



Strategic Plan

Fiscal Years 2011/2012 to 2015/2016

Technical Standards and Safety Authority

Strategic Plan Fiscal Years 2011/2012 to 2015/2016

Executive Summary

In this strategic plan, the Technical Standards and Safety Authority (TSSA) introduces a new vision framework, including a new purpose statement, confirmation of its values, a new vision statement with an aspirational goal and plan period goals. This new vision framework was developed and tested with input from TSSA's board of directors, senior management, business leaders and staff, as well as the Chairs of TSSA's advisory councils.

Purpose:

To promote and enforce public safety.

Values:

Leadership – Be the best in actions and words.

Integrity – Be honest and ethical.

Respect – Build trust and earn respect.

Accountability – Be responsible for all actions and deliver on all commitments.

Communication – Be an effective and efficient communicator. Be an active listener.

Teamwork – Work together, respect individuals and celebrate success.

Vision:

TSSA will be a valued advocate and recognized authority in public safety.

TSSA has identified the following aspirational target towards its vision:

By 2018 TSSA will be a recognized leader in North America as demonstrated through benchmarking of our safety performance.

As a measure of success of advancing towards achievement of its vision to be a valued advocate and recognized authority in public safety, TSSA will achieve the following goals during the plan period:

- Our employees will be highly engaged, empowered, and proud of what TSSA stands for.
- Our regulated customers will believe that we deliver high value by promoting and enforcing public safety.
- Our safety performance will indicate positive safety trends consistent with our compliance goals.
- Our safety performance metrics will be recognized by Canadian regulators as the benchmarks to measure safety.

To support achievement of the plan period goals, TSSA has identified four strategies for the plan period:

- Leverage Risk Knowledge
- Compliance First
- Shared Responsibility for Safety
- Organizational Effectiveness

To measure achievement of the plan period goals, TSSA has identified four key performance Indicators (with applicable metrics):

- reduced health impacts, as measured in disability adjusted life-years (DALY);
- enhanced employee engagement, as measured by survey results;
- enhanced customer value, as measured by survey results; and
- increased efficiency, as measured by a core safety services metric.

The first three key performance metrics are also integrated into TSSA's balanced scorecard provided in its business plan.

TSSA will translate its strategies as outlined in this five year strategic plan into action through its business plan for the first fiscal year. In keeping with its commitment to transparency and accountability, TSSA's business plan sets annual performance targets related to the achievement of the business plan in the form of a balanced scorecard. TSSA is committed to meeting the targets outlined in its balanced scorecard.

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1. Purpose, Vision and Values

TSSA is an innovative, self-funded non-government organization dedicated to enhancing public safety. With headquarters in Toronto, it employs approximately 320 staff across Ontario, of which approximately 70 percent work in operations. Governed by a 13-member board of directors, the organization is accountable to the Ontario government, the residents of Ontario and its other stakeholders.

TSSA funds its regulatory operations by charging a fee to its industry customers for the services it provides. 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.

As an organization responsible for public safety, TSSA must be accountable and transparent. TSSA is one of the first public safety organizations to embrace outcome-based reporting, providing all its stakeholders with an understanding of safety in its delegated sectors. As a result, TSSA provides transparent performance reporting through its strategic plan, business plan, annual report and *Annual Public Safety Performance Report*. All of these documents are available to the public and can be accessed through the organization's website at www.tssa.org.

In addition, TSSA reviews its performance with the Ministry of Consumer Services (MCS), TSSA's oversight ministry, on a quarterly basis by way of a performance report that is enabled through the organization's risk-informed approach. TSSA is committed to ensuring that MCS's requirements are fully met and exceeded.

In collaboration with its partners in government and industry, TSSA strives to journey to zero serious injuries and fatalities in its regulated sectors.

The organization's purpose, values and vision are as follows:

Purpose:

To promote and enforce public safety.

Values:

Leadership – Be the best in actions and words.

Integrity – Be honest and ethical.

Respect – Build trust and earn respect.

Accountability – Be responsible for all actions and deliver on all commitments.

Communication – Be an effective and efficient communicator. Be an active listener.

Teamwork – Work together, respect individuals and celebrate success.

Vision:

TSSA will be a valued advocate and recognized authority in public safety.



TSSA has identified the following aspirational goal towards its vision:

By 2018 TSSA will be a recognized leader in North America as demonstrated through benchmarking of our safety performance.

In addition, TSSA has identified a set of goals for the plan period to enable it to advance towards its vision, which are outlined in section 5.

Safety Value Chain and Value Proposition

While TSSA's mandated powers are regulatory in nature, the organization has embraced a much broader role than compliance. Through both promotion and enforcement actions, TSSA seeks to continuously improve safety. Although some causal factors can be eliminated or constrained through compliance with regulations, codes and other means contained within the delegated mandate, other causal factors, particularly those related to operator or user behaviour can at best only be influenced by TSSA. Since TSSA cannot control all aspects that contribute to safety outcomes, it seeks to act as both a regulator and an advocate – firmly committed to improving safety.

In combination, TSSA's safety promotion and enforcement role includes the following safety value chain activities:

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 (examine): influence training institutions to properly train trades people, and effectively examine and certify trades people, register plants and equipment, and license devices, sites and contractors.

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 trades people, 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 actions before or after safety incidents.

Investigate: investigate safety incidents or near-misses.

TSSA's value proposition is to put the greatest emphasis on preventative activities within the safety value chain.

TSSA recognizes that the evolutionary path toward this goal will vary for each sector. In delivering on its value proposition, TSSA gives priority attention to identified gaps in compliance through the application of best practices in safety compliance management. Where opportunities remain to enhance safety, TSSA will design and implement safety promotion solutions such as public safety awareness campaigns. In addition, recognizing the role of MCS to advise government on regulatory policy to ensure appropriate safety standards are set out in legislation and regulation, TSSA plays a key advisory role to MCS in the policy development process.

