of the CBOS compliance and enforcement strategy.

The Director expects that the replacement of the current, largely manual, based administration system with a contemporary software based safety compliance, inspection and audit management system will facilitate efficiencies for both CBOS and industry, and enhance compliance activities.

Table 6: Summary of Achievements

Activity	Function	Safety Outcome
Gas Distribution and Storage		
Audit implementation of risk reduction measures and infrastructure management plans	Ongoing pipeline integrity and public safety	Reduce levels of public risk and enhance reliability
Review network formal safety assessments and safety management systems	Ensure ongoing contemporary, safe and compliant system design	Maintain infrastructure safety and control public risk
Contribute to the development of appropriate safety standards	Contributing members of Australian standards committees for gas networks, and gas storage	Protection of public through contemporary compliance standards
Tasmanian gas supply emergency management	Tasmanian Jurisdictional Contact Officers under national (NGERAC) planning frameworks. Stakeholder engagement and development of stakeholder obligations	Enhance Tasmanian natural gas supply emergency planning
Investigated uncontrolled gas release incidents on gas infrastructure including successful prosecution for excavating in the vicinity of gas infrastructure without permission	Identify causation of incidents, review operational standards and instigate regulatory actions	Prevent recurrence of uncontrolled gas incidents, and ensure acceptable levels of public risk

Activity	Function	Safety Outcome
Reviewed network reliability, integrity, operational management, public safety and condition survey	Ensure compliance, adequacy, currency, accuracy and reliability of operational records	Maintain supply safety and control public risk
Reviewed development of gas entity operations pipeline integrity management plans	Ensure compliance and adequate management of gas infrastructure through documented policies and procedures	Maintain supply safety and control public risk
Compliance audit program for LNG gas pipeline facilities	Ensure compliance of emergency response and planning	Maintain infrastructure safety and control public risk
Gasfitter Licensing and Gas Worker Accreditation		
Collaboration with stakeholders to identify required training and skills development for CPD	Ensure that comprehensive standards for training	Ensure that competent persons undertake all forms of gas fitting work
Developed and delivered targeted training to wider gas fitting industry	Maintain gas fitter competency around topical technical issues	Ensure gas installation compliance and standards providing adequate level of consumer safety
Investigated non-compliant gas installation work standards and resultant safety issues	Issue gasfitter defects, infringement, consumer disconnect and rectification notices	Ensure gas installation safety standards for consumers
Provided advice and conducted investigations	Ensure compliant gas fitting and licensing standards	Ensure safe gas fitting and licensing standards
Gas Appliances and Installations		
Contribute to the development of appropriate safety standards	Contributing members of Australian standards committees for gas installations and type B appliances	Protection of public through contemporary compliance standards
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
Collaborated with national gas technical regulators on gas appliance safety concerns and initiate actions in respect to appliance certification bodies, suppliers and consumers	Minimise the likelihood of death or injury from exposure to unsafe gas appliances	Protection of consumers

