



Technical Standards and Safety Authority

Strategic Plan Fiscal Years 2010/2011 to 2014/2015

January 28, 2010



Strategic Plan

Fiscal Years 2010/2011 to 2014/2015

Executive Summary

TSSA presents its strategic plan for fiscal years 2010/2011 to 2014/2015 at a time when a number of threats are present in the external environment. In particular, the Ontario economy is facing an uncertain future following a severe recession, and there is a looming shortage of skilled workers in the sectors where TSSA has safety responsibilities. In addition, TSSA is operating in a new environment due to recent changes made by the Ontario government to increase its oversight and accountability, and there is uncertainty whether, over the near term, TSSA proposed changes to the delegated regulations will find room on the government's agenda.

These external threats are largely mirrored internally. As an organization, TSSA is facing and responding to productivity and net margin challenges. While TSSA has human resources strengths in technical expertise, it must also address the emerging skills shortage through recruitment, retention and succession planning strategies.

This strategic plan identifies a key opportunity: TSSA's value proposition delivers on the key attributes that its customers value in a safety regulator.

As a result of investments made over the last three or more years, TSSA believes that it is well positioned to take full advantage of this opportunity and respond to external threats and internal weaknesses. In particular, its investment in developing risk-informed decision-making, an innovative and system based approach, TSSA is well positioned to make and be seen to be making quality public safety decisions. Additional investments in data integrity and a new information system have resulted in emerging strengths that will effectively support TSSA decision making going forward.

To take full advantage of the opportunity presented, TSSA clearly outlines its value proposition in this plan. In this value proposition, TSSA expressly states that while it has a primary responsibility for administering the delegated legislation and regulations, the organization is also committed to achieving positive safety outcomes, even where that requires efforts beyond its delegated mandate. This plan also outlines the activities which comprise TSSA's safety value chain and, in this context, TSSA commits to work towards a goal of placing the greatest emphasis on preventative activities within the safety value chain for each sector.

This strategic plan also presents new strategic priorities that are designed to move TSSA forward in fully delivering on its value proposition. Reflecting that TSSA's mandate is to achieve positive safety outcomes, all four strategic priorities are focused on the organization's core business. The four strategic priorities are:

- Leverage Risk Knowledge;
- Compliance First;
- Shared Responsibility for Safety; and
- Extending TSSA's Reach.

For each of these strategic priorities, the plan outlines three strategies. In addition, the plan also outlines supporting strategies, designed to address the corporate challenges identified and to foster achievement of the safety strategies.

With respect to new business, in the short term, TSSA will continue to optimize its performance with a focus on retaining and/or renewing existing contracts. New growth opportunities will be explored within the context of TSSA's strategic priorities and supporting strategies where these contracts are in full compliance with TSSA's *New Business Policy*, demonstrate a strong fit with organizational expertise, and positive financial results can be achieved.

Perhaps the most significant addition to this year's strategic plan is the introduction of safety outcome metrics that can be externally benchmarked and demonstrate the progress achieved on both the safety

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strategies and TSSA's value proposition. These safety performance metrics are supported by efficiency and financial metrics.

TSSA believes that by the third year of this plan, it will begin to achieve positive progress on its goal to increase the proportion of preventative-based activities within its safety value chain for certain sectors. In the remaining years of the plan, the experience and documented evidence of success from these achievements will be extended to other sectors, where opportunities have been identified with respect to both the inherent risks and the readiness of the sector.

TSSA's five-year financial projections reflects a return to positive net margin by the end of year 2011/2012, and a sustainable positive net margin thereafter. Revenues are projected to grow on average by 4% through the planning horizon, with operating expenses prudently managed to achieve a positive net margin and the strategic priorities. Maintaining strong financial fundamentals is an underlining operating principle for TSSA, which is reflected through a return to a strong reserve over the strategic plan horizon. TSSA will continue to capitalize on new strategic investments but is committed to maintaining a strong reserve to ensure long term financial sustainability. While the policy target for the reserve remains at 5%, it is recognized that to enable TSSA to achieve its vision and deliver on its mandate, regular investments in the safety system are necessary. As such, TSSA will build up a reserve in excess of the policy target over the course of the strategic plan period to enable such strategic investments to occur as needed. TSSA's five year financial projections are summarized below.

	FY2009/2010 Forecast \$'000	FY2010/2011 Projection \$'000	FY2011/2012 Projection \$'000	FY2012/2013 Projection \$'000	FY2013/2014 Projection \$'000	FY2014/2015 Projection \$'000	Five Yr. CAGR *
Revenue	47,150	50,699	53,097	55,190	56,846	58,551	4%
Expenses	50,503	50,946	52,361	54,143	55,248	55,311	2%
Net Margin	(3,353)	(247)	737	1,047	1,598	3,240	
	-7%	0%	1%	2%	3%	6%	
Total Reserve \$	876	2,159	4,818	7,787	11,175	14,920	76%
Total Reserve as a % of Total Expenses	2%	4%	9%	14%	20%	27%	

* - CAGR: compounded annual growth rate



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1. Introduction

TSSA is an innovative, self-funded non-government organization dedicated to enhancing public safety. With headquarters in Toronto, it employs approximately 340 staff across Ontario, of which 70 percent work in operations. Governed by a 13-member board of directors, the organization is accountable to its stakeholders, most notably the residents of Ontario and the Ontario government.

TSSA funds its regulatory operations by charging a fee to its industry customers for the services it provides, and by generating excess margins through its other contracts. TSSA has technical safety expertise in the following areas:

- boilers and pressure vessels, and operating engineers;
- elevating devices, amusement devices and ski lifts;
- fuels; and
- upholstered and stuffed articles.

In each of these areas, TSSA administers public safety legislation on behalf of the government of Ontario, and delivers associated safety services. These activities collectively enable TSSA to ensure the operating requirements of the *Technical Standards and Safety Act, 2000* and regulations are met and, as a result, the safety of Ontarians is protected.

In collaboration with partners in industry, government, advisory councils and the public, TSSA strives to journey to zero serious injuries and fatalities in its regulated sectors. The organization's vision, mission and mandate are as follows:

Vision: TSSA's vision is to be the world leader in public safety services.

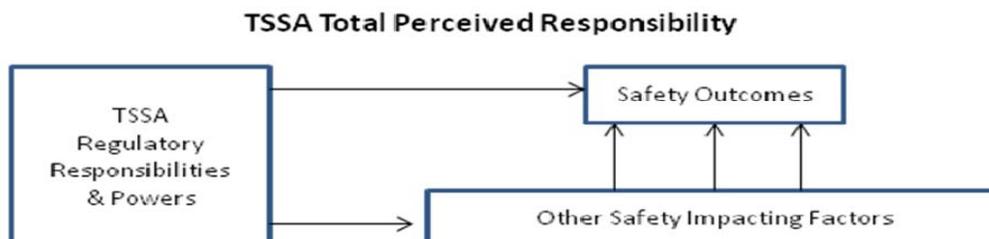
Mission: TSSA is dedicated to enhancing public safety. To this end:

- TSSA's passion is to make people's lives better by putting public safety first;
- TSSA is determined to understand the needs of its customers and partners, and together deliver effective, efficient and innovative risk-informed safety solutions; and
- TSSA is committed to a culture of personal growth and recognition, teamwork, leadership and accountability.

Mandate: TSSA's mandate is to achieve positive safety outcomes.

While TSSA's mandated powers are largely regulatory in nature, in the interest of public safety, the organization has strategically embraced a much broader role and responsibility – that of generating positive safety outcomes.

Although causal factors can be eliminated or constrained through regulations, codes, design, training, inspections and a variety of other means contained within the delegated mandate provided to TSSA, other causal factors, particularly those related to operator or user behaviour can at best only be influenced by TSSA. The nature of this situation is illustrated in the following diagram.





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As TSSA cannot control all aspects that contribute to safety outcomes, such as behavioural factors, it seeks to mitigate risk through strategic and operational actions that both meet its regulatory responsibilities and affect public safety beyond its regulatory mandate. TSSA acts as both a regulator and an educator – firmly committed to positive safety outcomes.

In developing appropriate responses to achieve positive safety outcomes, TSSA draws from the following activities that form TSSA's safety value chain.

Influence codes and regulations: support government in developing regulations, and participate in code development and standard setting.

Inform, educate and modify behaviour: inform and educate end-users and industry participants regarding better safety practices and issues, new codes, regulations and requirements, and seek to influence user behaviour.

License register and certify: influence training institutions to properly train technicians, and effectively examine and certify technicians, register plants and equipment, and license sites.

Review designs: review the design of new technology, new installations, alterations and modifications to existing equipment and plants for compliance to codes and regulations.