TSSA delivers its activities through a sustainable funding model developed in a transparent and consultative fashion.



2. Situational Analysis

2.1 Introduction

In developing its strategic plan, TSSA conducted a scan of the internal and external environments in which TSSA operates. In particular, this scan evaluated strengths and weaknesses internal to TSSA's organization, and opportunities and threats external to TSSA. A summary of the strengths, weaknesses, opportunities and threats (SWOT) analysis together with a summary of compliance and safety successes and challenges in the sectors for which TSSA has responsibility is provided below. Collectively, this information is provided as a context for the development of the strategies and supporting objectives outlined in this plan.

2.2 Strengths, Weaknesses, Opportunities and Threats Analysis Summary

Strengths

Risk Informed Decision Making

Risk informed decision making (RIDM) is an innovative, systematic process, based on sound risk management principles used to make public safety decisions, thereby enabling TSSA's core activities to be more effectively and efficiently managed. It is designed to assist TSSA with the administration of its regulatory responsibilities. It is the primary tool TSSA uses to demonstrate its responsible and diligent approach to promoting and enforcing public safety.

Data Richness

TSSA's current and enhanced business processes collect a significant amount of rich data, including near miss data, related to its operations. This data is important not only to support RIDM, but also to optimize business processes.

Information Systems

The information systems at TSSA are a critical enabler to fulfill the organization's core functions in an efficient and effective manner. In 2005, significant deficiencies in the then existing business systems were identified and a project to acquire a new information system commenced. The final phase of the new information system went live in July 2009. TSSA's information system now enables the transformation of data into risk-based information to support TSSA's overall safety mandate.

Weaknesses

Employee Engagement

A recent survey indicates that employee engagement at TSSA has dropped significantly against previous years and against the external benchmark. As TSSA's most important resource is its employees, having an engaged and motivated workforce is essential to enable TSSA to achieve its strategic goals and objectives.

Efficient Use of Resources

Identified as a weakness last year, inspection productivity as currently measured by a core safety services metric has made a significant recovery and is on track with targeted commitments. It is not, however, certain that these positive gains are sustainable in the long term. To offset concerns about sustainably, certain administrative tasks currently being delivered by the inspectors could be delivered more efficiently through automation or through alternative resources.

Consistency of Business Processes

TSSA has identified opportunities to improve consistency in data entry, analysis, reporting and billing to established fee schedules. It is important to ensure that TSSA's rich data be uniformly generated so that



the same interpretations of the data may be made regardless of the program. Inconsistencies impact management's ability to conduct effective and value added business analysis.

Ageing Demographic

Approximately 15 percent of TSSA's current workforce has reached or is approaching retirement age in the next five years, with two thirds of these individuals within operational areas. As a result, the organization may face challenges in fully realizing its potential and fulfilling its mandate when resources are scarce.

Technical Recruitment

While TSSA benefits from much lower employee turnover rates than industry generally, recruitment in technical roles will continue to be a challenge as technical skills shortage looms over the plan period. At its worst, technical recruiting challenges could result in TSSA not being able to meet commitments. Alternatively, it may require an increased financial investment to ensure that TSSA is able to attract the resources it requires to meet its mandate.

Opportunities

Safety Performance Benchmarking

TSSA's efforts to develop and introduce an innovative safety performance metric based on the measurement of health impacts on Ontarians with respect to the sectors TSSA regulates through the disability adjusted life years (DALY) metric came to fruition in last year's strategic and business plans. Developed by the World Health Organization and adapted by TSSA, DALY is a quantitative measure of the total health impact resulting from injuries in Ontario and across all safety programs. A DALY of 1.0 is the loss of one year of healthy life due to an injury or health impact. Changes in the DALY value for a population over time can provide trends in the state of public safety. In addition, the effectiveness of TSSA's public safety strategies can also be evaluated over time by comparing the DALY value before and after implementation. Such quantitative measures of health impact can be benchmarked against other jurisdictions, or other sources of health impact nationally and internationally to compare the state of safety of Ontario. In addition, TSSA has established, tested and reports on a series of more traditional compliance metrics.

Enhance Customer Value

Since 2005/2006, TSSA has evolved its customer satisfaction research to better understand its customers' drivers of value with a specific focus on safety value. While these efforts have clearly indicated that TSSA's customers 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.

Threats

Economic Landscape

The economic environment facing TSSA, similar to all other organizations in Ontario, while notably improved from the recessionary extremes of a year ago, remains uncertain and may result in future economic hardship. While TSSA has historically been considered to be relatively recession resistant, the depth of the recent recession has had adverse impacts on its revenues, especially in the more customer-driven fuels, and boilers and pressure vessels sectors. More recent financial performance has been positive, although internal and external risks may have some adverse impact on these trends.



2.3 Status of Compliance and Safety

Compliance

TSSA conducts detailed evaluations of the state of compliance in all safety programs using the data acquired through targeted inspections conducted on equipment and authorization holders. The volume of data collected for the elevating and amusement devices program, the upholstered and stuffed articles program as well as certain segments of the fuels program and the maturity of the data collection processes in these areas allow for the most robust and dependable compliance evaluation and analysis. The current regulatory structure of the boilers and pressure vessels program and certain segments of the fuels industry require that the majority of inspections are conducted by parties other than TSSA.

To report annually on the state of safety in Ontario with respect to the sectors it regulates, TSSA publishes the *Annual Public Safety Performance Report*. A high level summary of the compliance trends noted in the most recent report is provided below.

Boilers and Pressure Vessels, and Operating Engineers

The number of deficiencies reported from inspections of power plants demonstrated a downward trend over the last six years, while the number of periodic inspections has remained relatively constant. The seriousness of these deficiencies is increasing, resulting in an upward trend in inspections requiring follow-up by TSSA inspectors to ensure the deficiencies have been addressed.

