



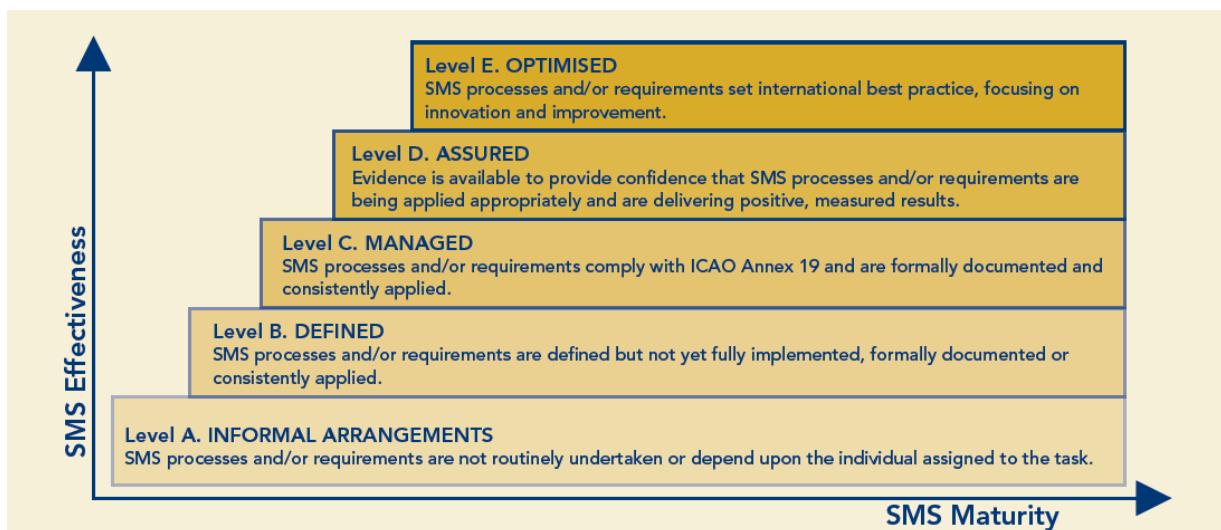
Safety Evolution Guide: Risk and Opportunity Based Corporate Safety Plan

1. OBJECTIVE OF GUIDE

Members of the Civil Air Navigation Services Organisation (CANSO) are committed to the improvement of their services. As part of this commitment, organisations share their practices in efforts transfer learning across the industry.

This guide captures:

- The practices of an Air Navigation Service Provider (ANSP) in one element of the CANSO Standard of Excellence (SoE) in Safety Management System (SMS). The practices of this ANSP have been recognized by their peers as being an optimised practice within the industry (see Figure 1). The optimized practices have been selected on the basis of their novelty, innovation or the recognition of their potential to manage operational risks.



Given the dynamic nature of safety management, the practices presented in this document may be superseded. CANSO will publish updated best practice guidance.

2. APPLICATION OF THE GUIDANCE

CANSO recognizes that this guidance will not be relevant to all ANSPs. The maturity of any ANSP's Safety Management System will be dependent on their specific context. This context will be a reflection of factors including the size and complexity of the organisation, domestic regulations and the risk appetite of the organisation.

ANSPs do not necessarily need to adopt all the practices and processes promoted by CANSO, but consider the relevance of the practices promoted in this guide to their operational environment.

3. OPTIMISED PRACTICE

This guide addresses a SMS process which was identified in 2020 as being optimised, it details how one Air Navigation Service Provider, NAV CANADA, develops its annual safety plan based on identified top operational safety risks and SMS opportunities. The

approach was reviewed by a panel of experts from the Next Generation SMS Workgroup of the CANSO Safety Standing Committee. The approach meets both the CANSO and International Civil Aviation Organisation's requirements for Safety Risk Management, Safety Performance Monitoring and Measurements, and Continual Improvement of the SMS (see below).

4. SCOPE OF GUIDE

This guide aims to provide an insight into why and how NAV CANADA developed, implemented, and maintains a risk and opportunity based corporate safety plan.

