TECHNICAL SAFETY BC

2018-2020 BUSINESS PLAN

ADVANCING TECHNICAL SAFETY FOR ALL BRITISH COLUMBIANS

THE 2018-2020 BUSINESS PLAN USHERS IN THE SECOND HALF OF TECHNICAL SAFETY BC'S 10-YEAR STRATEGY TO BECOME A KNOWLEDGE-BASED BUSINESS AND DEVELOP SERVICES AND PRODUCTS TO SUPPORT INDUSTRY INNOVATION.

THIS BUSINESS PLAN IS A STRONG REFLECTION OF OUR MANDATE — DEMONSTRATING WHO WE ARE, WHAT WE DO, AND WHAT IS IMPORTANT. IT OUTLINES HOW WE WILL SUCCEED IN BUILDING PARTICIPATION AND CONFIDENCE IN TECHNICAL SAFETY ACROSS BC.

INTRODUCTION

In 2017, as part of our efforts to be connected, clear, and innovative, we created value for clients and stakeholders in several ways:

- We developed and delivered safety education programs for power engineers and elevating device mechanics.
- We enhanced fairness and consistency by increasing the volume of unpermitted work or equipment identified by 25% for electrical, gas, and boiler permits.
- We created a Client Safety Profile, available online, that provides specific, summarized information regarding performance for each client and their team.
- We developed online services to provide an enhanced client experience to a larger community of users and launched a new website to improve access to information.
- We adopted a new identity to increase awareness of the safety system and reflect the progress we have made toward becoming the trusted partner in technical safety.

Advancing technical safety in British Columbia will require continued efforts to grow participation and enable accountability for technical safety. In 2018, we will apply our understanding of the safety pyramid to focus on three strategic priorities:

- Technical Safety Risk - detecting and mitigating emerging and known technical safety risks in the province.
- Advancing the Safety System - using digitalization and machine-assisted assessment to enable increased employee focus on high value safety products and services for clients and the public.
- Province-wide Technical Safety Insight - taking an integrated approach to technical safety in BC.

Technical Safety BC continues to demonstrate how the expertise and commitment of our employees, coupled with active participation from industry, contribute to technical safety and expand our reach and impact.

WHO WE ARE & WHAT WE DO

Technical Safety BC is an independent, self-funded organization mandated to oversee the safe installation and operation of technical systems and equipment. In addition to issuing permits, licences, and certificates, we work with industry to reduce safety risks through assessment, research, education and outreach, and enforcement.

Our Mission

We build your confidence in safety systems for life — through a focus on risk and support for innovation.

Our Vision

Safe technical systems. Everywhere.

Our Values

- Simplicity
- Authenticity
- Accountability

What We Do

We deliver safety services across the following technologies in the province:

- Electrical equipment and systems
- Boilers, pressure vessels and refrigeration systems
- Natural gas and propane appliances and systems, including hydrogen
- Elevating devices, such as elevators and escalators
- Railways, including commuter rail
- Passenger ropeways, such as aerial trams and ski lifts
- Amusement devices
- Complex and integrated technical systems involving multiple technologies

Our Services

ASSESSING technical work and equipment, including collecting information through physical assessment, incident investigation, and registering new equipment and designs.

CERTIFYING INDIVIDUALS and licensing contractors and operators to perform regulated work.

SUPPORTING CLIENTS in the development of alternative safety approaches, and auditing their safety management plans or equivalent standard approaches.

EDUCATING and sharing technical systems safety information with our clients and the broader public to better control risks.

TAKING ENFORCEMENT ACTIONS that promote an equitable safety system where all participants are compliant with regulations.

CONDUCTING RESEARCH, including contributing to provincial and national safety code development and updating regulations for the technologies we serve.

Technical Safety BC operates within a legislative and regulatory framework that includes:

- *Safety Authority Act*
- *Safety Standards Act* and Regulations
- *Railway Safety Act* and Regulations
- *Freedom of Information and Protection of Privacy Act*
- *Workers Compensation Act*
- *Ombudsperson Act*
- *Offence Act*

Board of Directors

Technical Safety BC is governed by a board of 11 directors that monitors performance and sets the organization's strategic direction in consultation with management. Directors are appointed on the basis of merit; they must meet the qualifications established in the *Safety Authority Act* and abide by a code of conduct.

The work of the Board is supported by committees that provide additional focus on matters such as:

- financial affairs, audits, insurance and investments;
- governance and nominating functions, CEO performance evaluation and recruitment, compensation and other human resource issues;
- technical and enterprise risk oversight;
- regulatory development and compliance; and
- strategic advice and oversight.