As defined under the regulations for boilers and pressure vessels, a large percentage of these devices and equipment are inspected by insurance companies rather than TSSA. As such, TSSA does not have sufficient evidence to report on overall compliance in the boilers and pressure vessels sector. A strategy to obtain appropriate data from insurance companies for the devices they insure and inspect is outlined below in the Leverage Risk Knowledge strategy and will enable future analysis of compliance.

Fuels

For the fuels sector, consistent with the regulations, TSSA information is limited to assessing contractor compliance and assessing compliance of licensed sites; however, 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 the Leverage Risk Knowledge strategy. These actions should increase knowledge regarding the state of contractor compliance for the fuels sector.

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 actions taken by TSSA to improve compliance 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 indicating a potential increase in non-compliance. For amusement devices there has been a downward trend in the percentage of inspections requiring a follow-up over the last five fiscal years, indicating an improvement in compliance.

Upholstered and Stuffed Articles

The Upholstered and Stuffed Articles program started collecting and entering compliance information into the new TSSA information system in fiscal year 2009/2010. To establish a meaningful trend on compliance in this program sector, data will be collected and analyzed for the subsequent three years. Upon completion of this collection and analysis process, a baseline compliance level will be established to identify and facilitate future compliance strategies for this program.

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 user behaviour contributing to incidents, allowing for possible safety promotion solutions such as public safety awareness campaigns.

TSSA has established a standardized best practice approach to quantifying incidents and near-misses using the previously referenced DALY metric. The detailed analysis across specific programs will allow TSSA to focus on areas with the greatest opportunity to reduce health impacts. Over the past two years, TSSA has developed and tested the DALY metric internally to ensure its effectiveness as a health impacts metric and started using the DALY metric for external reporting in fiscal year 2010/2011.

TSSA is now also evaluating the possibility of using the DALY metric in a predicative manner for incidents where there are no injuries to allow for a better understanding of safety risks and, as a result, enable TSSA to be more preventative in its actions. Details regarding TSSA's safety metrics are discussed in section 5.

A summary of safety highlights from TSSA's most recent *Annual Public Safety Performance Report* is provided below.

Boilers and Pressure Vessels and Operating Engineers

No statistically significant trends in serious injuries 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 and lack of knowledge of possible safety gaps for insured boilers and pressure vessels. A strategy to address this lack of information regarding insured devices has been initiated.

Elevating and Amusement Devices

A downward trend was identified in the number of serious injuries related to elevators. For 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 and TSSA has initiated actions to reduce these types of incidents.

Fuels

No statistically significant trends in the number of fatalities and serious injuries were identified for the fuels sector. Carbon monoxide related health impacts remain a major occurrence type resulting primarily from natural gas and fuel oil utilizing boilers and furnaces in residential locations.

Upholstered and Stuffed Articles

As noted above, upon completion of the data collection and analysis process for this program area, TSSA will be able to comment on safety data trends.

3. Plan Goals, Strategies and Objectives

3.1 Plan Period Goals and Key Performance Indicators

To measure TSSA's progress towards achieving its vision to be a valued advocate and recognized authority in public safety, during the plan period TSSA will accomplish the following goals:

- Our employees will be highly engaged, empowered, and proud of what TSSA stands for as measured by the employee engagement survey score.
- Our regulated customers will believe that we deliver high value by promoting and enforcing public safety.
- Our safety performance will indicate positive safety trends consistent with our compliance goals.



- Our safety performance metrics will be recognized by Canadian regulators as the benchmarks to measure safety.

Measurement of achievement of these goals will be achieved through the following four key performance indicators:

- reduced health impacts, as measured in disability adjusted life-years (DALY);
- enhanced employee engagement, as measured by survey results;
- enhanced customer value, as measured by survey results; and
- increased efficiency, as measured by a core safety services metric.

More information regarding these key performance indicators is outlined in section 5.

To achieve its goals for the plan period, TSSA has identified four strategies:

- Leverage Risk Knowledge
- Compliance First
- Shared Responsibility for Safety
- Organizational Effectiveness

Each of these strategies is outlined below with a description of how they enable TSSA to achieve its goals, a description of their supporting objectives, and the linkage with the key performance indicators that will be used to measure success.

3.2 Leverage Risk Knowledge

TSSA's innovative RIDM initiative is the basis of TSSA's approach to managing its public safety responsibilities to prevent incidents through understanding the potential for their occurrence and the most effective means of controlling risks. Using this sound and systematic approach will continue to position TSSA as an effective regulator through transparent and accountable decision making. By leveraging risk knowledge, TSSA is positioned to design rational and effective compliance measures and associated goals, and through the development of the safety performance metrics monitor and assess their effectiveness. This strategy also identifies opportunities to enhance safety performance through preventative activities and may also identify safety gaps in other areas outside TSSA's delegated responsibility which contributes to TSSA becoming a valued advocate.

Leverage Risk Knowledge - Objectives

Enhanced safety decision making by utilizing knowledge gathered on the state of compliance

TSSA will continue to enhance the use of its safety and compliance metrics for effective safety decision making and for performance reporting. It will identify data needs and take the appropriate steps to fill any observed data gaps. The resulting data collection will undergo accepted validation processes resulting in safety and compliance metrics that are robust, defensible and cover all TSSA regulatory processes. The resulting compliance and safety indicators will continue to inform the statutory directors on required safety improvement initiatives and most beneficial resource allocation.

Increased effectiveness of the safety performance metrics through innovative data analysis

Reliable data analysis is essential for the compliance and safety metrics utilized by TSSA. TSSA will continue to evaluate and implement new innovative and appropriate techniques for data analysis with respect to the three DALY categories of compliance with regulatory requirements, adequacy of regulatory structure and factors external to the regulatory structure, described in more detail in section 5.2. In addition, TSSA will continue to develop predictive safety metrics that will enable TSSA to advance and demonstrate the effectiveness of its preventative approach. TSSA will implement a quality assurance framework for data analysis based on international practices.