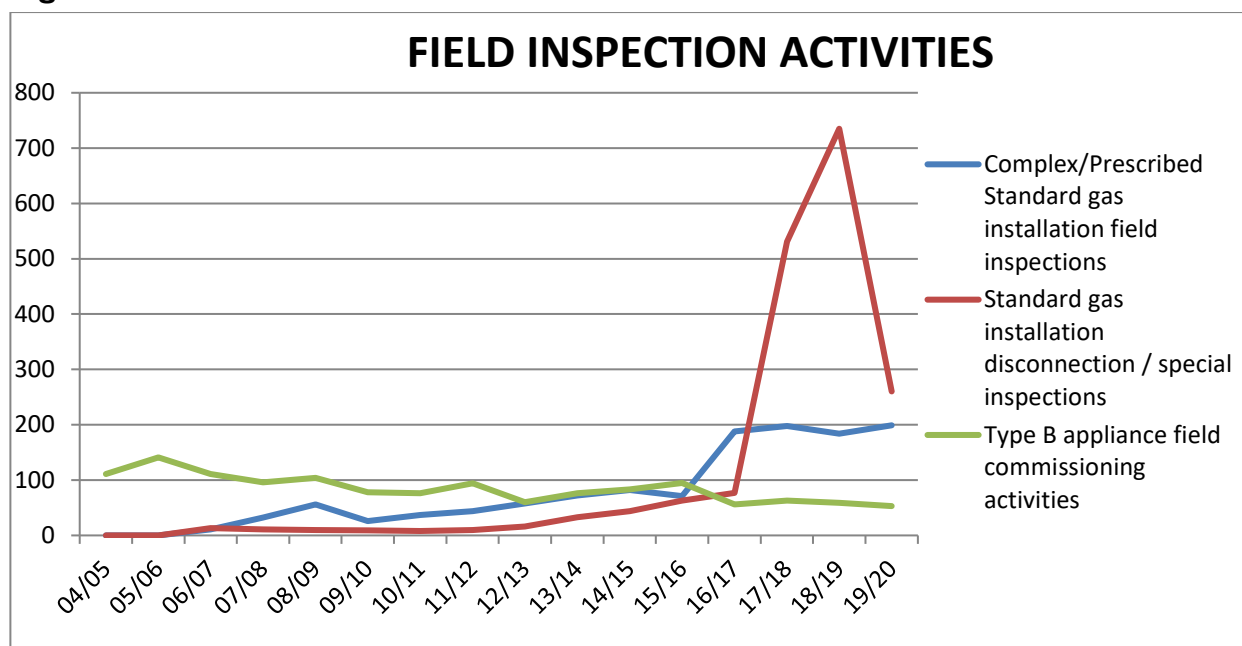
Activity	Function	Safety Outcome
Implemented open flued heater and carbon monoxide education program	Minimise the likelihood of death or injury from exposure to carbon monoxide	Prevent reoccurrence and provide education
Continued to research, review and adopt relevant technical standards and codes for gas appliances	Develop, in conjunction with GTRC, appliance certification scheme rules	Ensure a consistent and robust national appliance certification scheme that effectively delivers safety outcomes for ever increasing imported products
Continued to develop and implement gas safety management planning for LNG, CNG, Bio Gas Storage	Ensure gas storage systems installations achieve acceptable levels of risk control and emergency preparedness	Manage consequences and inherent risks
Gas Technical Standards and Working Groups		
Tasmanian gas supply emergency management including development of network gas quality excursion protocols	Tasmanian Jurisdictional Contact Officers under national (NGERAC) planning frameworks. Stakeholder engagement and development of stakeholder obligations	Tasmanian gas supply emergency management including development of network gas quality excursion protocols
Participated in development of Australian safety standards	Ensure evolving gas appliance, installation, infrastructure and non-conventional gas developments achieve acceptable levels of risk control	Set contemporary design, installation, commissioning and operational specifications
Stakeholder Relations		
Facilitated stakeholder meetings for the management of buried infrastructure	Development of safe work procedures for work adjacent to buried infrastructure	Ensure worker safety, recording and quality of location information
Continued to facilitate gas entity meetings for the management of safe gas infrastructure	Maintain adequacy of management communications	Ensure safety and reliability of Tasmanian NG supplies
Contributed 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
Communications and Education Management		
Provided industry specific training presentations including regional forums and open flued heater adverse flow training	Provide targeted guidance in respect to ground works adjacent to buried gas infrastructure, and gas fitting work standards	Manage public risk by ensuring relevant industry stakeholders are aware of their obligations and safety expectations

Activity	Function	Safety Outcome
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 content for Connections trade and consumer magazines, and social media	Improve stakeholder and end user education on gas safety	Enhance gas education policy and expand audience
Issued Guidance Notes following investigations	Provide stakeholder advice	Enhance safety of civil and gas workers
Business Administration		
Administered, reviewed and identified opportunity for business management improvement	Continue development of risk based business unit models	Efficiently administer all business processes
Review of document standards for web viewing	Improve industry efficiencies	Enhance timely delivery of services
Continued targeted recruitment	Ensure adequacy of regional safety and technical coverage thus improving output in line with industry and community expectations	Ensure acceptable staff workloads and enhance timely delivery of services
Policy Development		
Review of Act and Regulations	Ensure adequate and improved regulatory requirements to facilitate safe outcomes in an evolving industry	Provide consistent and contemporary gas safety framework