Inspect and monitor: inspect/audit technicians, contractors, plants, equipment and sites for compliance with codes and regulations, and monitor developing safety related trends or issues.

Enforce: take appropriate regulatory actions to resolve non-compliance situations or behaviour before or after safety incidents.

Investigate: investigate safety incidents or near-misses.

As outlined in its value proposition, TSSA seeks to achieve positive safety outcomes through the design and delivery of an optimal balance of safety value chain activities for each sector for which it has responsibility to deliver safety services. TSSA's goal is to place the greatest emphasis on preventative activities within the safety value chain for each sector. TSSA recognizes that the evolutionary path for each sector toward this goal will vary reflecting the current state and the applicable influences at play.

In the development of its strategic plan, TSSA conducted a scan of the external and internal environments in which TSSA operates and reviewed the compliance and safety challenges in the sectors for which it has responsibility. A summary of this scan is outlined in the plan.

The emerging maturity of TSSA's risk-informed decision-making (RIDM) initiative, supported by the organization's new information system, presents a number of opportunities to respond to both known safety challenges, as well as to support the development of more preventative-based strategies. These initiatives are captured under the strategic priority Leverage Risk Knowledge.

TSSA has identified a number of compliance challenges in certain sectors that could benefit from a fresh approach. The next strategic priority for this plan is Compliance First under which TSSA will, in addition to its ongoing initiatives, apply new approaches to further enhance compliance levels, including the development of innovative fee structures. These are necessary steps to be taken before preventative actions can be developed in the applicable sectors.

As noted, TSSA is one of a number of participants in the safety system — both in Ontario and nationally. As a regulator with delegated authority, there are inherent limitations in what can be accomplished to reduce or prevent safety risk. By working to ensure other participants have the tools to take Shared Responsibility for Safety, TSSA believes it can move more expeditiously to address compliance risks, and implement and support preventative-based initiatives.



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Finally, TSSA believes there are opportunities to move beyond shared responsibility to develop partnerships that will have the effect of Extending TSSA's Safety Reach.

TSSA believes that by the third year of the plan, it will begin to achieve positive progress on its goal to increase the proportion of preventative-based activities within its safety value chain for certain sectors. In the remaining years of the plan, the experience and documented evidence of success from these achievements will be extended to other sectors, where opportunities have been identified with respect to both the inherent risks and the readiness of the sector.

2. Environmental Scan

In preparation for the development of the strategic plan for fiscal years 2010/2011 to 2014/2015, TSSA updated its environmental scan. The factors identified in this scan have served to assist TSSA in better understanding the threats and opportunities in the external environment within which it must work to deliver its strategic priorities and safety strategies over the term of this plan. The primary factors that will influence both the timing and delivery of TSSA's safety strategies as well as the nature and requirements of its supporting strategies are summarized below.

Opportunity

Since 2005/2006, TSSA has enhanced its customer satisfaction research to better understand its value proposition to its customers with a specific focus on safety value. While these efforts have clearly indicated that TSSA's customers do see the value TSSA contributes to public safety, they have also indicated that TSSA has an opportunity to more clearly demonstrate its safety value moving forward. This research also has identified that, while there is no consensus among customers regarding a preference for a traditional "enforcer" versus an "advocate" approach, there is a general agreement that both approaches offer opportunities for adding additional safety value.

In addition to its customer research, TSSA recognized the need to better understand public attitudes towards safety with a particular emphasis on the sectors it regulates. Over the past two years, both qualitative and quantitative research has been completed providing a number of key insights regarding the level of public confidence with respect to safety, generally and specifically, in the sectors that are within TSSA's mandate. It is important to note that the research has focused on public confidence with regard to safety and not specifically with regard to TSSA itself. Overall, just over one-half of Ontarians are somewhat or extremely confident in terms of what is being done to ensure public safety in general. When examining Ontario residents' confidence with respect to TSSA's sectors, Ontarians are reasonably confident. Most sectors saw over 80 percent of respondents being somewhat or extremely confident regarding the safety activities associated with TSSA's regulated sectors. Amusement devices received a marginally lower score. It is important to note that the most recent survey completed, subsequent to the tragic Sunrise Propane incident in August, 2008, found that the confidence levels remained constant, thus demonstrating that the Sunrise incident has not had a significant impact on public perception regarding the safety of the sectors TSSA regulates.

New Threat

While TSSA has not experienced any significant safety incidents over the last year, the effects of the 2008 Sunrise Propane incident have resulted in a number of changes in its relationship with the Ontario government. In October 2009, the Ministry of Consumer Services (MCS) released the final report of a commissioned Delegated Administrative Authority (DAA) Model Review. While the report was generally positive with respect to TSSA, a number of opportunities for enhancement as they apply to all DAAs were identified and are being addressed collaboratively by MCS and the DAAs. In addition, the government of Ontario introduced *Bill 187, Technical Standards and Safety Statute Law Amendment Act, 2009* (Bill 187). As of the date of this plan, the Bill has received third reading and is anticipated to be proclaimed in early 2010. Bill 187 will restate TSSA as a statutory corporation and establish additional provisions for the government with respect to oversight and other powers, including the power to appoint a Chief Safety and



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Risk Officer, and the granting of authority for the Ontario Auditor General to conduct value for money audits.

Emerging Threat

One of the opportunities for enhancement identified in the DAA Review Report relates to regulatory governance. In response, MCS and TSSA are working in partnership to establish more formal and transparent processes for the review and recommendation of changes to delegated legislation and regulations. While TSSA supports these recommendations, in combination with the government's commitment to reduce regulatory burden for business where appropriate, it is anticipated that TSSA and MCS may have limited opportunities for delegated regulations within TSSA's responsibility to move forward over the next few years. This expectation is reinforced in light of a fixed date for a provincial election on the mid-term horizon of this plan.

Existing Threat

As first identified in the environmental scan in 2007, TSSA and its regulated sectors face a significant skills shortage. The greatest impact, anticipated in the technical skills areas, is expected to occur in fiscal year 2010/2011; however, the impacts are already being felt and reach beyond TSSA to its customer base. There has been a noted decline in the number of individuals pursuing the technical trades and, given the duration of time to complete these programs, it will take several years to turn this shortage around. The current economic downturn is not seen as mitigating this issue in any significant way in the longer term.

While it is anticipated that recent interprovincial initiatives to require the recognition of certification from other provinces, coupled with the declining Alberta economy, may contribute to increases in labour mobility, one challenge that has not changed is an anticipated shortage of skilled workers in the future, if young people cannot be encouraged to see the merits of a career in technical trades and are provided with insufficient opportunities to acquire the required technical skills and credentials.

Threat

The economic environment facing TSSA, similar to all other organizations, is notable for the severity of the recession and for the uncertainty regarding the future. While some signs of recovery have been found in Canada and internationally, Ontario's economic outlook is less bright because of the long-term structural damage done to its manufacturing sector. Of particular interest is the fact that the province's ambitious nuclear program has been suspended over price concerns and the uncertainty related to Atomic Energy Canada Limited's future. While TSSA has historically been considered to be relatively recession proof, the depth of the current recession has had adverse impacts on revenues, especially in the fuels, and boilers and pressure vessels sectors.

Opportunity

In addition to the environmental scan, TSSA engaged its stakeholders in a dialogue through its advisory councils to identify priority safety issues in each of the sectors. These sessions provided both input into the development of this plan and assisted in leading to a consensus-based agenda for each of the advisory councils over the long term.

3. Situational Analysis

3.1 Status of Compliance and Safety

Compliance

TSSA's ability to conduct detailed evaluations of the state of compliance is currently limited to safety programs with targeted inspections and audits conducted on equipment and tradespersons. As a result, statistical information regarding the current state of compliance across a large segment of the safety



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system within the Fuels, and Boilers and Pressure Vessels Safety Programs is currently limited. Periodic detailed analysis of the state of compliance across those programs for which information is available, through audits and inspections, is carried out and results reported quarterly and annually to internal and external stakeholders.

These results include key compliance indicators that allow for informed decision making by the programs. TSSA publishes the *Annual Public Safety Performance Report*, which is available on its website. A summary of highlights of any noted trends regarding compliance from the most recent report is provided below.

Boilers and Pressure Vessels, and Operating Engineers

The number of deficiencies reported from operating engineers' inspections has a downward trend over the last five years, while the number of periodic inspections has remained relatively constant. The significance of these deficiencies is increasing, demonstrated by the upward trend in inspections requiring follow-up.

As noted above, TSSA does not have sufficient evidence to report on overall compliance in the boilers and pressure vessels sector as a large percentage of devices and equipment are inspected by insurance companies. A strategy to obtain appropriate data for insured devices to support an analysis of compliance is outlined below in the Extending TSSA's Reach strategic priority.