5. APPLICABLE STANDARDS AND REQUIREMENTS

This guide applies to three of the study areas in the CANSO Standard of Excellence in Safety Management Systems (2018) as shown below. [CANSO Standard of Excellence in Safety Management Systems.pdf \(icao.int\)](https://www.icao.int/safety-management-systems/Pages/default.aspx)

7. Safety Risk Management (ICAO Frameworks 2 and 3.1.1)

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
7.1 Hazards to operations are reported and assessed.	Hazards to operations are not highlighted by either managers or staff. However, risks to operations are recognised.	<p>The organisation is developing processes to assist in the identification and reporting of hazards.</p> <p>The organisation is developing processes to assess the risk that hazards pose to operations.</p> <p>The organisation is developing processes to document the existence of hazards and their risk levels.</p>	<p>The organisation has a sufficient number of qualified employees to assist in identifying and assessing hazards.</p> <p>The organisation has taken reasonable steps to identify all hazards affecting its operations.</p> <p>The organisation's hazard identification process is based on a combination of reactive, proactive and predictive methods of safety data collection.</p> <p>The organisation regularly includes stakeholders in its identification and assessment processes.</p> <p>The organisation addresses identified hazards as part of its process to improve safety performance.</p>	<p>The organisation reviews and updates its hazard identification and analysis processes at least once every five years.</p> <p>The organisation monitors whether the hazard identification process is appropriately applied.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
7.2 Assessed risks are mitigated or controlled.	There is limited understanding of the need to mitigate or control risk, even when risks are recognised.	<p>The organisation acknowledges the need to mitigate and control risks.</p> <p>The organisation has defined the level of risk that individual managers can approve.</p> <p>The organisation is establishing processes to document how appropriate controls and mitigations should be selected.</p>	<p>The level of analysis, assessment, mitigation and control of risk being undertaken is proportionate to the severity of the risk outcome.</p> <p>The organisation documents and enforces the level of risk that its managers can accept.</p>	<p>The organisation reviews the level of risk it can accept at least once every five years on the basis of its performance.</p> <p>The organisation reviews its level of risk to ensure it is in line with the risk tolerance level of its governing body (e.g., board).</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
7.3 Risk controls are monitored for effectiveness, and remedial action is taken if controls are not working effectively.	There is little understanding of what constitutes a risk control at either a system or local level. The effectiveness of these controls is not evaluated.	There is a reasonable understanding of risk controls in the organisation. The organisation is developing processes to identify, assess and control operational risks.	The organisation has formally documented its risk control processes. The organisation is implementing risk control processes. The organisation is identifying and documenting operational risk controls. The organisation has implemented processes and practices that allow it to measure its operational risk baseline.	The organisation regularly monitors the effectiveness of risk controls. Where deviations or deficiencies are identified, the organisation has proposed improvements to the risk control framework. The organisation's long-term investment programme provides for improvements in safety that address key risks (e.g., safety tools, additional staff, training). The organisation identifies and manages performance deviations and deficiencies from its operational risk baseline.	The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.

13. Safety Performance Monitoring and Measurement (ICAO Element 3.1)

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
13.1 An established and active monitoring system that uses and tracks suitable safety indicators and associated targets (e.g., lagging and leading indicators).	There are no indicators, thresholds or formal monitoring systems in place to measure safety achievements and trends	The organisation has a plan in place or under development to implement a safety performance monitoring system. The organisation has established safety indicators.	The organisation has implemented and formally documented a safety performance monitoring system. The organisation's safety performance targets are meeting all applicable regulatory requirements.	The organisation has developed targets to reflect its safety policy and risk tolerance. The organisation analyses trends for safety improvement purposes. The organisation has safety indicators covering all aspects of the system or operation. The organisation uses leading indicators to increase the range of safety metrics for measuring its performance. Safety management processes require that any negative trends in safety performance indicators be addressed.	The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.

15. Continual Improvement of the SMS (ICAO Reference 3.3)

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
15.1 An integrated planning process drives the continual improvement of the SMS.	An ad hoc or non-existent safety planning process is utilised by the organisation. Safety goals and objectives have not been identified or documented for the implementation of an SMS.	The organisation is preparing to develop a plan to show how it will improve the implementation and management of safety.	The organisation has established formal planning processes to drive improvement of its SMS The organisation regularly evaluates the effectiveness of these planning processes.	The organisation has a plan to improve the management of safety risks. The organisation's plan to improve its SMS includes measurable safety management goals and targets.	The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.