5.2 Inspection Program

Demand for complex, prescribed standard gas installation and type B appliance inspections remained stable this reporting year. To ensure appropriate management of resources, the Director's office examines the inherent risk of individual installations and appliances to enhance field-based inspection programs. This resulted in a general increase in onsite inspections of installation safety and compliances as opposed to desktop design assessments (refer figure 6)

CBOS intends to intensify its proactive regional standard gas installation inspection schedule following program limitations resulting from COVID-19. Targeted recruitment has also ensured a dedicated state wide role for the management of standard gas installations, substantially reducing the regulatory and public risk posed by historical constraints.

Figure 6

5.3 Technical Standards Development

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

CBOS routinely provides technical comment and feedback to Australian Standards committees in respect to published amendments and drafts (refer Table 7).

The Director is also represented on Australian Standards committees ME-093 *Hydrogen Technologies*, AS 5601 *Gas installation* (AG-006), AS 3814 *Industrial gas appliances* (AG-001-00-05), AS 1596 *The storage and handling of LP Gas* (ME-15) and AS/NZS 4645 *Gas distribution networks* (AG-008).

Considerable resources have been required for the provision of input into the core standards used by gas fitters for general gas fitting work including caravans/boats, and the evolving hydrogen industry standards as they are developed to manage the safety of hydrogen production, utilisation, storage and handling, transportation/distribution and end-use utilisation.

Table 7: Technical Standards Development and Implementation 2019/20

Standard	Title	Revisions
AS 2885.2	Pipelines – Gas and liquid petroleum, Part 2 Welding	Removed requirement for oversizing where strength matching between run pipe and filler metal does not occur in circumferential welds, limit qualification of pipeline assembly welding for grades below X65 and new defect assessment table.
AS 2885.3	Pipelines - Gas and liquid petroleum, Part 3: Operation and maintenance	Emphasis on sound integrity management planning processes rather than specific planning documentation, periodic fit for purpose assessment, improved instruction regarding external interference management, anomaly management and operational changes,

		management systems designed to meet safety case legislation and cracking susceptibility review requirements.
AS/NZS 2885.5	Pipelines — Gas and liquid petroleum, Part 5: Field pressure testing	Alignment with AS/NZS 2885.1, revision of definitions, amplification of strength test, amendment of the reporting requirements, revision of safety in pressure testing including the method of determining exclusion zones and clarification of the requirements for measuring instruments
AS 4564	General-purpose natural gas	Clarification and simplification to reduce misinterpretation and misapplication, and inclusion of requirements for odorisation.
AS 5263	Gas appliances	Amendments aimed at providing additional gas appliance safety and performance assurances for manufacturers, designers, regulatory authorities, testing laboratories and similar organisations including a new part covering small gas engines.
AS 5601.2	Gas installations, Part 2: LP Gas installations in caravans and boats for non-propulsive purposes	Prohibition of in situ fill cylinders on caravans, introduction of requirement for orientation of cylinders on caravan drawbars to allow for unobstructed relief of cylinder pressure, introduction of the requirement for shut-off solenoid valves to be “encapsulated” in LP Gas cylinder compartments, introduction of requirement of carbon monoxide detectors in boats to conform with referenced internationally recognized standards,
Multiple		Amendments to facilitate the implementation and roll out of safer QCC LP gas cylinder connection valve in the leisure gas portion of the industry

5.4 Vehicle Gas Fitting and Stationary Engines

While the vehicle gasfitter competency training package for LNG, CNG and LP gas vehicles delivered by TasTAFE and the occupational licensing scheme administered by CBOS are operating effectively, the commercial uptake of gas as an automotive fuel continues to be slow.

On the other hand, the Director continues to accept type B applications for stationary reciprocating and rotating engines for the generation of electricity, both as an emergency backup and primary generation. With the imminent publication of a dedicated Australian compliance standard for reciprocating engines consuming less than 1000 megajoules per hour (MJ/h), and the subsequent simplification of appliance approval processes, it is expected this trend will filter into the domestic and recreational areas.