For further information, including our Annual Report and State of Safety Report, visit the 'About Us' section of our website at www.technicalsafetybc.ca/about

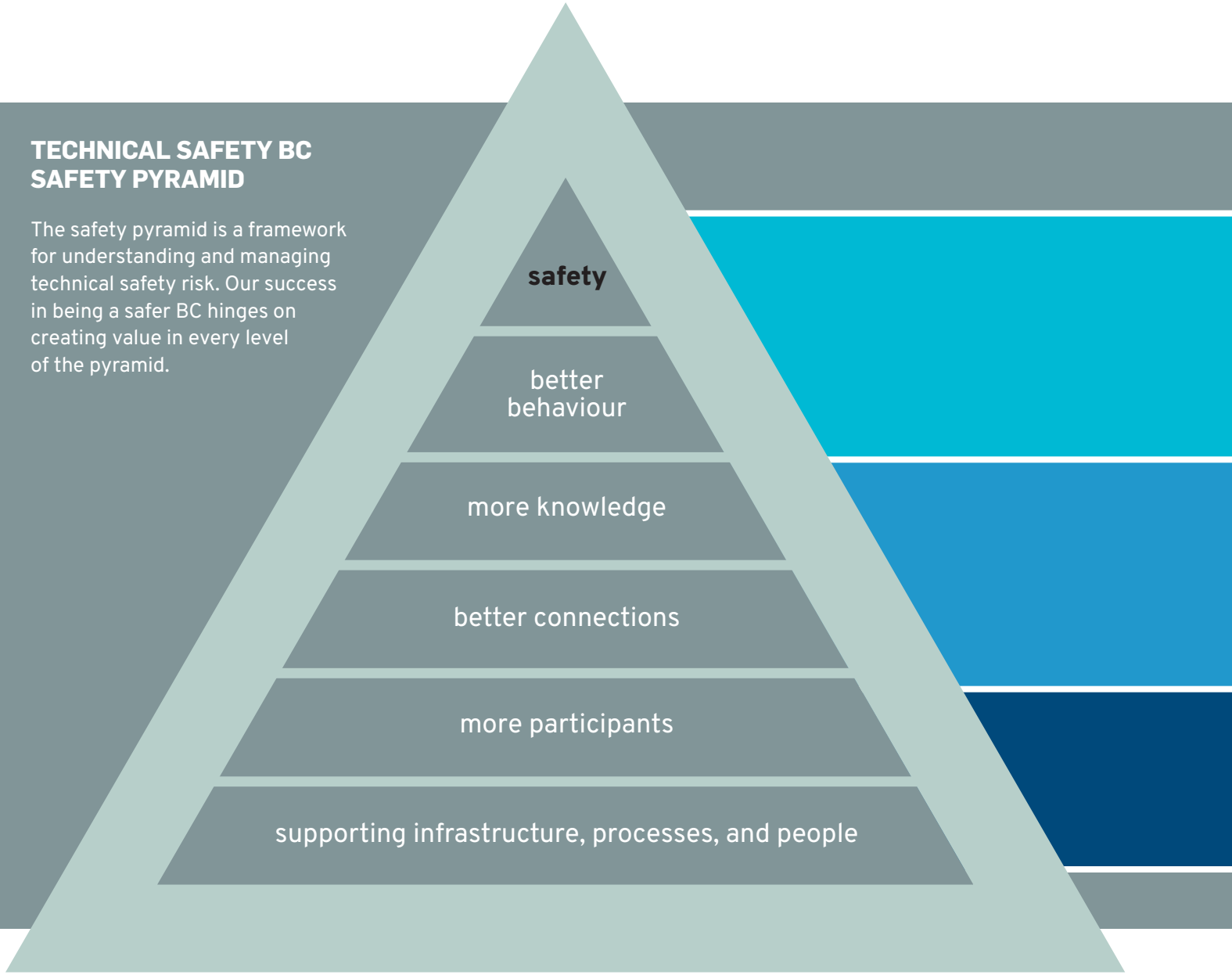
2018-2020 BUSINESS PLAN

AT A GLANCE

The theme of the 2018-2020 Business Plan is *Advancing Technical Safety for All British Columbians*, and reflects the mandate and strategy of Technical Safety BC through three strategic priorities.

TECHNICAL SAFETY BC SAFETY PYRAMID

The safety pyramid is a framework for understanding and managing technical safety risk. Our success in being a safer BC hinges on creating value in every level of the pyramid.