Fuels

Also as noted above, TSSA currently has limited information to assess contractor compliance in the fuels sector, although analysis of incidents as noted below provides some insight into the state of compliance. Enhancements to the contractor audit process have already been completed together with the development of plans to formalize supplier audits as outlined under strategy one of the Leverage Risk Knowledge priority, which should significantly increase knowledge regarding the state of contractor compliance for fuels.

Elevating and Amusement Devices

During the last two fiscal years, the percentage of elevator inspections passing on the first visit has increased, suggesting that recent enhanced compliance requirements are having a positive effect. There has been an increase in the number of escalator inspections with a conditional pass requiring follow-ups and failure requiring shutdown. For amusement devices there has been a downward trend in the percentage of inspections requiring a follow-up over the last five fiscal years.

Safety

The state of safety is typically evaluated based on observed patterns in incidents, and associated health impacts and near-misses. While these are reactive measures, they provide a good understanding of the obvious failures within the safety system that require management and control. They may also provide insight into potential weaknesses within the regulatory framework. Additionally, the analysis of incidents and near-misses could indicate the nature and extent of behavioural patterns contributing to incidents, allowing for possible educational and awareness building solutions.

TSSA has established a standardized best practice approach to quantifying incidents and near-misses using a World Health Organization developed metric called Disability Adjusted Life-Year (DALY). The program-specific reporting of this indicator and its relative significance, across a spectrum of incidents, their root-causes and associated factors, will allow TSSA to focus on areas with the most influence and with the greatest opportunity to reduce health impacts. While over the past two years TSSA has limited its application to internal use as the metric was tested, these indicators will be reported externally starting fiscal year 2009/2010.



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TSSA has also undertaken a pilot project to evaluate the possibility of predicting DALYs resulting from near-misses that allow for better use of information available through incidents with no observed health impacts. Details regarding these emerging safety metrics are discussed in section 8 of this plan.

As previously noted, TSSA publishes the *Annual Public Safety Performance Report*, which is available on its website. A summary of highlights regarding safety from the most current report is provided below.

Boilers and Pressure Vessels and Operating Engineers

No statistically significant trends in serious injuries or health impacts were identified in the boilers and pressure vessels, and operating engineers sectors. Reported occurrences are low and it is suspected that some incidents are unreported. As only uninsured boiler and pressure vessel devices, a small percentage of the total vessels in Ontario, are inspected by TSSA, this may result in incomplete data for proper safety management, failing to identify possible safety gaps in insured boilers and pressure vessels.

Elevating and Amusement Devices

A downward trend was identified in the number of serious injuries related to elevators. Otherwise, with respect to escalators, amusement devices and ski lifts, no statistically significant trends related to serious injuries were identified. Escalator entrapments continue to be a major contributor to incidents.

Fuels

In fuels, no statistically significant trends in the number of fatalities were identified, while an upward trend in the number of serious injuries was noted. Carbon monoxide related health impacts remain a major occurrence type attributed to natural gas, propane and fuel oil, primarily in residential locations from boilers and furnaces.

3.2 Assessment of Corporate Resources

Strength

RIDM is a key initiative aimed to assist TSSA in achieving its vision. RIDM helps to ensure that a systematic process, based on sound risk management principles, is used to make public safety decisions, thereby enabling TSSA's core activities to be more effectively managed. Generally, RIDM is a key tool that differentiates TSSA. Launched approximately four years ago, RIDM has consistently made progress in developing a supporting framework and in specific risk assessment applications.

Emerging Strength

TSSA's data integrity challenges were amplified as a consequence of the Sunrise Propane incident, despite the organization's focus on corrective actions as a priority through ongoing new system implementation and data validation initiatives. Responding to data integrity concerns raised by the provincial auditor in 2004, TSSA successfully implemented an action plan to close gaps in its collection processes of incident data. As of 2007, incident data integrity was achieved with an insignificant error rate in all program areas, verified through an independent audit. With integrity of incident data achieved, cleansing of customer data began in 2008, with the goal of ensuring that data within TSSA's system is complete, valid, and has no unnecessary or duplicate data. In fiscal year 2009/2010, TSSA also achieved substantial completion of an accelerated critical technical data verification plan.

In addition, TSSA has developed comprehensive and detailed policies concerning data, application and business process controls. Remaining to be completed is the physical site verification of non critical technical data. Going forward, TSSA has designed a quality systems approach to ensuring that all other data is verified and that data validity is regularly tested and audited to ensure maintenance of this essential database.

Emerging Strength

The information system at TSSA is a critical enabler to fulfil the organization's core functions in an efficient and effective manner. In 2005, significant deficiencies in the existing business systems were identified and a project to identify the issues and potential course of action to resolve those issues was



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embarked upon. The final stage of the new information system went live in July 2009. At the time of writing this plan, TSSA is focused on completing the anticipated steps required to achieve system stability consistent with such a large change management initiative. Over the course of this plan, TSSA expects to realize both quality and efficiency gains in support of TSSA's safety strategies once full implementation and practical use have been achieved.

Weakness to be Addressed

One of the most significant challenges facing all organizations is productivity, essentially increasing output per unit of input. At TSSA, increased productivity across all functional areas is a key goal and, in particular, within TSSA's inspection and engineering workforces. TSSA has recently reviewed and redefined its productivity metric and will integrate this refined measure into performance management processes in 2010/2011.

Over the course of the fiscal year 2009/2010, there were a number of anticipated and unanticipated influences that, in confluence, contributed to financial performance below expectations. Productivity was impacted not only as anticipated due to the new information system implementation but also in an unanticipated manner due to the wireless connectivity challenges faced by all inspectors, and additional and earlier negative operational productivity impacts in Fuels. Financial performance was impacted not only by the decline in productivity but also by the deep recession, lower returns on investments, appreciation of the Canadian dollar, associated foreign exchange rates, and certain unforeseen cost impacts. TSSA has responded to these financial challenges through a rigorous operational cost review and implemented a number of initiatives to reduce overhead burden.

Revenue growth has been moderate with the 2009/2010 recession further adversely impacting revenues. As a result, expense growth has outpaced revenue growth, a trend that TSSA is addressing in this plan.

Weakness to be Addressed

TSSA has human resource strengths in technical expertise, industry relations, and employee passion and commitment to public safety. While TSSA also benefits from much lower employee turnover rates than industry generally, recruitment in technical roles will continue to be a challenge as the technical skills shortage noted above will also impact TSSA over the plan period.

With 25 percent of TSSA's current total workforce approaching retirement age in the next five years, most of these individuals within operational areas, TSSA will continue to focus on and develop innovative recruitment and retention strategies. In addition, while TSSA has enhanced succession planning and talent management processes, the organization may face challenges in fully realizing its potential due to the need for investment in this regard when resources are scarce.

4. Value Proposition

TSSA cannot control all aspects that contribute to safety outcomes, such as behavioural factors. As such, TSSA seeks to mitigate risk through strategic and operational actions that both meet its regulatory responsibilities and affect public safety beyond its delegated mandate.

TSSA has identified the following safety value chain activities:

- Influence codes and regulations;
- Inform, educate and modify behaviour;
- License, register and certify;
- Review designs;
- Inspect and monitor;
- Enforce; and
- Investigate.



TSSA seeks to achieve positive safety outcomes through the design and delivery of an optimal balance of safety value chain services for each sector in which it has responsibility to deliver safety services. TSSA's goal is to place the greatest emphasis on preventative activities within the safety value chain for each sector. TSSA recognizes that this continuing evolutionary path toward this goal will vary for each sector, reflecting the current state and the applicable influences at play.

In determining an optimal balance of safety value chain activities, and in recognition of its delegated responsibilities, TSSA will give priority attention to identified gaps in compliance, giving full consideration to the application of best practices in safety compliance management. Where demonstrated compliance has been achieved and opportunities remain to enhance positive safety outcomes, TSSA will design and implement, in conjunction with government, proposed revisions to the delegated regulatory framework and/or design and implement strategies to modify behaviour.

All compliance and safety strategies will be guided by TSSA's leading application of RIDM to ensure a systematic process, based on sound risk management principles.

TSSA delivers its value proposition through a sustainable funding model with the capacity to design appropriate funding approaches developed in a transparent and consultative fashion.

Through its customer value research, TSSA has clearly identified that its core strengths are closely aligned with those most valued by its customers. Even more importantly, customers have clearly indicated that they would see considerable added value with an increased focus on preventative activities. The alignment of TSSA's value proposition to its customers' values provides a very conducive environment in which to implement this strategic plan.