No new work was undertaken by the Director’s office in respect to the technical compliance for the vehicle gas fitting industry including automotive gas fitting work notifications. Further development in this area will commence on the implementation of the *Gas Safety Act 2019*.

5.5 Gas Committees and Associations

The Director remained actively involved as a member of the GTRC. Membership of this national committee provides Tasmania with current gas appliance and gas technical and safety information exchange, including products withdrawn from market, illegal sales of equipment,

and audit results by interstate regulators on appliance certifying bodies. GTRC member communications frequently result in product warnings to the Tasmanian public, gasfitter communications and appliance safety investigations.

The Director participated in an inaugural National Upstream Gas Infrastructure Forum in December 2019. This forum was designed to be similar to the GTRC, membership from Australian and New Zealand jurisdictional gas technical regulators, however with an emphasis on upstream gas infrastructure. This forum provided a significant opportunity for regulators to discuss and share issues, initiatives and data pertaining to gas infrastructure assets and safety. As a result it was agreed by all participants to continue meeting on a 6 monthly basis.

In addition to reactive state based gas supply coordination role, the Director is also the Tasmanian Jurisdictional Contact Officer (JCO) for the purposes of the National Gas Emergency Response Advisory Committee (NGERAC). This permitted the Director's office participated in a valuable national energy curtailment cyber related emergency exercise that highlighted energy interrelationships due to gas fired electricity generation.

Table 8: Participation in committees and organisations

Committee	Member organisations	Committee purpose
Gas Technical Regulators Committee (GTRC)	All Australian States and New Zealand gas technical regulators	Harmonisation of national gas safety standards. Industry communications. Acceptance of external authority performance audit.
National Gas Emergency Response Advisory Committee (NGERAC)	Federal jurisdictions, Gas infrastructure owners, CBOS, Department of State Growth	Facilitate efficient and effective communication across industry and government during major national natural gas supply shortages.
Australian Standards Committees	Numerous	Provide Tasmanian input into evolving issues and continual improvement of technical standards for public and infrastructure protection.
National Upstream Gas Infrastructure Forum	All Australian States and New Zealand gas technical regulators	Harmonisation, discuss and share issues, initiatives and data pertaining to gas infrastructure assets.
Tasmanian Gas Fitter Competency Standards Committee	CBOS, Master Plumbers Association Tasmania, TasTAFE and occupational Licensing	Ensure adequate and appropriate learning outcomes for gas fitters.

5.6 Policy Development and Legislation

A major review of both the *Gas Pipelines Act 2000* and the *Gas Act 2000* has occurred. The purpose of the review being to separate the economic and entity licensing functions administered by the Department of State Growth from the technical safety functions administered by the Director of Gas Safety and Department of Justice. These functions are currently combined in both sets of legislation and in many cases are not clear.

The Gas Safety Bill and Gas Supply Industry Bill passed both houses of Parliament and received Royal Assent on 9 April 2019. Proclamation and subsequent implementation of these Acts of Parliament and Statutory Rules is expected to occur in the latter half of 2020, following progress of the Gas Industry Act Amendment Bill.

To provide industry with guidance in the event that off specification gas enters Tasmanian gas infrastructure the Director, in consultation with all stakeholders that play a part in the Tasmanian NG supply chain, has drafted an Off Specification Natural Gas Communications Protocol. The protocol is expected to be released during before the end of 2020 and provides for a collaborative framework for the management of any future off specification NG incidents with the aim of reducing the likelihood of gas supply shortages and forced gas consumer curtailment.

5.7 Communications and Gas Safety Education

Development of educational information to inform stakeholders of legislative and technical matters has remained a focus during 2019/20. See Table 9 for outputs of this program.

To ensure newly licenced gasfitters are aware of their responsibilities under the Act, the Director released compressive guidance material explaining how gas fitters in Tasmania can comply with regulatory obligations.

Due to restrictions posed by COVID-19 the Director is investigating opportunities to deliver on-line training and forums. It is expected that gas appliance servicing and caravan gas fitter upskilling training material will be available online for gas fitters to utilise in the latter half of 2020.