TECHNICAL SAFETY RISK
Detecting and mitigating emerging and known technical safety risks in the province.

ADVANCING THE SAFETY SYSTEM
Using digitalization and machine-assisted assessment to enable increased employee focus on high value safety products and services for clients and the public.

PROVINCE-WIDE TECHNICAL SAFETY INSIGHT
Taking an integrated approach to technical safety in BC.

We will deliver on each strategic priority to provide direction and inspire action. Together, the strategic priority areas and goals ensure an enterprise-wide approach to success. We have outlined what we will focus on each year and how we will track early progress towards our goals. Corporate projects, core departmental work, and continuous improvement efforts will all contribute to achievement of the strategic priority goals.

DELIVER	DEFINE	DETERMINE
Technical Safety Risk Detecting and mitigating emerging and known technical safety risks in the province	Reduce technical safety risks by implementing and evaluating accident prevention tactics for all high technical safety risks	**Scanning and Analysis of Risks:** • Reduce high hazards **Defining and Documenting Risks:** • Improve quality of key data sets for high technical risks **Reduction of High Technical Safety Risks:** • Prioritize treatment of active and emerging risks
Advancing the Safety System Using digitalization and machine-assisted assessment to enable increased employee focus on high value safety products and services for clients and the public	Double the volume of high value safety outputs for clients per employee	**Digitalization:** • Increase online adoption • Empower clients with online information **Focus on Risk:** • Expand resource allocation program (RAP) usage • Improve RAP's predictive capabilities
Province-wide Technical Safety Insight Taking an integrated approach to technical safety in BC	100% safety insight coverage for the province of BC	**Partnerships:** • Grow partnerships and exchange data **Insight Generation and Reporting:** • Incorporate external data and share insights with public and government

PRIORITY 1: TECHNICAL SAFETY RISK

Detecting and mitigating emerging and known technical safety risks in the province

3-YEAR GOAL

Reduce technical safety risks by implementing and evaluating accident prevention tactics for all high technical safety risks by 2020.

OBJECTIVES

- Identify, analyze, manage, and publicly share information regarding technical safety hazards and risk exposures by using our data and applying our knowledge and expertise in technical safety and risk management.
- Monitor and report on the level of technical safety risk and guide our prioritization and mitigation activities with safety system reporting tools.

3-YEAR ROADMAP

By focusing on high hazards and high technical safety risks, we apply our risk management expertise to prioritize our mitigation efforts. We also collect the information necessary to validate our understanding and identify changing and emerging technical safety risks.

THEME	PRIMARY METRICS	2018	2019	2020
Scanning and Analysis of Risks	• % observed 4 & 5 (on a 5-point scale) as-found hazards associated with high technical safety risks	• Improve process for monitoring and identification of technical safety risks • Update emerging risks register	• Automate the collection of select data sources for environmental scans and data analysis	• Evaluate process for identifying and validating technical risks
Defining and Documenting Risks	• Quality of key data sets for high technical risks • Published technical safety risk overview	• Review risk assessment criteria and establish assessment standards • Establish data governance on key data sets for technical risks	• Design and implement an assessment quality management system • Create a safety system dashboard to guide prioritization and risk mitigation activities	• Evaluate process for informing and maintaining the technical safety risk overview and associated treatment plans
Reduction of High Technical Safety Risks	• # of treatment plans for active and emerging risks developed and implemented	• Complete risk analysis for high technical safety risks • Update treatment plans and implement two plans that reduce risk • Provide information to engage and educate clients and the public in addressing high technical safety risks	• Implement all high risk treatment plans • Assess impact of risk reduction program	• Perform comprehensive monitoring of the results of the risk reduction program • Use predictive insights to proactively develop risk treatment plans

PRIORITY 2: ADVANCING THE SAFETY SYSTEM

Using digitalization and machine-assisted assessment to enable increased employee focus on high value safety products and services for clients and the public

3-YEAR GOAL

Double the volume of high value safety outputs for clients per employee by 2020.

OBJECTIVES

- Enable our clients to meet safety requirements more efficiently by connecting our understanding of client needs with our ability to deliver technology tools.
- Equip clients with knowledge to better prevent incidents by developing and sharing safety intelligence and insights.
- Empower employees to focus on higher value work.

3-YEAR ROADMAP

With improvements to systems and processes and advanced capability in analytics and business intelligence, we will make it easier for clients to manage technical safety and for employees to focus on work that provides the most value and has the most impact on safety.