6. OPERATIONAL AND ORGANISATIONAL CONTEXT

The Corporate Safety Plan has been a foundation for NAV CANADA's improvements in safety for over two decades. It provided the impetus for numerous improvements to operational safety, from the implementation of the Safety Management System (SMS) through to the Normal Operations Safety Survey, and the ongoing development of the NAV CANADA Safety Information System. These activities have led to the mature SMS that NAV CANADA has today, with well-defined and understood processes for the management of operational risks to a level as low as reasonably practicable.

Over the years, the Corporate Safety Plan itself has remained consistent in concept; however, it focussed more on SMS issues and opportunities for improvement than operational issues which were addressed in other planning documents and processes. At the end of fiscal year 2016 with many Safety Plan goals scheduled to close, an opportunity arose to review the focus of the Plan to ensure the best support for the Company's intended direction. During fiscal years 2017 and 2018, NAV CANADA set out to modernize the Corporate Safety Plan and the reporting on its achievement.

The results of this modernization effort were reflected in the FY2019 Corporate Safety Plan (produced in 2018). The effort resulted in the following enhancements:

- Includes activities to address the Company's top operational safety risks (eight in 2019 and 2020 Safety Plans; nine in the 2021 and 2022 Safety Plans) as well as implement SMS opportunities.
- Expressly demonstrates the link to corporate strategy, enterprise risk management, and other corporate processes.
- Has multi-year goals supported by annual initiatives relatable to operational, day-to-day activities.
- Has goal-driven measures including outcome measures (e.g., 75% of employees are aware of the top risks, reduction in fatigue risk metrics as compared to FY2019 Baseline, 75% of Safety Culture program measures have achieved target levels, etc.) as opposed to just transactional measures (e.g., project completed, system implemented, etc.).
- A targeted product for senior management and the Board of Directors; clearly capturing risks, SMS opportunities, multi-year goal measures, targets and annual initiatives, measures and targets.
- Structured quarterly reporting including full mid-cycle review with Goal Sponsors to make necessary course corrections and plan adjustments, and a year-end report clearly demonstrating achievement against the plan.
- A separate "face of safety" companion document, "Navigating Safety" targeted to all employees to relay key information on achievements from the previous year, and plans for the upcoming year.

The Safety Plan is the mechanism by which NAV CANADA fulfils its regulatory requirement to set, monitor and report on safety objectives and goals. It is prepared annually, and now contains:

- The safety goals that identify long-term (multi-year) improvements in safety performance to be achieved in a specific time; and
- An action plan for the respective fiscal year, to support achievement of those safety goals.

The Safety Plan is prepared for each NAV CANADA fiscal year (September-August), and the safety planning process is coordinated and aligned with the timing and structure of other enterprise-wide processes such as corporate strategic planning, and enterprise risk management.

7. SAFETY PLAN DEVELOPMENT AND REPORTING GUIDELINES

7.1. INPUTS TO THE SAFETY PLAN

There are a number of processes that provide inputs to the development of the Corporate Safety Plan, including but not limited to: the Corporate Strategic Plan (incl. strategic priorities); safety objectives contained in the Corporate Safety Policy; the results of the prior year's Safety Plan; the Safety Risk Assessment; the Enterprise Risk Assessment; the National Safety Trend Analysis; the annual SMS Management Review; and the CANSO SMS Maturity Assessment.

These inputs drive the modification to existing, or development of new, Safety Plan goals and initiatives.

7.2. TIMELINE / CYCLE

The annual Safety Plan is prepared for each NAV CANADA fiscal year (September – August). The planning for the upcoming fiscal year begins in February. Goals and their associated measures and targets are set and approved first, in April, and then the action plan for the fiscal year is developed. The full Plan is approved in July. Should updates be required due to new inputs received following fiscal year end (e.g., year-end safety plan report; safety risk assessment), the Safety Plan is updated and re-submitted for approval in October.