5. Safety Priorities and Strategies

5.1 Overview

TSSA's RIDM is the basis of its approach to management of its public safety responsibilities with the goal of preventing incidents through understanding the potential for their occurrence and the most effective means of controlling risks. The approach is grounded in a thorough understanding of the ways in which the regulated systems work and the potential for failures of the system and its participants. In this context, a "system" represents the devices, technologies, products and their associated components in a regulated sector, and includes stakeholders that directly and indirectly impact or may be impacted by the system. In this approach, a body of knowledge is built up from formal risk assessments as well as from data generated from experience with the system and its operation. This knowledge base and a set of consistent procedures guide decision making on the management of the systems and their participants.

RIDM consists of two major components:

- safety risk assessment, which involves gathering risk and performance information from process decision outcomes, scientific risk analysis, and generation of evidence; and
- safety management, which involves the development and continuous improvement of safety decision making processes that incorporate risk assessment results as key decision making criteria.

TSSA's RIDM approach entails the development of a database on the performance of regulated systems and their operators, generating knowledge on the relative risks of particular technologies, activities and participants, thereby enabling the allocation of resources to areas of greatest risk. Measures to ensure safe operation can also be applied as appropriate to the system, situation and participant involved, and can draw on a range of operational aspects within the safety system, beyond the reach of prescribed standards.



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RIDM offers a number of advantages as an approach to safety regulation. Most important is that it is predictive and proactive, employing system-informed decisions to reduce risk and improve risk control. In addition, experience with entire systems and their operation, operators and users enables a flexible, case-specific approach to decision making that addresses the circumstances of a particular installation and considers user or public concerns and expectations for that system. It also produces better measures of the health impacts of regulatory risk control methods, and better information and reporting.

As an approach that is grounded in knowledge of a system to ensure its safe operation and that responds to an individual situation, RIDM is implemented through the systematic application of process and informed judgement of safety service personnel and their use of a broad database on system performance. In the process of delivering its mandate to achieve positive safety outcomes, TSSA's primary product is high quality public safety decisions, which require the development of a set of institutional supports and practices.

In implementing RIDM over the last four years, TSSA has made considerable progress with regard to its two main components. Specifically, with respect to building capacity, infrastructure and application in safety risk assessments, TSSA has established:

- risk information databases, constituting a 'warehouse of intelligence' for RIDM with the incident management information system being a major product;
- development and implementation of risk assessment tool kits for all aspects of RIDM (examples include applications of failure modes and effects analysis, root cause analysis, quantitative risk assessments, fault and event tree analysis, etc.); and
- enhanced risk and performance reporting through the generation of relevant and applicable performance and risk indicators (compliance metrics, observed and predicted health impact metrics, other safety metrics including fatality rates, etc.).

TSSA has also successfully applied risk information and risk assessments to a variety of safety management decisions that have included:

- safety issue management (examples include head trauma hazards associated with go karts, escalator entrapments, carbon monoxide exposures from residential boilers, catastrophic failures in steam turbines and buried cylinder failures associated with hydraulic elevators);
- risk informing regulatory compliance processes (examples include inspection/audit planning and scheduling, risk based enforcement and licensing of propane facilities); and
- risk informing regulatory improvement and changes (examples include propane regulations, and standardized definitions of incidents and near-misses across all safety programs);

As noted, TSSA has identified four strategic priorities to guide the delivery of TSSA's value proposition during the term of this plan:

- Leverage Risk Knowledge;
- Compliance First;
- Shared Responsibility for Safety; and
- Extending TSSA's Reach.

Descriptions of the strategies in support of these priorities, including timing and specific sector applications, are outlined below.

In addition to delivery of its delegated responsibilities, TSSA provides additional safety services consistent with its *New Business Policy*, which outlines the organization's commitment to its core responsibilities and regulatory integrity. For example, TSSA has been contracted to deliver safety services at federal undertakings to address jurisdictional safety gaps in Ontario in areas such as inspections of boilers and pressure vessels for the Canadian Nuclear Safety Commission or elevating devices inspections for Public Works and Government Services Canada. In addition, TSSA has developed safety service offerings, such as the Quality Assessed Facility program, that enable safety enhancements for its customers. While this new business is supportive of the organization's mandate and



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enables greater investments in safety, TSSA continues to focus most of its energy and resources on the core regulatory business.

During the term of this plan, TSSA will predominantly focus on retaining and/or renewing existing contracts. New growth opportunities will be explored, within the context of TSSA's strategic priorities and supporting strategies, where these contracts are in full compliance with TSSA's *New Business Policy*, achieve positive safety outcomes, demonstrate a strong fit with organizational expertise, and positive financial results can be achieved.

TSSA believes that by the third year of the plan, it will begin to achieve positive progress on its goal to increase the proportion of preventative-based activities within its safety value chain for certain sectors. In years four and five of the plan, the experience and documented evidence of success from these achievements will be extended to other sectors, where opportunities have been identified both with respect to risk and the readiness of the sector.

5.2 Leverage Risk Knowledge

In continuing to evolve RIDM across TSSA, the following three strategies are in place that include current and ongoing activities, and proposed future work over the next three to five years.

Strategy One

In a fully implemented safety outcome-based decision making and measurement framework, a measure of the level of compliance should be a reasonably strong indicator of the level of safety; however, this is dependent on several factors including, but not limited to:

- the availability and adequacy of information;
- establishing qualitative relationships between inputs, outputs, compliance outcomes and safety outcomes;
- a transparent, objective and measurable feedback loop; and
- the adequacy and maturity of the existing rules (regulations, codes and/or standards).

TSSA will continue to establish systems and processes to address these factors in areas and safety programs that are pending implementation.

Specific initiatives include:

- starting year one of the plan: TSSA will gather and analyze information and knowledge across sectors with limited information on the state of compliance, starting with planned enhancements in the fuels sector (also note that a strategy to address this issue in boilers and pressure vessels is discussed below under the strategic priority Extending TSSA's Reach); and
- starting year two of the plan: building compliance measurement systems for existing regulatory processes such as licensing, training and certification, and design reviews.

Strategy Two

The success of RIDM is largely measured by TSSA's ability to utilize the built capacity and infrastructure to make risk informed regulatory decisions that have demonstrable positive impacts on safety. In this regard TSSA has over the last three years successfully established risk informed decision process frameworks that apply to the operational stages of technology life cycles across the different safety programs. Examples of these include audits and inspections, and investigations. Additionally, in circumstances associated with specific instances of technologies (e.g. residential boilers), decisions have been made that address all aspects of the device life cycle. As an ongoing strategy, TSSA will continue to enhance its decision processes that apply to early aspects of technology life cycles, including their design and licensing stages (e.g. variances, licensing and registration, etc.) while, concurrently, continuing to monitor and manage ongoing specific safety issues (e.g. camp heaters).



Strategy Three

While significant components of RIDM are being implemented with a primary assumption that the current regulatory framework is largely adequate, the most effective value that a risk informed decision framework provides is its ability to evaluate the adequacy and effectiveness of the current safety management system. In addition to continuing to gather and analyze evidence on the performance of the current regulatory system (e.g. utility of compliance indicators, and observed and predicted health impact metrics) to determine adequacy/effectiveness of current regulatory processes (e.g. annual inspections of propane facilities), TSSA will proactively initiate risk assessments of identified regulatory gaps to determine appropriate courses of action with a primary emphasis on preventative measures. Examples of such tasks include the development of program-specific strategies on management of aging devices, and advocating code changes to address identified design deficiencies (e.g. buried hydraulic cylinders). In addition, TSSA will leverage its risk knowledge to demonstrate the benefits of existing proposed regulatory proposals, including recommended changes to the *Operating Engineers Regulation*.

5.3 Compliance First

Non-compliance may reflect a lack of awareness of the safety requirements, a belief that the requirements do not address a safety risk or a determination that the risk of non-compliance is lower than the cost of compliance, or possibly a combination of these. Under the Compliance First strategic priority, TSSA will apply innovative approaches to addressing compliance challenges based on an enhanced understanding of the motivations behind the non-compliance. The Compliance First strategic priority has three supporting strategies.

Strategy One

First, areas of large volume inspections with low risk non-compliances will be examined to determine if the requirements are necessary for safety. Where it is determined that existing provisions are not contributing to public safety, appropriate initiatives will be determined to remove them. This will involve influencing code development, revising approaches to code adoption, and/or making recommendations to government regarding revisions to regulations.