THEME	PRIMARY METRICS	2018	2019	2020
Digitalization	• % of services delivered through online channels • Streamline processes and digital tools that enable employee efficiency and client service	• Implement system improvements to expedite tracking and follow-up on key safety system records • Bring online capabilities to high volume unit-based technologies • Consolidate legacy IT systems for better service efficiencies	• Expand client and employee portal capabilities • Automate routine tasks in key business processes	• Leverage the Internet of Things to automate transactions and integrate systems
Participation	• Increased number of participants in the safety system	• Identify under-permitted client segments • Implement targeted client awareness programs • Standardize approach to certification and launch certifications such as BC Master Electrician (formerly a FSR)	• Implement progressive approaches to reach and engage clients • Establish mandatory "Great Start" course for newly certified and licensed duty holders	• Develop partnerships in the supply chain to close the participant gap • Involve asset owners and the public in safety campaigns to reinforce higher expectations of contractors and certified workers
Focus on Risk	• Increased execution on system-generated priorities • Increased predictive capability of RAP	• Review decision rules and assessment policies • Apply random sampling to enhance predictive capability • Implement data warehouse 2.0 to access trusted information	• Use predictive algorithms to direct more than 80% of high risk assessments • Apply random sampling to acquire knowledge in at least 2 technologies	• Generate the majority of data used in algorithms outside Technical Safety BC • Use advanced predictive reporting tools

PRIORITY 3: PROVINCE-WIDE TECHNICAL SAFETY INSIGHT

Taking an integrated approach to technical safety in BC

3-YEAR GOAL

Achieve 100% safety insight coverage for British Columbia by 2020.

OBJECTIVES

- Cultivate a complete view of safety system oversight, accountability, and performance.
- Create partnerships to develop a shared understanding of safety oversight and build public and stakeholder confidence in the safety system throughout BC.

3-YEAR ROADMAP

We demonstrate leadership in safety oversight by role modelling transparency, facilitating partnership, and creating the foundation for consistency and fairness.

THEME	PRIMARY METRICS	2018	2019	2020
Partnerships (First Nations, federal government, local governments, utilities, and other agencies and service providers)	• Data sharing agreements or partnerships executed with municipalities and other safety system participants	• Establish plan to work with federal site owners on equipment oversight • Develop profiles and build safety awareness with local governments	• Expand existing partnerships to new areas of data or shared services • Develop new partnerships • Begin phased implementation of federal oversight	• Improve consistency of client experience throughout BC • Manage key safety system partnerships
Exchange of Data	• Data shared between Technical Safety BC and other safety system participants are for the benefit of the public	• Define and implement principles and processes for secure data exchange • Share data related to compliance and enforcement	• Develop useful data sharing agreements • Implement automated data exchange processes	• Set the standard for inter-agency data exchange that enables risk reduction
Insight Generation & Reporting	• Data used from external sources and incorporated into our analysis • Insights or combined reporting to the public or government	• Develop safety insight coverage map • Develop ability to analyze and use data from external sources • Analyze external usage of Technical Safety BC data	• Create and publish reports using business intelligence tools • Use insights to expand safety awareness across the province • Automate State of Safety report to provide real-time information	• Develop safety insights for partners to increase their ability to administer safety • Develop tools to access visual reports

FINANCIAL OUTLOOK

Forward-looking statement

2018's budget is balanced, and our operating reserve will meet the target level of 15% of annual operating costs.

The budget is based on the actual financial performance in recent years (up until October 2017) and projected market conditions. 2018 revenue projections include previously announced fee increases, while holding the volumes of operating and installation permits 2% higher than our Q3 2017 forecast. We have further assumed that expenses will have similar profiles to 2018.

All forward-looking statements within this report should be understood to involve risks and uncertainties that could cause actual financial or operating results to differ significantly.