Achieve recognition of the safety performance metrics through the promotion of risk informed decision making

TSSA will continue to externally validate the RIDM approach and methodology. It will



identify appropriate mechanisms and relevant organizational sectors for objective validation. External validation of RIDM, including the safety metrics, will assist TSSA in assessing the effectiveness of this approach.

Leverage Risk Knowledge – Key Performance Indicators

TSSA will know it has succeeded in its Leverage Risk Knowledge strategy when it has achieved the positive safety trends and safety performance metrics recognition goals outlined above. More specifically, this strategy has the following key performance indicators:

<i>Key performance indicator: Reduced health impacts</i>					
<i>Metric: Total DALY</i>					
Current	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16
40.9 DALY for FY 2010/2011 compared to external benchmark of 570 DALY	Equal to or better than external benchmark				

In addition, TSSA will monitor progress of the Leverage Risk Knowledge strategy through monitoring of the following planned actions:

- establishment and refinement of additional data collection processes for relevant TSSA safety programs;
- identification of safety metric baseline for newly established data collection processes;
- predictive DALY methodology established; and
- seeking external validation of metric through recognition by other jurisdiction(s).

3.3 Compliance First

It is a key assumption that a better state of compliance to safety regulations represents an enhanced level of safety in Ontario. Through the Leverage Risk Knowledge strategy, TSSA obtains an enhanced understanding of safety risk to Ontarians and the state of compliance. This knowledge is put into action under the Compliance First strategy through the design and delivery of compliance goals. It is the fundamental expression of TSSA's commitment as a regulator to ensure compliance with the regulatory requirements. 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. Compliance cannot be taken for granted, especially with economic and other market pressure that may influence safety decisions. As such, TSSA will always exercise appropriate due diligence in improving compliance.

Compliance First - Objectives

Achieve positive safety trends by addressing areas of significant non-compliance As described above, non-compliance can result from different attitudes regarding safety, or alternatively a lack of knowledge of the regulations. As an enforcer, TSSA needs to continue to strengthen its demonstrated ability to manage non-compliance effectively. Areas of large volume inspections with low risk non-compliances will be examined to determine if the requirements are beneficial 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.

Support continued positive compliance behaviour through effective incentives Continued and improved compliance is well rewarded through TSSA's RIDM structure, in that the more compliant a



device is, the less frequently it is required to be inspected, thereby providing financial relief in a safer scenario. This notion needs to be better communicated and experienced by regulated customers. TSSA will review and make adjustments in its existing fee schedule, where appropriate, to create financial incentives and deterrents to address areas of significant non-compliance. In particular, TSSA will consider further increases in fees for follow-up inspections where required directions for rectifying found non-compliances have not been acted upon. Early in this plan, 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.

Compliance First – Key Performance Indicators

TSSA will know it has succeeded in its Compliance First strategy when it has achieved the positive safety trends target outlined in its goals noted above. More specifically, this strategy has the following key performance indicators:

<i>Key performance indicator: Reduction in health impacts attributed to non-compliance</i>					
<i>Metric: DALY compliance with regulatory requirements sub metric</i>					
Current	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16
18.8 DALY for FY 2010/2011	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

In addition, TSSA will monitor progress of the Compliance First Strategy through the compliance metrics for each of its regulated sectors which are included in its balanced scorecard, including:

- inspections passed/complete on first visit (percentage of inspections conducted where either no non-compliances found or non-compliances found and resolved during visit);
- average non-compliance scores (based on compliance history that combines number of previous inspections conducted, volume of inspection orders, and associated hazard ranks for inspection orders); and
- inspection orders per inspection (tracks average number of inspection orders issued per inspection with recent inspections weighted more than previous inspections).

3.4 Shared Responsibility for Safety

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 Shared Responsibility for Safety strategy directly supports TSSA's commitment to promote public safety leading to its vision to become a valued advocate.

Shared Responsibility for Safety – Objectives

Reduce public safety risk where compliance is not a factor by modifying user behaviour Since its inception, TSSA has designed and implemented public outreach and education programs to address specific industry sectors where incident and investigation findings have identified public or end-user behaviour as a key causal factor influencing safety outcomes. Clearly, mitigating the risks associated with user behaviour is a shared responsibility. This objective is focused on enhancing TSSA's understanding of how it can reduce intentional or unintentional user behaviours that put people at risk, to identify opportunities where TSSA can most effectively influence measures to mitigate these safety risks. This knowledge will lead to the development of actions in those program areas where user behaviour remains a leading root cause of incidents and injuries.



Achieve positive safety trends through effective and compliant training and certification The existence of appropriate training and certification standards and processes is essential to promoting and maintaining high levels of public safety. TSSA will continue to ensure consistent and uniform requirements for the approval of training providers and certification programs. TSSA will review and assess training and certification best practices and processes to establish more effective means for their implementation.

Achieve positive safety trends through effective and viable safety partnerships As TSSA develops its capacity to collect and analyze data, the impact of safety partnerships can be better analyzed and verified. 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 data and quality assurance challenges have been identified in both the design and delivery of this joint service. TSSA wishes to improve the effectiveness of its required oversight of the services provided by insurers, and consequently be able to demonstrate the effectiveness and viability of such partnerships. As a result, and in recognition of its commitment to addressing potential compliance gaps in a timely and effective manner, TSSA is working with industry to review this matter to be able to demonstrate that such a joint partnership can support positive compliance and safety outcomes.