To implement this strategy, TSSA will conduct an assessment in the first year of this plan with a focus on areas where inspections demonstrate a high volume of low risk non-compliance, with a view to identifying priorities for attention and a pilot to test. Recognizing the limitations related to seeking revisions to regulations, TSSA will endeavor to learn from other regulators and industry stakeholders, and identify what actions can be made without changing the regulations. The pilot project will be implemented over years two and three of the plan. Implementation of this strategy, which is supported by advisory councils, will be done in a consultative and transparent fashion with stakeholders, including MCS where appropriate. Following assessment of the pilot project, an enhanced continuous improvement process will be established to review the remaining priorities.

Strategy Two

For requirements with affirmed contributions to safety, TSSA will implement enhanced enforcement procedures.

Early in the first year of the plan, TSSA will implement a zero tolerance policy in the elevating devices sector with a view to removing the long standing periodic inspection backlog. The success of this initiative will provide input in developing future enhanced enforcement strategies for each program that will be delivered over the next two years of the plan.

Strategy Three

TSSA will make adjustments in its existing fee schedule, where appropriate, in support of strategy two above (e.g. consideration of further increases in fees for follow-up inspections where required directions have not been addressed). With a longer term view, TSSA will seek to identify and test alternative and innovative approaches to the fee structure. In particular, TSSA will seek to develop and assess the effectiveness of incentive based fees (similar in concept to the Workplace Safety Insurance Board (WSIB)



model). It is believed that such an approach to fees will have additional benefits, including ease of administration that will potentially reduce costs and more clearly delineate that TSSA's is safety, rather than revenue, driven.

TSSA will initiate a pilot project to design an alternative approach to fee structures for devices in the boilers and pressure vessels sector, starting in the first year of the plan. This is a sector that currently does not have an existing comprehensive and sustainable fee structure, which presents the opportunity to start with a new model. TSSA will assess the success of this pilot in preparing for the next round of fee review in the other sectors in the second year of this plan, leading to making recommendations to stakeholders for substantive design changes in year three.

5.4 Shared Responsibility for Safety

Businesses and the public have an opportunity to enhance safety through their decisions; however, in many cases they are not aware of this opportunity and/or do not have the information necessary to make an informed decision that will enhance safety. As identified in previous strategic and business plans, TSSA and its regulated customers face a significant shortage in the availability of skilled workers. Increasing technical resource availability within the broader industry over the longer term is imperative to ensure safety standards are met in the industries which TSSA regulates. TSSA will continue to participate with industry in formulating plans to mitigate risks arising from possible shortages but, consistent with its mandate, will not play a leadership role. TSSA will continue to monitor the situation to determine if skilled labour shortages are anticipated to create public safety concerns or hamper the organization's ability to operate effectively, and introduce additional mitigating measures as may be necessary. In particular, TSSA will work with its industry advisory councils to attempt to quantify thresholds for skilled labour shortages which could begin to create public safety risks.

Strategy One

One significant decision that businesses and the public make is the selection of a contractor. While TSSA registers contractors to ensure a minimum threshold of knowledge/experience, not all perform equally and this is often reflected in their price, which may be attractive to businesses, especially in the current economic climate. TSSA will conduct a pilot project in the elevating devices sector in which it will design a program that will enhance the ability of elevator owners to make informed decisions regarding the hiring of maintenance contractors and make this information available on TSSA's website. This pilot will be implemented in year one of the plan, and monitored and evaluated in year two. Should it prove effective, a rollout of the approach will be determined and implemented in years three to five of the plan for the other program areas.

Strategy Two

A second strategy supporting this priority is to take steps to require industry to take greater ownership for safety compliance. A pilot project is planned in the elevating devices sector in which contractors will be required to report to TSSA on their plan for conducting annual safety tests. TSSA will then audit compliance of the plan through its scheduled periodic inspections. Where non-compliance with the contractors' plan is found, appropriate and enhanced compliance responses will be applied. This initiative will be implemented in year two of the plan and evaluated in year three. Should it prove effective, a rollout of the approach will be determined and implemented in years three to five of the plan for the other program areas.

Strategy Three

Another strategy in support of this priority is to look at existing partnerships to enhance public awareness of safety issues. In spite of past actions, carbon monoxide continues to be the leading cause of fatalities and serious injuries in the fuels sector. Recently, TSSA has made maintenance and carbon monoxide alarms mandatory for residential boiler applications. TSSA will consider opportunities to redefine maintenance requirements, with a focus on venting, in conjunction with existing partners, in particular contractors. This initiative will be launched in the first year of the plan and is considered a long term



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strategy. Should it prove effective, a rollout of this type of approach will be determined and implemented where applicable in years three to five of the plan for the other program areas.

In addition, TSSA will seek additional opportunities to have a focused and more inclusive approach, and look to broaden the application through new partnerships, such as with the insurance industry. This is discussed below under the Extending TSSA's Reach strategic priority.

5.5 Extending TSSA's Reach

Recognizing that TSSA has finite resources, the Extending TSSA's Reach strategic priority seeks to maximize the organization's compliance reach through the design and implementation of safety partnerships in service delivery.

Strategy One

As a first step, TSSA wishes to be able to demonstrate the effectiveness and viability of such partnerships. TSSA's delegated mandate includes a long standing service delivery partnership with insurers in the boilers and pressure vessels sector. Over time a number of concerns have been identified in both the design and delivery of this joint service. As a result, and in recognition of its commitment to addressing compliance gaps in a timely and effective manner, TSSA is reviewing this matter with a view to demonstrating that such a joint partnership can support positive compliance and safety outcomes. In particular, TSSA has two objectives with regard to this pilot initiative. The first is to demonstrate that TSSA can design and implement an appropriate and defensible oversight program, using auditing as the principle mechanism. The second has been identified with regard to the Compliance First strategic priority and is to ensure that the partnership is financially viable and sustainable. In this regard, the pilot initiative will seek to implement an innovative fee structure that will be delivered using the authority in the current regulations.

This strategy will be delivered in three phase as outlined below:

- *Phase One (Pilot): Create TSSA Central Data Base*
In this phase, already underway and scheduled for completion in the first year of the plan, TSSA will address the database requirements for a central repository to collect, store and retrieve insurance company inspection data. Based on the pilot assessment, TSSA will determine whether a more sophisticated solution will be required and establish any necessary future links to its Oracle system.

TSSA will work with insurance companies, many of which have already expressed their support, to provide data in electronic format, including a complete history of all inspections conducted.
- *Phase Two: Assess Pilot, Refine and Implement Full Plan*
Following the pilot, with completion planned for the first year of the plan, insurance company reports will continue to be input for the full current fiscal year. If necessary, this will be supported by a Director's Order to ensure full compliance.
- *Phase Three: Complete Data Collection – All Insured Devices in Ontario*
Phase three will occur over years two and three of the plan – with the result that by the end of year three of the plan, TSSA will have collected the device information for all regulated boilers and pressure vessels in Ontario.

Strategy Two

Recognizing that safety is a shared responsibility, TSSA will continue to pursue its strategy to better understand and assess options related to modifying user behaviour in those sectors where user behaviour continues to represent a significant proportion of incident root causes. In the first year of the plan, this knowledge will continue to inform the delivery of existing public education programs with recognition that available resources in this regard will be financially constrained as TSSA seeks to



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achieve positive net margins. TSSA recognizes that significant investments will be required to optimize the impact of public safety outreach programs. To fund these initiatives, the organization expects to leverage both efficiency gains and other strategic investment returns to assist in fulfilling this goal.

In years two and three of the plan, TSSA will reassess all of its public education/outreach efforts, based on its expanded understanding of the nature and scope of the challenges associated with user behaviour modification. The results will be used, where deemed appropriate, to fundamentally redefine these risk mitigation initiatives ensuring that they are fully integrated into the relevant program safety strategies. In particular, as noted above, TSSA will seek additional opportunities to have a focused and more inclusive approach and look to broaden the application through new partnerships, such as the insurance industry, to positively impact the safe utilization of fuel and reduce incidents of carbon monoxide exposure.

Strategy Three

Since its inception, TSSA has designed and implemented public outreach and education programs to address specific industry sectors, such as amusement devices, fuels, elevators, escalators and ski lifts, where incident and investigation findings have identified public or end-user behaviour as a key causal factor influencing safety outcomes. While TSSA has been actively designing and implementing public education programs, the evidence available clearly indicates that significant challenges regarding behaviour change remain.

Recognizing its regulatory mandate is to primarily focus on the safety of sites and equipment, and the way in which they are operated, in the interest of achieving its mandate of positive safety outcomes, TSSA has incorporated behaviour modification into its prior strategic plans. TSSA first incorporated a user behaviour modification initiative into its business plan in fiscal year 2007/2008 with two distinct components: research and implementation.

The findings obtained during the first year of research activity have been very useful in assessing what improvements could be made to current education and communication activities to more likely produce the greatest benefits. As a consequence of this research, modifications to existing programs are being implemented for amusement devices, fuels and ski lifts.