Reporting on achievement of the Safety Plan is done on a quarterly basis.

7.3. DELEGATED AUTHORITIES

Delegated authorities have been assigned for the approval of the Safety Plan, as well as changes to it.

In general, Executive Management Committee (EMC) reviews and endorses the Plan prior to presentation to the Board of Directors Safety Committee (BSC) for approval. The Vice-President and Chief Safety and Quality Officer, Vice-President and Chief of Operations, Vice-President and Chief Technology and Information Officer, and the CEO also endorse all BSC presentations and reports related to the Safety Plan prior to presentation at the quarterly BSC meetings.

Any changes or modifications to the Safety Plan must be endorsed by EMC and approved by the BSC.

Those incentivized by the success / completion of the Safety Plan can endorse and make recommendations, however only the BSC can approve the Safety Plan, and it is the BSC that makes final determination on its year-end achievement.

Goal Sponsors develop and approve goals and their associated initiatives, and are responsible for monitoring and ensuring their completion or achievement.

7.4. MEASURING SUCCESSFUL COMPLETION OF THE SAFETY PLAN

The Board of Directors Safety Committee approves the method by which overall achievement of the Safety Plan is determined, and at fiscal year-end, provides that determination.

Success of the Safety Plan is measured by a weighted completion rate of the percentage of Initiatives (by high, medium, low priority) considered “completed/achieved” at year-end as assessed against the initiative’s measures. The plan is considered successfully completed if a weighted completion of 90% is achieved and approved by the BSC. The BSC has the discretion to approve the completion of the Safety Plan irrespective of whether or not the Plan meets the target weighted completion rate by taking into consideration a variety of factors.

Completion / achievement of Safety Plan Goals is also monitored and reported on; however, these do not impact the successful achievement of the annual Safety Plan.

7.5. IDENTIFICATION OF TOP OPERATIONAL SAFETY RISKS AND SMS OPPORTUNITIES

The top operational safety risks are determined through the Safety Risk Assessment process. Risk targets are set through the same process. The top operational safety risks remain in the Safety Plan if management deems it to be an ongoing risk requiring continued mitigation efforts or until such time as the risk score reaches its target level.

The SMS opportunities are identified through a variety of inputs including but not limited to the National Safety Trend Analysis, the SMS Management Review, and the CANSO SMS Standard of Excellence Maturity Assessment benchmarking exercise.

Both the operational safety risks and the SMS opportunities must be related to one or more safety objectives (which are documented in the corporate safety policy).

7.6. REVIEWING AND SETTING GOALS

For each top operational safety risk and each SMS opportunity, at least one long term (multi-year) goal is identified, and a goal statement supported by a short narrative describing the goal is documented. Goals related to the top operational safety risks are set to reduce these risks to a level as low as reasonably practicable. Goals related to SMS opportunities are meant to improve operational safety and the Company’s Safety Management System. Each goal has a senior management level goal sponsor who identifies goal measures and targets

As a starting point, Goals from the previous year are carried forward to the new Safety Plan until such time as each Goal measure has been completed / achieved in accordance with the Goal target, AND all of the Initiatives associated with that Goal have also been achieved / completed in accordance with their measures and targets.

If all of the Goals associated with a top operational risk or an SMS opportunity are marked as completed / achieved, yet the operational risk or SMS opportunity remains, then new goals are developed collaboratively between the Goal Sponsor and Safety and Quality.

During discussions with each Goal Sponsor, any new Goals that may be appropriate in order to reduce the operational safety risk or seize the SMS opportunity are identified.

Per the Safety Plan development process, Goals are first endorsed by the EMC and final approval is provided by the Board of Directors Safety Committee.

7.7. REVIEWING AND IDENTIFYING INITIATIVES

Following approval of the Goals, each Goal Sponsor identifies initiatives and/or the appropriate person(people) with whom to speak to further detail the initiatives.

Initiatives are projects or activities intended to take place during the fiscal year with associated measures that are expected to be met by fiscal year end. Safety and Quality works with the Initiative Owners (OPIs) to describe these initiatives, including how they will contribute to achievement of the Goal.