Shared Responsibility for Safety – Key Performance Indicators

TSSA will know it has succeeded in its Shared Responsibility for Safety strategy when it has achieved the positive safety trends target outlined in its goals noted above. More specifically, this strategy has the following key performance indicators:

<i>Key performance indicator: Reduction in health impacts attributed to external factors</i>					
<i>Metric: DALY external factors sub metric</i>					
Current	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16
3.3 DALY for FY 2010/2011	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

In addition, TSSA will monitor progress of the Shared Responsibility for Safety strategy through the following operational metrics, some of which will be developed in the first year of the plan:

- training provider oversight, consistency and control;
- training provider competency;
- certification holder competency; and
- safety partnership growth.

3.5 Organizational Effectiveness

In order to achieve its vision, TSSA will take steps to enhance organizational effectiveness to most effectively promote and enforce safety, and ensure the right resources are in the right place at the right time doing the right things. This strategy is designed to enhance safety, employee engagement and regulated customer value targets.

Organizational Effectiveness - Objectives

Build increased capacity to succeed To effectively promote and enforce safety and achieve TSSA's vision requires a solid human resources foundation in which all employees are motivated and have a clear line of sight between their day-to-day activities and the strategies. In support of this objective, TSSA will also refocus its employee training, development and knowledge management programs through a centre of training excellence. In addition, to better support the organization in delivery of the strategies outlined in this plan, a formal change management function will be established.



Collectively, these efforts will support increased employee engagement. In addition, this objective is anticipated to further enhance TSSA's regulated customers' perceived value of TSSA, as a result of service delivery being more closely aligned with customers' expectations for a safety regulator, such as impartial decision making and consistency.

Fully utilize TSSA resources to maximize performance To enhance efficiency and effectiveness, TSSA will take steps to optimize the use of its skilled resources. This involves ensuring that employees have the skills and tools to do their jobs, and the right people are doing the right jobs. As an example, this means that technically skilled resources can focus as much of their time as possible on activities requiring those skills. This will include the use of appropriate technology to further automate tasks wherever possible and reduce the burden of administrative tasks. In addition, TSSA will standardize across program areas and formalize the methodologies for key processes to ensure the consistent application of best practices. The application of these methodologies will be built into the overall training and development program. A key indicator of success is TSSA's core safety services metric, which will be enhanced in the first year of the plan to capture both the "promote" and "enforce" elements of TSSA's purpose.

Leverage Technology to Support Capacity and Efficiency

Technology is both an enabler of business strategy through knowledge value and a foundation from which effective and efficient organizations thrive through deployment value. Technology must be integrated with people and information to truly deliver value to the enterprise. TSSA has recently made significant advancements in its technology landscape through investments in a leading edge information system, communication systems and various infrastructure tools/programs. For the future, TSSA will use the power of these systems to support the build capacity and fully utilize TSSA's resources objectives. In doing so, TSSA will embrace new and emerging communication approaches to assist employees, customers and stakeholders in the efficient use of its technology.

Organizational Effectiveness – Key Performance Indicators

TSSA will know it has succeeded in its Organizational Effectiveness strategy when it has achieved the employee engagement and regulated customer value goals outlined at the beginning of this section. More specifically, this strategy has the following key performance indicators:

<i>Key performance indicator: Increased employee engagement</i>					
<i>Metric: Overall employee engagement survey score</i>					
Current	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16
55%		67%		80%	
Note: a follow up "pulse check" at year-end has a score of " 61%					

<i>Key performance indicator: Increased regulatory customer value</i>					
<i>Metric: Customer values survey score of % of customers indicating moderate value compared to % of customers indicating high value</i>					
Current	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16
47% high customer value compared to 44% moderate customer value	Equal to or better than last year's performance	Equal to or better than last year's performance	40/50	Equal to or better than last year's performance	35/55

In addition, TSSA will monitor progress of the Organizational Effectiveness strategy through the following operational metrics, some of which will be developed in the first year of the plan:

- voluntary turnover of high potential employees;



- employee technical competence (required skills/actual skill level);
- improved consistency (for actions which do and do not require discretion); and
- increased information technology deployment and informational value (survey results of how well technology meets users' requirements and how well technology is contributing to the achievement of strategies).

4. Financial Projections

4.1 Key Objectives

TSSA remains committed to fair, transparent and consistent financial reporting. Accountability is a fundamental corporate value that underpins TSSA's commitment to safety and, in turn, its financial performance reporting. TSSA's five year projections are consistent with the prior year's commitment to prudent revenue management, focus on operational efficiencies and generating sufficient returns to ensure sustainable reinvestment into future safety initiatives. These projections reflect the following assumptions for revenue, expense and overall liquidity management.

Prudent Revenue Management

To fund its activities, the business must generate sustainable revenues across each of the program areas. 2008/2009 represented unprecedented economic challenges and, although the worst appears to be over, TSSA has projected a conservative average compounded revenue growth of under 4% over the plan period. These revenues will serve to offset fixed and variable expenses necessary to carry-on inspection, engineering and other safety related activities.

Focus on Organizational Effectiveness

TSSA remains focused on solid cost management practices. This includes transparent, open and fair procurement procedures. The rate of expense growth over the plan period is also under 4%. While the rate of expense growth marginally exceeds the range of CPI increase over the plan period, TSSA is projecting further investment in the safety system consistent with strategies included in this plan. These additional costs include continued investment in RIDM tools and processes, employee training and development, user behavior modification, and preventative safety measures. In addition, continued investments in information management, including technology, are reflected over the plan period.

Improvements in Liquidity

The economic challenges of 2008/2009 reminded all Ontarians of the importance of strong balance sheet metrics. TSSA is committed to maintaining sufficient reserves, backed by high quality, low risk fixed income securities to provide sufficient backstop in the event of a significant adverse event. Capital expenditures included in this plan are primarily related to information technology and investments in safety initiatives.