TSSA's three year assessment of behaviour modification is nearing completion. During the plan period, the focus of this initiative will be to provide additional knowledge that will assist in making more informed decisions on TSSA's user behaviour and public education strategies. Specifically, it will provide enhanced understanding of the scope of the challenge and, thus, the resources required to achieve the necessary amount of behaviour change that would lead to enhanced safety outcomes. This knowledge will further inform the safety strategies adopted by those program areas where user behaviour remains as a leading root cause. A pilot project applying this knowledge will be implemented first in the fuels sector.

6. Supporting Strategies

6.1 Risk Mitigation Strategies

TSSA has conducted a comprehensive enterprise risk assessment with a focus on those risks that have the greatest potential to inhibit achievement of objectives and for which TSSA has minimal risk appetite. The following are the priority sources of risk:

- the organization's delegated responsibility to deliver mandatory safety services on behalf of the government is rescinded or adversely changed;
- information critical for decision-making is unavailable or lacks integrity;
- information systems are unstable;
- failure to understand the perspective and priorities of MCS;
- the inability to recognize the need for, effect or implement change; and



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- corporate values of accountability, respect, trust, teamwork and communication are not imbedded in the behaviours and activities of the organization.

TSSA has incorporated, where appropriate, response plans to mitigate longer term risks, and prepared risk response plans to effectively mitigate realized risks.

6.2 Productivity Strategy

The strategy to continue to enhance productivity at TSSA has two stages. For stage one, TSSA has introduced its productivity measure to capture those core safety services having direct impact to TSSA's overall safety mandate. Implementation of this metric into TSSA's performance management processes has begun, with full implementation expected in 2010/2011. The second stage of productivity enhancement involves further process re-design.

Through the development and implementation of its new information system, TSSA redesigned many of its key businesses processes within the system application, including addressing the ongoing information needs of management. The next stage of business process redesign, already started, will again consider initiatives to more effectively deploy safety resources, reduce or eliminate non-value added tasks and re-engineer key inspection and engineering activities. Recognizing TSSA's responsibilities to compliance with regulations and its risk informed processes, this process redesign will be completed in an integrated manner. The new information system will be the hub for enabling these revised processes to perform more effectively and efficiently.

In addition to productivity enhancements within TSSA's operational programs, the company has also commenced implementation of certain local outsourcing arrangements within its head office functions. These outsourcing initiatives will deliver savings while concurrently improving overall financial flexibility, enhancing customer service and driving improved productivity across TSSA's corporate functions. Opportunities for continuous improvement will be sought to ensure optimal and efficient head office support in the delivery of TSSA's safety services.

6.3 Information Systems Strategy

Information management continues to be a key enabler of TSSA's safety priorities and strategies. During the past year, TSSA completed the implementation of its new information system. As expected, the learning curve and initial productivity impacts have presented challenges to TSSA, both from a support and user perspective. The organization continues to practice sound change management protocols and will work through 2010/2011 to leverage advanced system capabilities.

TSSA's long term strategic plan for information systems continues to evolve and, in addition to key strategic initiatives such as security and document management, the organization will continue to monitor and upgrade technology in order to enhance productivity and reporting tools in keeping with current industry developments.

TSSA's Information Services function continues to execute its strategic initiatives as identified in last year's plan using a collaborative approach. Following significant investment in the information system, during this plan period TSSA will continue to evolve the Information Services function to ensure it effectively supports the corporation in achieving its mandate and progress toward its vision. As identified in last year's plan, the Information Services team, in conjunction with its business partners, made significant advancements in the following areas:

- wireless capabilities in the field;
- enhanced reporting capabilities;
- infrastructure and software to support RIDM;
- continued development of disaster recovery plans;
- deployment of new laptops in program areas; and



- customer knowledge management with the tools to extend this technology to customer and other key stakeholder portals.

A review of the *Information Systems Strategic Plan* will continue to be conducted annually to confirm the plan remains aligned with the corporate objectives.

6.4 Stakeholder Strategy

Successfully achieving TSSA's safety mandate, its mission and vision are all to a degree dependent on effective stakeholder engagement strategies. Historically, stakeholder relations have been largely shaped by TSSA's more traditional regulatory approach. In particular, TSSA has taken steps to provide access to relevant safety information (e.g. codes, regulations, standards, etc.) and encourage regulated industries and the public to become informed regarding their responsibilities. Additionally, TSSA has, through forums such as its advisory councils, risk reduction groups and others, engaged industry stakeholders to address identified safety issues. TSSA also has actively engaged the government of Ontario, primarily through its oversight ministry, with a focus on activities such as regulatory improvement and managing specific safety related issues.

The assessment of TSSA's safety value chain has further highlighted the importance of TSSA's education, outreach and communication efforts with its stakeholders. Refining and further strengthening stakeholder engagement strategies are consistent with and fully support TSSA's safety value chain corporate strategy. As a result, TSSA will, over the plan period, develop and sustain a more comprehensive engagement approach focused on identifying and moving forward prevention-oriented safety strategies.

In particular, TSSA will implement the specific initiatives outlined below as a means of reshaping how TSSA will engage its regulated and government stakeholders.

Regulated Stakeholders

TSSA Advisory Councils

In year one of the plan, the strategy will focus on:

- increasing overall awareness of the councils among their industry sectors;
- encouraging more robust and diverse participation;
- enhancing consumer/public representation; and
- enhancing and standardizing consultation processes especially with regard to regulatory improvement processes.

Industry Organizations/Associations

In year two of the plan, TSSA's stakeholder engagement strategy will focus on building more comprehensive relationships with key industry organizations and associations. The strategy will focus on:

- identifying and assessing relevant organizations and associations;
- developing a standardized engagement framework to guide all such interactions; and
- applying the framework, recognizing the need to tailor specific tactics according to the nature of the sector, organization/association and align it with TSSA's strategic plan objectives.

Other Regulated Customers

Recognizing that TSSA has a very broad and diverse customer base, it is important to consider how to effectively engage those that fall outside of the more traditional groups that have been addressed through the initiatives previously outlined. For the most part, these other customer groups have not been the subject of sustained engagement efforts, rather they have been included in more generic customer communication actions.

Starting in year three of the plan and continuing during the balance of the plan period, TSSA will:



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- develop and implement an engagement strategy targeting municipalities;
- design and implement effective approaches for individual certificate holders, owners/operators and small businesses involved in activities within TSSA's mandate; and
- establish a business intelligence capacity to assist in enhancing TSSA's understanding of its various stakeholder groups; this will provide key input for refining and revising all stakeholder strategies.

Ontario Government

A primary objective of TSSA's stakeholder engagement strategy is to obtain the support of the Ontario government for TSSA's evolutionary path outlined in the value proposition. While the move to increase prevention activities in TSSA's safety value chain is, at face value, a principle that is easily supported and is consistent with TSSA's evolutionary path over recent years, the success of the planned introduction of new and innovative compliance and other safety service delivery strategies will be dependent upon the level of government support obtained. TSSA's government engagement strategy is focused on two key elements: MCS, as its oversight Ministry; and a number of other Ministries that have a clear public safety mandate.

Ministry of Consumer Services (Oversight Ministry)

Moving forward in year one of the plan, TSSA will continue to focus on four key areas of engagement:

- meeting regulatory governance expectations;
- efficient and effective reporting and oversight activities;
- advancing safety performance measurement and reporting; and
- enhancing overall communication and cooperation.

Other Ontario Government Ministries/Agencies

Starting in year three of the plan and continuing during the plan period, TSSA will focus on three primary initiatives:

- identifying and establishing effective relationships with appropriate government entities (for example, WSIB, Ministries of Health, Health Promotion, Energy and Infrastructure, Transportation, Agriculture, Food and Rural Services, Education and Natural Resources);
- enhancing relationships with key government agencies and related entities seeking opportunities for collaboration and cooperation on public safety/protection strategies (e.g. DAAs); and
- strengthening existing relationships with other public safety oriented ministries, departments and agencies, seeking out opportunities to integrate strategic and operational activities (e.g. Ministries of Labour, Environment, and Training, Colleges and Universities).

6.5 Human Resources Strategy

TSSA's goal of a results-driven culture is an essential component to the advancement of its value proposition and is designed to improve organizational performance. As a result, effecting cultural change will continue to be a key component of TSSA's human resources strategy. This initiative will seek to enhance accountability, responsiveness and a sense of urgency. Specific areas of focus will continue to include:

- how the organization's leaders model the desired behaviour;
- the prioritization of performance objectives and action plans;
- demonstrated value to customers; and
- achievement of safety goals.