PROFIT AND LOSS PROJECTION (2017 TO 2020) ($000's)	Updated Q3 2017F	Budget 2018	Estimate 2019	Estimate 2020
Revenue				
Service and related fees	58,124	60,729	61,944	63,182
New business initiatives	1,791	1,920	1,958	1,998
Investment and other income	41	855	872	890
Total Revenue	$59,956	$63,504	$64,774	$66,070
Expenses				
Salaries & Benefits	40,110	42,552	44,403	45,292
Amortization	3,561	4,215	4,299	4,385
Building Occupancy	2,935	4,134	3,216	3,281
Audit, Legal and Insurance	621	695	709	723
Contract Services	2,298	1,975	2,015	2,055
Travel	1,564	1,604	1,636	1,669
Office & Business	2,274	1,912	1,951	1,990
Telecommunications	659	689	703	717
Information Systems	1,896	1,955	1,995	2,034
Training	757	1,103	1,125	1,148
Vehicles	887	988	1,008	1,028
Corporate Governance	460	554	565	577
Postage & Courier	238	212	216	220
Education & Public Awareness	747	510	520	531
Material & Supplies	196	225	230	234
Bad Debt	384	179	183	186
Total Expenses	$59,587	$63,504	$64,774	$66,070
Excess/(Deficiency) of revenue over expenses	$369	$0	$0	$0

GLOSSARY

Accident Prevention Model
Technical Safety BC's multi-faceted approach to managing technical systems safety risks through the four pillars of assessment, education and outreach, research, and enforcement.

Alternative Safety Approaches (ASA)
A performance-based approach to achieving compliance with the *Safety Standards Act*, which allows owners or operators of regulated equipment to meet safety objectives in ways other than those prescribed by the regulations.

as-found hazard
A condition found by safety officers during physical assessments, investigations, or audits of regulated work, products, equipment, or safety systems where intrinsic hazards are not suitably controlled. These conditions are rated on a scale out of 5 where 1 is minor and 5 is severe.

assessment
An evaluation or review of information relating to regulated work, product or equipment. Key Technical Safety BC activities in assessment are:

- gathering of information through inspections or physical assessments (of reported hazards and work performed by contractors or homeowners);
- gathering of evidence through incident investigations;
- gathering of evidence through audits or documentation evaluations (of safety management plans for example);
- reviews of requests for permission (such as permit or ASA applications);
- reviews of declarations and reports from duty holders (includes incident reports);
- reviews of qualifications for licensing or certification; and
- reviews of product or equipment and designs when approving these for use in BC.

asset owner
A person or company that owns or leases regulated products or equipment.

audit
An independent, systematic review supported by objective evidence that is focused on a system or process.

certificate of qualification
A certificate issued by Technical Safety BC to an individual who provides evidence of his/her knowledge and ability to do regulated work in a manner that meets the requirements under the *Safety Standards Act* and allows an individual to perform regulated work in BC within the scope of the certificate.

duty holder
A person or company who is responsible for compliance because they either own regulated products, or perform regulated work.

field safety representative (FSR)
An individual who holds a certificate of qualification verifying that they have satisfied regulatory requirements for demonstrating competency in the interpretation and application of regulations and codes. The certificate is required to carry out the duties described in regulation. These duties include obligations to assess compliance of regulated work and operation of equipment; certification also entitles them, on behalf of a contractor or operating permit holder, to make declarations that regulated work complies with the *Safety Standards Act* and regulations.

high technical safety risks
Future safety incidents that are relatively likely to occur and have a major impact on public safety.

inspection
A type of physical assessment where the regulated product, equipment or work has been directly evaluated by Technical Safety BC.

installation permit
A written permission required to install or alter regulated product or equipment. Depending on the work being performed, an installation permit may be issued to a licensed contractor, a person who holds an operating permit, an owner of a regulated product or equipment or a homeowner who performs regulated work as permitted under the regulations.

leading indicator
Helps focus energy on the necessary behavior changes and can provide early measurement of progress before seeing movement towards the intended goal.

licence
A permission issued by a Technical Safety BC provincial safety manager that entitles a person to engage in regulated work. A licence is subject to terms and conditions specified by a provincial safety manager and to any requirements associated with a contractor's licence that are contained in the regulations. A licence is normally associated with a specific person and is not specific to a particular site or location.

machine assisted assessment
The use of information technology to assist human beings in collecting data, analyzing data, and taking decisions.

operating permit
A permission issued by Technical Safety BC that allows the operation and maintenance of a regulated product or equipment. An operating permit may be issued to the owner of a regulated product or building where the product or equipment is to be operated.

physical assessment
See definition of "inspection".

Resource Allocation Program (RAP)
A rating program that uses risk-informed criteria to establish work priorities and the allocation of Technical Safety BC resources. RAP uses current and historical data which is based on the scope and stage of work being performed, equipment environment, and safety history.

strategic priority goal
3-year goal to indicate progress and determine whether tactics and outcomes are achieving the intended impact.

treatment plan
A document that specifies concrete activities to reduce a risk.

unpermitted work
Regulated work that is performed without the required permissions in place.

TECHNICAL SAFETY BC

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