Initiative OPIs should consult with all parties who would be involved in implementing the initiative in order to assure their availability, and agreement with the narrative and measures associated with the initiative's write-up in the Safety Plan document. This is also an opportunity to identify other related initiatives where work could possibly be leveraged as well as avoid duplication of efforts or overlap in work.

Any Initiative that was not completed / achieved in the previous fiscal year is considered carry over (in part, or in full) to the new Safety Plan.

For Goals that have multi-year action plans, the Initiatives associated with the relevant fiscal year are added to that year's Safety Plan. Per the Safety Plan development process, Initiatives are approved by the relevant Goal Sponsor, by EMC, and the Board of Directors Safety Committee.

Safety Plan Initiatives are prioritized as either high, medium or low. Initiatives providing greater value have greater priority. While there is no clear defining line between priorities, guidance in assigning priority to each Initiative is provided.

7.8. SETTING GOAL AND INTIATIVE MEASURES

Goal and Initiative measures are set to assist in determining whether success has been achieved.

Goal and Initiative measures can be either output or outcome based. Output measures tell the story of what was produced, or the activities undertaken. Output measures do not however address the value or impact of the activity. On the other hand, an outcome is the level of performance or achievement that occurred because of the activity. Outcomes quantify performance and assess success.

Safety Plan Goals and Initiatives must have at least one measure each, however they should not have more than 3 (each). If only one measure is listed for a Goal, it must be indicative of the expected outcome(s). It is recommended that initiatives also use outcome measures whenever possible, though in some cases, transactional or output measures may be the only type available. For example, for a goal related to mitigating the risk of runway incursions, creating a measure for reducing the rate of runway incursions is preferred to a measure for conducting a series of meetings regarding runway incursions, because the meetings may or may not mitigate the risk.

To identify outcome measures, first describe the outcomes you want to achieve (what does success look like?); turn the identified outcomes into a quantitative measure (e.g., participation rates; levels of satisfaction, changes in behaviour; or risk levels); confirm that the desired outcomes are actually linked to the outputs or activities; and confirm that you have the appropriate data to confidently and appropriately communicate the impact and value.

Measures should be reliable and reproducible to minimize the potential for bias, but more importantly useful in justifying the commitment of scarce resources to collect and track the data. If the measure does not guide improvement efforts, then data collection should be reconsidered.

Goal Sponsors and Initiative Owners (OPIs) will identify and approve the targets prior to the Plan being sent to EMC and the Board Safety Committee for approval.

7.9. DOCUMENTING THE SAFETY PLAN

There are multiple target audiences for the Safety Plan. These audiences and their use of the Safety Plan is shown in the table below.

Audience	Use / Purpose
• All employees	• General information / awareness about the organization's safety priorities, and upcoming activities
• Goal Sponsors and Initiative OPIs	• Target setting and action planning • Oversight, monitoring and reporting
• Executive Management Committee (EMC)	• Safety planning including ensuring alignment with the corporate strategic direction • Oversight and monitoring
• Board of Directors Safety Committee	• Oversight and monitoring

At a minimum, the Safety Plan shall contain:

- Safety goals that identify long-term improvements in safety performance to be achieved in a specific time; and
- An action plan for the respective fiscal year, to achieve those safety goals.

The annual Safety Plan is based on both the top operational safety risks derived from the corporate safety risk assessment and the SMS opportunities as identified during the Safety Plan development process. The Safety Plan is organized into three main sections:

- Operational Safety Risks;

- SMS Opportunities; and
- Closed / Monitored Goals.

For each top operational safety risk and each SMS opportunity, multi-year goals are listed. One or more measures with targets are listed for each goal. Goal measures that have been achieved / completed in a previous year, or those set to be completed / achieved in a future year, are listed for reference and completeness of the Plan. A Goal Sponsor is identified for each Goal. Goal Sponsors are typically a Senior Manager (Director and above). Occasionally goals may have joint sponsorship.

Each open goal must have one or more initiatives in the Safety Plan, to be completed that fiscal year. One or more measures with targets are listed for each initiative. Each initiative has an identified person as the 'owner' (OPI); occasionally an initiative may have joint ownership.