Table 9: Communication products

Program	New or Managed Output 2019/20	Target Audience
CBOS website	Maintained gas safety and technical standards website	Gas consumers Gasfitters Gas workers Gas distributors Community Rural landowners Infrastructure owners
Connections magazine	Up to date gas consumer safety and technical gas topics	Gas consumers Gasfitters
Presentations	Carbon Monoxide Testing – Practical Test Procedures	Gasfitters
	Gas Safety and role of CBOS	TasTafe gas fitting classes

Program	New or Managed Output 2019/20	Target Audience
Gas safety and technical publications	Newly licenced gas fitter booklet providing information on how to navigate the Tasmanian safety and regulatory environment	Gasfitters
	Gas infrastructure planning zone guidance	Permit authorities
Gas safety and technical publications	Updated CO awareness fact sheets	Gasfitters Installation owners
Expos and other public events	AGFEST, Lifestyle Leisure Expo, and Burnie, Hobart and Launceston agricultural shows.	Gas consumers Gasfitters Gas workers Community Rural landowners Civil Contractors RV industry
Social media (Facebook)	Provide gas appliance safety and recall information and links to public and industry	Gasfitters Consumers

5.8 Emergency Incident Coordination

The Director maintains management plans and internal procedures for 'on shore' emergency gas incident response. Emergency Incident Response Management plans and the staff availability roster have operated successfully to cater for an expanding use of different fuel gases and complexity in gas supply chain management. As a result the Director of Gas Safety's incident response management program continues to enhance enforcement of real time isolation of uncontrolled gas escapes and incident recovery activities.

Response to 19 installation and supply incidents during the reporting period and total of 356 over twelve years of implementation has been beneficial to Tasmania Fire Service and Tasmania Police in responding to incidents and ensuring safe procedures for gas isolation and recovery.

SECTION 6: Inter-government Industry Administration

Collaboration with the Office of the Economic Regulator ensured a smooth path for pipeline and retailer approvals, licensing, and recovery of the Director's reasonable costs from licensed gas entities. This will be further enhanced with the implementation of the *Gas Safety Act 2019* and *Gas Industry Act 2019* expected in the latter half of 2020.

Cooperation with the Tasmania Fire Service and Department of State Growth in relation to the fuel gas industry including hydrogen development, expansion of existing infrastructure and emergency management guarantees sound intergovernmental communications and increased response capability, which provides a consistent and harmonised response from government.

SECTION 7: Conclusion

Gas transmission programs pursuant to the *Gas Pipelines Act 2000* have also required substantial resourcing including the auditing of pipeline field activities and emergency preparedness, integrity studies including cathodic protection and coating surveys, and third party encroachment incident causation analysis. The lessons learned from this analysis will

require broad consultation across industry stakeholders and will aid in the development of targeted and focused educational material.

COVID-19 has hindered some field based programs however, the Director is confident that targeted intervention programs, implemented in line with the identified risk areas, continue to provide the public value, accountability, efficiencies and effectiveness expected by stakeholders. This includes the provision of robust infrastructure integrity management planning that provides critical indirect assessment actions required to ensure the ongoing integrity of pipelines in which an integrity gauge cannot be operated (unpiggable).



Peter Graham
DIRECTOR of GAS SAFETY

APPENDIX I: Glossary and Abbreviations

CBOS	Consumer, Building and Occupational Services
CNG	Compressed Natural Gas
COAG	Council of Australian Government
Director	Director of Gas Safety
GSMP	Gas Safety Management Plan
GSS	Gas Standards and Safety (Unit of CBOS)
GTRC	Gas Technical Regulators Committee
JCO	Jurisdictional Contact Officer
kPa	Kilo Pascals
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MAOP	Maximum Allowable Operating Pressure
Mj/h	Mega Joules per Hour (Unit of Gas Consumption)
NGERAC	National Gas Emergency Response Advisory Committee
NG	Natural Gas
PIG	Pipeline Integrity Gauge
RIS	Regulatory Impact Statement
TGN	Tas Gas Networks