4.2 Key Assumptions

Though 2010 Gross Domestic Product (GDP) for the province of Ontario is projected to finish 2010/2011 at approximately 3%, TSSA based its revenue projections on a slightly more conservative GDP assumption between 2.0-2.5% over the plan period. This assumption reflects the realities and impacts of a dampened recovery in the United States, the resulting implications to Ontario's net exports, a strong Canadian dollar, and a slower than expected domestic construction and housing recovery. Through continued enhancements to TSSA's delivery of core services, TSSA's planned revenue growth averages just under 4% through fiscal 2015/2016.



Consistent with industry commitments, fees remain unchanged at fiscal 2010/2011 levels for the next two fiscal years. As in prior years, TSSA is committed to working with industry to review its fees and to implement new fee structures, starting fiscal 2013/2014, reflecting innovative approaches for financial deterrents and incentives related to compliance. TSSA's longer-term goals reflected in this plan are to ensure each program area is self-sustaining.

On expense management, annual inflation of approximately 2% is used as an inflator on baseline expenses. TSSA is committed to ensuring that normalized expense growth is maintained at a pace at or lower than average revenue growth. The Ontario government's oversight fees are projected to remain consistent with current levels.

Finally, TSSA has included in this plan additional investments and associated expenditures sufficient to ensure the ability to implement the strategies.

5. Translating the Strategies into Action

5.1 Introduction

TSSA will translate its strategies as outlined in this five year strategic plan into action through its business plan for the first fiscal year of this plan. In its business plan, TSSA outlines specific initiatives and targets designed to support achievement of the identified objectives for each of the strategies.

In keeping with its commitment to transparency and accountability, TSSA's business plan also sets annual performance targets related to the achievement of this business plan in the form of a balanced scorecard. TSSA is committed to meeting the targets outlined in its balanced scorecard. The scorecard includes a stable set of performance metrics that reflect its regulated sectors and enable year over year comparison. TSSA is also committed to continuous improvement of its performance metrics over time.

TSSA will continue to report on its performance against the targets outlined in its balanced scorecard in its annual report to provide a fair and unbiased assessment of performance, and to appropriately reflect both accomplishments and, where applicable, disappointments. This approach to performance management and reporting enables TSSA to analyze and determine root-causes of its successes and shortfalls as a means of enhancing its future performance.

TSSA's strategic plan, business plan and annual reports, as well as *Annual Public Safety Performance* reports are available on its web site.

5.2 Key Performance Indicators

As noted previously, measurement of achievement of its goals for the plan period will be primarily demonstrated through the following four key performance indicators and metrics:

- reduced health impacts, as measured in disability adjusted life-years (DALY);
- enhanced employee engagement, as measured by survey results;
- enhanced customer value, as measured by survey results; and
- increased efficiency, as measured by a core safety services metric.

The metrics related to these indicators are described briefly below. In addition, a summary of targets for the plan period for the key performance indicators is attached as Appendix B.



Health Impacts as Measured In DALY

The DALY Metric

Over the past years, TSSA developed and tested an innovative approach to measuring safety performance based on international best practices. As a result, DALY metrics were introduced publicly in last year's strategic and business plans. Developed by the World Health Organization (WHO) and adapted by TSSA, the total DALY quantifies the burden of injury, defined as the cumulative health impact on an exposed population. In simpler terms, it is the total of the individual DALYs resulting from all injuries sustained by Ontarians related to the sectors regulated by TSSA over the reporting period.

How the DALY is Calculated

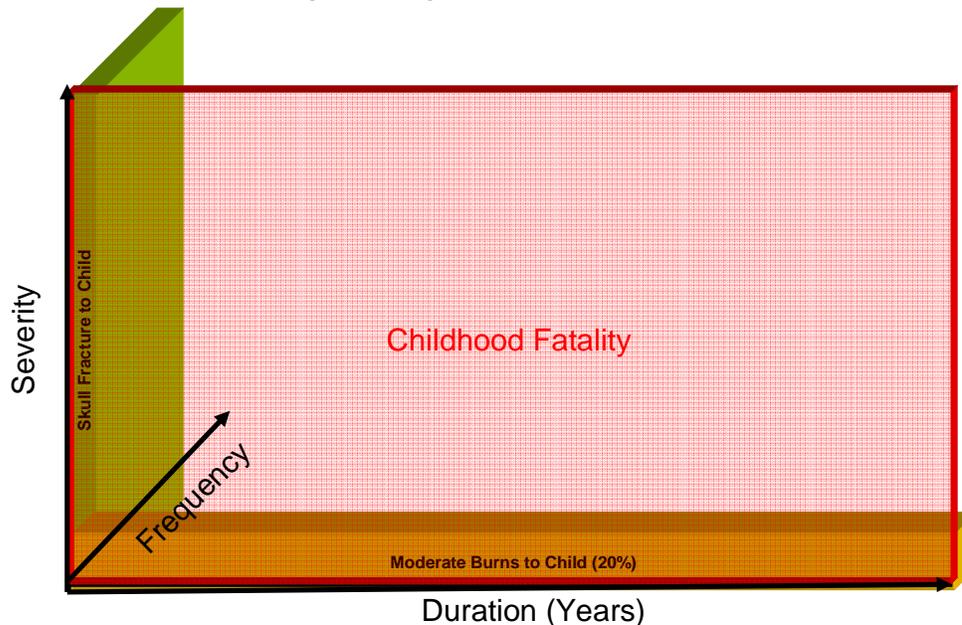
In simple terms, DALY provides a numerical representation of all injuries resulting over the reporting period, with consideration to three characteristics of each injury: severity, duration and frequency. When applied to a specific injury, the DALY metric reflects the age of the victim, how long the effects of the injury last, and the injury's impact on the victim's quality of life. A DALY of 1.0 is the loss of one year of healthy life due to the injury. In addition to its use for reporting safety outcomes, the DALY metric assists TSSA in a wide range of public safety decisions.

The DALY metric is calculated from information TSSA gathers through its activities and from other reliable sources. The burden of injury may be two-fold:

- **actual**, based on occurrences with observed health impacts; and/or
- **inferred**, based on near-miss occurrences; that is, an incident occurs that could have but did not result in an injury.