While TSSA has experienced a low turnover rate over the past few years, the organization will need to pay particular attention to ongoing challenges with employee retention. While recruitment in technical roles continues to be a challenge, TSSA has experienced positive indications of stable retention. With approximately 25 percent of TSSA's current total workforce approaching retirement age in the next five years, most of these individuals within operational areas, TSSA will continue to focus on and develop innovative recruitment and retention strategies.



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The workforce is believed to be stabilized and no significant addition to operational resources has been contemplated for the strategic plan period; however, TSSA will consider its value proposition and the skills needed to support the desired shift to an increased focus on preventative activities within the safety value chain in future recruitment decisions. In addition, TSSA's enhanced human resources management and succession planning process will be further deployed throughout the organization to more effectively plan for the development and ultimate transition of skills and responsibilities.

While past surveys indicate that employee engagement at TSSA compares well to other benchmarked organizations, employees have only recently experienced the challenges presented by significant economic decline. Engaging employees will continue to be a vital aspect of TSSA's ongoing progress toward becoming a world leader – and a world-class place to work. An engagement survey was last conducted in 2008 and will be conducted periodically to monitor performance in this regard. TSSA is committed to continuing to work to establish an environment that is conducive to high morale and performance.

7. Financial Projections

7.1 Key Objectives

TSSA has, since its inception, been committed to operating on a sound and prudent financial basis. This approach has allowed the organization to meet its public safety mandate in an effective and efficient manner.

This year's strategic plan emphasizes prudent revenue growth with a continued focus on cost management and productivity. Revenues are expected to recover from a relatively flat fiscal 2009/2010, and grow on average by 4% through the planning horizon. Fixed operating costs will be maintained at current levels while variable expense will be managed in line with revenues. TSSA will also leverage certain restructuring initiatives implemented during fiscal 2009/2010 to enable the company to achieve its long term financial goals.

Consistent with this approach, TSSA has sought to achieve a net margin of 5% and a sustainable reserve of 5% of operating costs. While the policy target for the reserve remains at 5%, it is recognized that to enable TSSA to achieve its vision and deliver on its mandate, regular investments in the safety system are necessary. As such, TSSA will build up a reserve in excess of the policy target over the course of the strategic plan period to enable such strategic investments to occur as needed. During the early years of this plan, TSSA has provisioned for strategic investments related to productivity and to specific safety strategies as highlighted in sections 5 and 6 of this plan. Five-year financial projections are outlined in Appendix A.

Collectively, these prudent financial practices will continue to provide TSSA with the resources to make further investments in safety initiatives, including public education programs that have enhanced positive safety outcomes. TSSA also periodically reviews its reserve strategy to ensure excess reserves are not accumulated without due consideration to new strategic investments, operational risks/opportunities and other economic uncertainties.

TSSA has made a commitment over the past number of years to enhance value for money for all its customers. This means a combination of improving services while at the same time reducing costs by achieving organizational efficiencies. Despite making significant investments in the safety system, TSSA has not undertaken fee reviews in any of its programs since 2006. In fact, the aggregate increase in TSSA fees has been approximately 12% since TSSA became operational in 1997 while during the same period of time the Consumer Price Index (CPI) rose by some 27%.



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TSSA absorbed much of the CPI pressure without raising fees by increasing organizational efficiency and drawing on financial reserves. More specifically, the organization generated some \$2.2 million in positive, sustainable savings over the past three years and, while such efforts continue, further substantial cost reductions will be difficult to achieve.

During the same period of time, the organization also invested in safety infrastructure including a new information system, data integrity, RIDM and user behaviour modification, and also increased operational staff in all program areas to address regulatory requirements. In fact, inspection staff across the organization has been increased by 67% since TSSA's inception to enable the organization to better meet safety and customer needs. Effective November 1, 2009, TSSA implemented reasonable fee increases across all programs, other than in Upholstered and Stuffed Articles.

The impact of these decisions resulted in a planned drawdown of TSSA's total reserve, which at the end of 2008/2009 was reported at 7% of operating expenses, compared to a 5% policy target. Consistent with its overall financial goals, TSSA's plan is to maintain strong reserves throughout the plan period while delivering on its safety mandate and value for money principle for all its customers.

With economic recovery on the horizon, TSSA remains focused on operational efficiency and controlled growth. TSSA's financial objectives include improving operational leverage through improved gross margin while also increasing efficiencies across all support functions. New business applications are now possible through TSSA's new information system which will open new opportunities for TSSA to explore both growth and future efficiency.

Maintaining a strong balance sheet through improved working capital and strategically managing its investment portfolio is key to TSSA's financial flexibility. TSSA continues to focus on strong receivables management and by ensuring its investments are compliant with TSSA's policies while providing a balanced financial return.

7.2 Key Assumptions

This plan, in general, is predicated on the Ontario economy recovering from the deep recession experienced last year. Growth assumptions are in line with general increases for projected GDP (GDP consensus growth for Ontario at approximately 3%). Salary and wage adjustments are consistent with market expectations for business sectors similar to TSSA.

This plan reflects the full year impact of the above referenced fee increases, and assumes a further fee review will be performed during 2012/2013. Key to this year's plan is the improvements in operational efficiency. TSSA is projecting improvements in the gross margin, reflecting a focus on productivity as described in the productivity strategy.

Offsetting general inflationary impacts on operating expenses are productivity gains, and cost reduction initiatives implemented during fiscal year 2009/2010. Government oversight fees have been assumed to be consistent with the most recent fiscal year at \$612,000 per year.

8. Plan Objectives and Milestones

8.1 Introduction

In keeping with its commitment to transparency and openness, TSSA sets annual goals and performance targets in the form of a balanced scorecard. The balanced scorecard enables TSSA to identify goals, monitor and manage performance, and report on performance outcomes with respect to the needs of its various stakeholders.



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TSSA strives to use its balanced scorecard to provide a fair and unbiased assessment of performance, and to appropriately reflect both accomplishments and, where applicable, disappointments. This objective and balanced approach to performance management and reporting enables TSSA to analyze and determine root-cause of its successes and shortfalls as a means to enhancing its future performance.

Over the last three fiscal years, TSSA has enhanced its balanced scorecard as presented in its business plans, and the associated measures and metrics to ensure that they are predominantly key measures of TSSA's business that will enable management to monitor and, thereby, better manage the business for the fiscal year and over time. The metrics presented in this strategic plan build on this effort and incorporate a number of enhancements that have been under development internally in recent years. Sustainable metrics, outlined in TSSA's past business plan that will be superseded by the enhanced metrics presented in this plan, will continue to be included in the business plan for the next couple of years, consistent with a commitment to maintaining a stable set of performance metrics that reflect all regulated sectors.

Three types of metrics are outlined in support of this strategic plan:

- safety outcomes;
- organizational efficiency; and
- financial.

In addition, a balanced scorecard for the plan is attached in Appendix B.

8.2 Safety Performance

As noted previously, TSSA's efforts to develop and refine an innovative safety performance metric based on the measurement of burden of injury through the DALY metric will be launched publicly with this plan. Initiatives completed that have supported the development of the DALY safety performance metric include:

- evolved and reported internally on performance outcome metrics with quantitative/qualitative measurements piloted in the previous two fiscal years;
- assessed these metrics against relevant international practices; and
- demonstrated the significance of these metrics by utilizing them for making public safety decisions.

The measurement and monitoring of the DALY metric is based on information gathered through TSSA activities and other reliable sources. The burden of injury may be actual – based on occurrences with observed health impacts – and/or may be inferred based on near-miss occurrences. For the Boilers and Pressure Vessels, and Operating Engineers, and Upholstered and Stuffed Articles Safety Programs, where there are few incidents and resultantly little incident history, tracking and monitoring of non-compliance rates will be used as indicators of the state of safety. The assumption in these cases is that some combination of regulatory system and other safety practices are preventing occurrences from taking place.

The quantification of safety performance and the societal cost of injury, according to demonstrably objective criteria, will assist TSSA in a wide range of public safety decisions. When fully realized, the DALY metric will also allow TSSA to assess and quantify the actual burden of injury of occurrences as well as measure compliance effectiveness in a predictive and thus preventative manner consistent with TSSA's value proposition. A status of the approach – to compliance and safety outcome metrics for inclusion in this plan and enhancements to be developed during the plan – is provided below.

Compliance Metrics

Over the last two years, TSSA has developed and applied compliance indicators, including average non-compliance scores, as outlined in its business plan scorecards. TSSA will continue to use its current compliance indicators together with the addition of enhanced indicators to support its safety decision



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making. Detailed compliance results are included in TSSA's *Annual Public Safety Performance Report*, which is posted on the website. In addition as noted above, TSSA will continue to include a regulatory compliance metric in its strategic and business plans for the near term.