The figure below provides a graphical representation of the DALY calculation for three different types of injuries.

Graphical Representation of DALY Calculation



How TSSA is Using DALYs

TSSA is currently measuring, monitoring and reporting on actual DALYs only. The inferred DALY metric, currently under development, will also allow TSSA to quantify compliance effectiveness in a predictive and thus preventative manner.



For the Boilers and Pressure Vessels and Operating Engineers, and Upholstered and Stuffed Articles Safety Programs, where there are few incidents and injuries, non-compliance rates will continue to be used as indicators of the state of safety.

Four Categories of DALYs

Four categories of actual DALY metrics are utilized by TSSA for the purpose of reporting on health outcomes. The four categories comprise a total DALY and three sub-categories based on the degree to which TSSA can directly influence the outcomes. These DALYs are as outlined below.

1. Total Actual DALY

The total actual DALY is the sum of all observed injuries impacting all Ontarians across all industry sectors regulated by TSSA. The total actual DALY is benchmarked against equivalent national burden of injury rates.

2. Actual DALY Arising from Non-compliance with Regulatory Requirements

The actual DALY arising from non-compliance with regulatory requirements measures the injuries that occur due to non-compliances with regulatory requirements such as rules, regulations, codes, standards or guidelines. These situations typically apply to stakeholders with formal responsibilities within the safety system, such as owners or operators of facilities or devices, or tradespersons holding TSSA certifications, and are most directly under TSSA's control.

3. Actual DALY Arising from an Inadequate Current Regulatory System

The actual DALY arising from an inadequate current regulatory system measures injuries that occur as a result of a lack of, or inadequacy of rules, regulations, codes, standards or guidelines. This DALY may highlight a deficiency in the regulatory system for which TSSA can recommend changes.

4. Actual DALY arising from Factors External to the Current Regulatory System

The actual DALY arising from factors external to the current regulatory system measures injuries that arise due to individuals, other than those with a formal responsibilities within the safety system, such as individuals riding an elevator or amusement device or using a propane tank for barbequing, inadvertently becoming injured due to a lack of awareness, understanding or knowledge of risks associated with the technology, or inadequate care in using the technology. Through awareness of user behaviour that contributes to injury, TSSA can develop strategies with a view of encouraging safer behaviour.

Employee Engagement Survey

TSSA historically conducted employee satisfaction surveys on an annual basis. In 2008, TSSA adopted a new approach focusing on employee engagement. This approach allows TSSA to benchmark against other companies who use the identical survey as well as track year-over-year internal results.

The survey is comprised of 12 key attributes including work environment, immediate management, professional growth, innovation, performance feedback, work/life balance, teamwork, customer focus, organizational vision, compensation, senior leadership, and information and communication. Each survey year, TSSA also adds custom questions in order to inform program development or probe areas not covered by the standard survey

Customer Value Survey

In 2006 TSSA, through an independent third party, initiated quantitative research to gain important insights regarding its customer's value proposition. The goal of the research was to strengthen customer relationships through establishing a deeper understanding of regulated customers' perception of the value TSSA provides as a safety organization. The research has three main objectives:

- to track key benchmarks around customer perceptions of value;



- to further explore drivers of value with a particular focus on developing actionable research intelligence; and
- to understand and quantify differences in perceived attributes of value across various customer groups.

Overall value of TSSA is one of the key benchmarks that have been tracked since 2006. Specifically, the survey includes the following question: TSSA's regulated customers are asked:

"thinking about all the different things that TSSA may do for you and others in the province of Ontario, how would you rate the overall value of the organization? Rate your answer on a seven point scale where seven is a very high degree of value, one is little or no value and the midpoint four is moderate value."

While this question provides a high level measure of the customers' perceptions of the value it is equally important to identify and understand factors that influence the overall rating. In this regard, TSSA regulated customers are also asked to rank the importance of various attributes and then rate TSSA performance against those same attributes. This data is reflected in the balanced scorecard reporting on regulated customer value.

Core Safety Services Metric

In fiscal year 2009/2010, TSSA developed an internal metric that measures the amount of time inspectors spend on those services that create the greatest safety value, the core safety services metric. This metric reflects time spent on core safety services as a percentage of total available time. It is a clear indicator of how TSSA operational resources are applied to core safety priorities. These hours are expressed as a percentage of total available time, excluding off duty time.

Consistent with its new purpose, TSSA will in the first year of this plan enhance this metric to more effectively capture the "promotion" related activities of its operational staff delivering safety services.

5.3 Balanced Scorecard

TSSA uses its balanced scorecard, updated annually and included in its business plan, to provide a fair and unbiased assessment of performance, and to appropriately reflect both accomplishments and, where applicable, disappointments. This approach to performance management and reporting enables TSSA to analyze and determine root-cause of its successes and shortfalls as a means of 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 measures of TSSA's business that will enable management to monitor and, thereby, better manage the business for the fiscal year and over time.