Compliance metrics as currently designed are reactive in nature. Also, as previously noted, the ability of compliance metrics to reflect safety outcomes is limited to the extent that existing compliance requirements have been quantitatively demonstrated to be effective. As outlined in the Compliance First strategic priority, over the period of this plan, TSSA will conduct appropriate assessments of compliance requirements in order to either demonstrate their effectiveness or support recommendations for revisions, where appropriate.

Consistent with TSSA's mandate to achieve positive safety outcomes, the safety performance metrics for this strategic plan will be outcome-based, which are in effect DALYs. Starting in year three and culminating in the first year following the plan period, TSSA will develop an inferred DALY based on compliance data. This metric will provide TSSA with a preventative compliance metric in keeping with TSSA's value proposition.

Safety Outcome Metrics

During the course of this plan, TSSA will formally report on actual or observed health impact metrics, expressed as DALYs. As noted, this metric has been internally reported and tested for the last two years. The actual or observed DALY metric is established using the root cause analysis associated with the incident management system for actual incidents inspected or investigated by TSSA that are within TSSA's jurisdiction. Targets will be expressed through a baseline to be matched or exceeded in the year and will include four categories as outlined below.

- 1. Total Actual or Observed DALY*
The total actual or observed DALYs is represented in the context of the population of Ontario and will be benchmarked against equivalent national fatality rates and against existing risk acceptance levels, such as those established by the Health and Safety Executive (UK).
- 2. Actual or Observed DALYs (Arising from Non-compliance with Regulatory Requirements)*
Incidents that may arise due to non-compliances with regulatory requirements include rules, regulations, codes, standards or guidelines. These situations typically apply to stakeholders with formal responsibilities within the safety system. As a component of the total actual or observed DALY, this metric cannot be externally benchmarked and, as a result, the baseline will be TSSA performance in the preceding year.
- 3. Actual or Observed DALYs (Arising from an Inadequate Current Regulatory System)*
Incidents may occur as a result of a lack of rules or inadequate rules. These occurrences highlight a deficiency in the safety system. They occur not because of non-compliance or lack of care, but from a failure of the rules, such as inadequate regulations, codes or standards. These failures become the basis of code amendments, Director's Orders or Ontario based Code Adoption Documents. These could include defective designs. As a component of the total actual or observed DALY, this metric cannot be externally benchmarked and, as a result, the baseline will be TSSA performance in the preceding year.
- 4. Actual or Observed DALYs (Arising from Factors External to the Current Regulatory System)*
Incidents arise in this category as a result of a lack of knowledge or inadequate care from those who are not required to be trained or from external factors (such as environmental conditions, power outages, etc.). These may also occur due to lack of awareness or understanding of risks on the part of users or the general public. These occurrences may become the subject of public education or behaviour modification initiatives. As a component of the total actual or observed DALY, this metric cannot be externally benchmarked and, as a result, the baseline will be TSSA performance in the preceding year.



In addition to the planned inferred DALY enhancement based on compliance data, TSSA will, starting in year two of the plan design, implement and monitor over a three year period standardized predictive safety indicators associated with incidents with no observed health impacts and near misses. This predictive DALY metric is scheduled for introduction in year five of this plan and will provide a predictive and, resultantly, more preventative safety outcome based metric consistent with TSSA's value proposition.

8.3 Organizational Efficiency

Introduction

TSSA has identified a number of organizational efficiency strategies designed to support the effectiveness of the organization's ability to achieve positive safety outcomes. In particular, the plan includes metrics for productivity, data validity and customer value.

Productivity

TSSA has developed a productivity metric which reflects time spent on core safety services as a percentage of total available time. To support this metric, each operational program maintains an account of core safety service hours. These hours are expressed as a percentage of total available inspector time, excluding off duty time such as vacation or sick leave.

Data Validity

Since 2007, TSSA incident data integrity was achieved with an insignificant error rate in all program areas, verified through an independent audit. TSSA will continue to have its incident data integrity verified through an internal audit. The current metric for incident data validity is data error rate as verified by audit where the "findings are not relevant in relation to the objective of the audit".

As already noted, TSSA has recently developed comprehensive and detailed policies concerning data, application, and business process control. Going forward, TSSA has designed a quality systems approach to ensure that all other data is verified and that data validity is regularly tested and audited to ensure maintenance of this essential database. During the first year of the plan, TSSA will develop enhanced data validity metrics, with the intent of enhancing metrics in support of this plan.

Customer Value

Utilizing relevant data from an external analysis of customer value research, TSSA has identified a number of value drivers that resonate with customers. These include:

- trustworthy;
- responsible;
- expert;
- credible;
- accountable;
- consistent; and
- experienced.

TSSA has conducted an analysis of customer value research to date, including asking customers to identify their desired values for a safety regulator and their perception of TSSA's performance against those values. To establish a metric for the first three years of this plan, TSSA has combined the scores of the three values in which the greatest gaps have been found between the desired and perceived values. Specifically, the customer value metric for the first three years of this plan is the sum of three metrics – customer satisfaction, decisions made in an impartial manner, and consistency – from the current annual customer values surveys.



Strategic Plan

Fiscal Years 2010/2011 to 2014/2015

The objectives of the strategies identified under the Compliance First strategic priority are essentially consistent with customer expectations as determined by TSSA's customer values research and, as a result, should result in an increase in the level of customer perceived value. To reflect this expectation, TSSA has set a target to increase customer value from the current baseline by 5 percent over the first three years of the plan.

During the first two years of the plan, TSSA will seek to revise the metric to reflect changing values or to develop a revised metric for application over year four and five of the plan.

8.4 Financial

TSSA will measure financial performance in this plan with two metrics: total revenue and total net margin. This is consistent with past business plans.

Appendix A

Statement of Income and Expense for Fiscal Years 2010/2011 to 2014/2015

	FY2009/2010 Forecast \$'000	FY2010/2011 Projection \$'000	FY2011/2012 Projection \$'000	FY2012/2013 Projection \$'000	FY2013/2014 Projection \$'000	FY2014/2015 Projection \$'000
MCS Business:						
Boiler and Pressure Vessels/Operating Engineers Revenue	9,845	11,491	12,104	12,767	13,150	13,545
Elevating Devices and Amusement Devices Revenue	16,050	17,112	17,959	18,598	19,156	19,730
Fuels Revenue	15,080	15,345	16,080	16,663	17,163	17,678
Upholstered and Stuffed Article Revenue	3,179	3,298	3,397	3,499	3,604	3,712
Total Revenue	44,154	47,246	49,540	51,526	53,072	54,664
Expenses	48,009	48,071	49,399	51,123	52,167	52,169
Net Margin	(3,855)	(825)	141	403	905	2,495
Non MCS Business:						
Revenue	2,996	3,454	3,557	3,664	3,774	3,887
Expenses	2,494	2,875	2,961	3,020	3,081	3,142
Net Margin	502	579	596	644	693	745
		15%	3%	8%	8%	7%
Total TSSA:						
Revenue	47,150	50,699	53,097	55,190	56,846	58,551
Expenses	50,503	50,946	52,361	54,143	55,248	55,311
Net Margin	(3,353)	(247)	737	1,047	1,598	3,240
	-7%	0%	1%	2%	3%	6%
Total Reserve \$	876	2,159	4,818	7,787	11,175	14,920
Total Reserve as a % of Total Expenses	1.7%	4.2%	9.2%	14.4%	20.2%	27.0%

Appendix B

Balanced Scorecard

	FY 2010/2011	FY 2011/2012	FY 2012/2013	FY 2013/2014	FY 2014/2015
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Safety Outcomes

DALY Total*

Equal to or better than external benchmark				
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DALY Non Compliance (portion of total)*
 DALY Inadequate Regulation (portion of total)*
 DALY External Factors (portion of total)*

Equal to or better than last year performance	Equal to or better than last year performance	Equal to or better than last year performance	Equal to or better than last year performance	Equal to or better than last year performance
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Organizational Efficiency

Productivity
 Data Validity
 Customer Value*

TBD*	TBD*	TBD*	TBD*	TBD*
Data verified	Data verified	Data verified	Data verified	Data verified
Equal to or better than FY 2009/2010	Equal to or better than FY 2009/2010	5% improvement from FY 2009/2010	To be reviewed	To be reviewed

Financial

Total Revenue
 Total Net Margin

\$47.150M	\$50.699M	\$55.190M	\$56.190M	\$58.551M
(\$247)K	\$737K	\$1.047K	\$1.598M	\$3.240M

*Note: Benchmark and/or performance targets to be inserted following 2009/2010 fiscal year end.