In addition to three of the key performance indicators outlined in this strategic plan, the balanced scorecard includes the following:

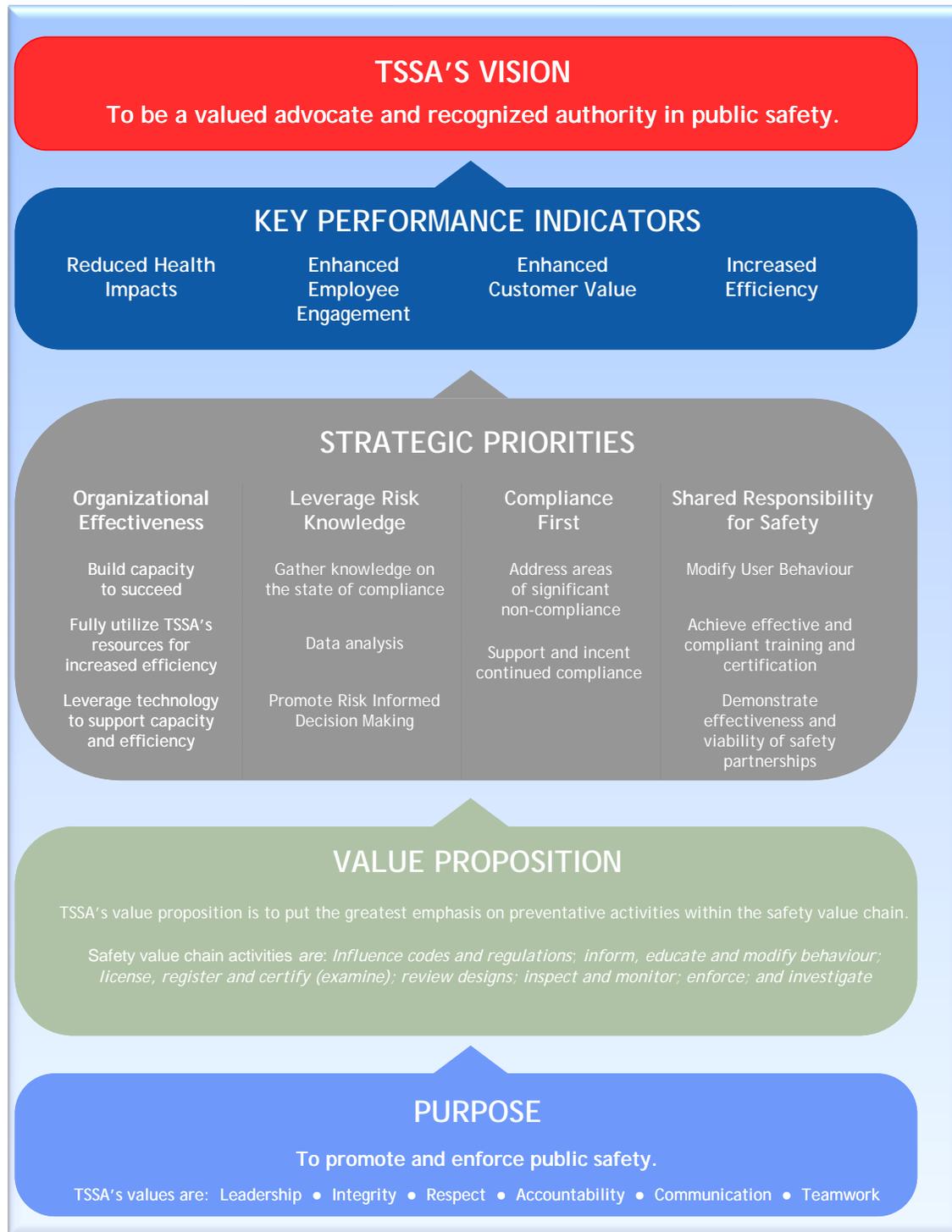
- compliance metrics as described in the Compliance First strategy;
- operating leverage;
- data error rate;
- operational health and safety dashboard leading indicators;
- regulatory business revenue and margin; and
- non-regulatory business revenue and margin.

TSSA reports on performance against its balanced scorecard targets in its annual report.



Appendix A

Strategic Plan at a Glance





Appendix B

Key Performance Indicators

	FY 2010/2011	FY 2011/2012	FY 2012/2013	FY 2013/2014	FY 2014/2015	FY 2015/2016
Reduced Health Impacts Metric: Disability Adjusted Life-Years (DALY)) DALY Total	40.9 DALY for FY 2010/2011 compared to external benchmark of 570 DALY	Equal to or better than external benchmark	Equal to or better than external benchmark	Equal to or better than external benchmark	Equal to or better than external benchmark	Equal to or better than external benchmark
DALY Non Compliance (portion of total)	18.8 DALY for FY 2010/2011	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
DALY Inadequate Regulation (portion of total)	0 DALY for FY 2010/2011					
DALY External Factors (portion of total)	3.3 DALY for FY 2010/2011					
Enhanced Employee Engagement Metric: Overall survey score	55% Note: a follow up "pulse check" at year-end has a score of " 61%		67%		80%	
Enhanced Customer Value Metric: Survey score of % of customers indicating moderate value compared to % of customers indicating high value	47% high customer value compared to 44% moderate customer value	Equal to or better than last year's performance	Equal to or better than last year's performance	40/50	Equal to or better than last year's performance	35/55



Appendix C

Technical Standards and Safety Authority Statement of Income and Expenses Fiscal Years 2011/2012 to 2015/2016

	FY2010/2011 Q2-Forecast \$'000	FY2011/2012 Projection \$'000	FY2012/2013 Projection \$'000	FY2013/2014 Projection \$'000	FY2014/2015 Projection \$'000	FY2015/2016 Projection \$'000
MCS Business:						
Boiler and Pressure Vessels/Operating Engineers Revenue	11,150	11,500	12,050	15,060	15,390	15,730
Elevating Devices and Amusement Devices Revenue	17,610	18,470	20,670	19,390	19,810	20,240
Fuels Revenue	17,580	18,780	18,340	19,170	19,580	19,970
Upholstered and Stuffed Article Revenue	3,220	3,280	3,350	3,420	3,490	3,560
Total MCS Business Revenue	49,560	52,030	54,410	57,040	58,270	59,500
Non-MCS Business Revenue	3,550	3,650	3,860	3,920	3,960	4,040
Total Revenue	53,110	55,680	58,270	60,960	62,230	63,540
Total Operating Expenses	49,510	56,070	58,080	60,320	61,170	62,940
Excess/(Deficiency) of Revenue Over Expenses	3,600	(390)	190	640	1,060	600
	7%	-1%	0%	1%	2%	1%