There are three types of Goals that are listed in the "Closed / Monitored Goals" section:

- Goals where all associated goal measures have been achieved, and initiatives have been completed; these are marked as "Closed";
- Goals for which the safety benefits may not be immediate apparent and the data for a follow-on measure is pending; these are placed in a monitoring status since there is no active pursuit towards these goals; and ;
- Goals where development and initial implementation has taken place however full implementation will take many years; these are place in a monitoring status.

Key elements of the Safety Plan are also documented in other publications such as the Corporate Strategic Plan and Navigating Safety, and shared through safety awareness campaigns (e.g., to communicate the top operational safety risks).

7.10. PUBLISHING THE SAFETY PLAN

Safety and Quality publishes the Safety Plan in both English and French. The Safety Plan is made available to all employees on Central. Announcements of its availability are done through appropriate channels as set by Corporate Communications (e.g., *NAV CANADA NOW*), intranet landing page, etc. The Safety Plan may also be provided to key stakeholders such as Transport Canada, as appropriate and if requested

7.11. SAFETY PLAN REPORTING

The Safety Plan approved by the BSC forms the basis for quarterly and year-end reporting.

The Safety and Quality Department reports on a quarterly basis to the EMC and to the BSC. The quarterly reports include:

- the completion status of the Plan as at the end of the quarter (i.e., YTD), as well as a forecast at fiscal year-end;
- a summary of initiatives completed during the quarter including (where possible) their impact on safety;

- identification of any issues / challenges realized during the quarter or expected to be encountered prior to fiscal year-end (heads-up); and
- requests for changes to the Safety Plan. The Q4 year-end report to the Board of Directors Safety Committee includes a request for variances as necessary and a detailed close-out report.

Initiative Owners (OPIs) contribute to the quarterly updates by providing narratives and an assessment of initiative measure status; however only the Safety and Quality Department can formally assess a Goal or an Initiative (or its measure) as having been completed/achieved following review of supporting evidence. OPIs also provide a forecasted completion date (provided at Q1 only), and a forecasted year-end status during the Q1, Q2 and Q3 updates.

As part of the Q2 reporting process, a meeting with all Goal Sponsors is held to review the Q2 status as well as the year-end forecast. This meeting is particularly important when the internal and/or external environment changes suddenly, as the impacts on the achievement of the Safety Plan will need to be discussed with the BSC.

As part of the Q4 reporting process, a detailed report providing a summary of the Plan including changes made throughout; year-end status of goal and initiative measures; year-end status of achievement against the overall weighted completion; detailed initiative tracking sheet for each quarter; detailed narrative on each and any initiative assessed as incomplete or not achieved; and recommendations for variances as necessary against measures or targets.

On an annual basis, Safety and Quality publishes *Navigating Safety* which is made available to all employees (in hard copy and/or electronically), to inform them on the contents of the current fiscal year's Safety Plan, and to report out on highlights of accomplishments of the previous fiscal year's Safety Plan.

7.12. VARIANCES AND CHANGES

Modifications to, or additions or abandonment of a Safety Plan Goal, Initiative, Measure or Target are considered changes to the Plan itself. These types of changes may take place mid-cycle (throughout the fiscal year); however, should be considered only when there is a significant change in factors within the safety environment. These types of changes generally result from circumstances or factors outside of NAV CANADA's control; for example, new or modified legislative or regulatory requirements, new risks, or impacts (+/-) of associated stakeholders.

Variances against the Safety Plan are to be requested only at fiscal year-end (Q4 report) and must be approved by the Board of Directors Safety Committee. Requests for variances typically result when an Initiative is completed during the fiscal year but may have missed the target measure. An initiative may have one or more measures; for an initiative to be considered "completed/achieved" at year end, all its associated measures must have met their related target.

8. SUMMARY

The practices in this guide present an example of how one ANSP has designed and implemented a risk and opportunity-based safety plan. Through the implementation of this approach, NAV CANADA has improved alignment between safety planning and other enterprise-wide planning processes; focused company-wide efforts and resources on key operational safety risks; introduced outcome based performance measures; and strengthened management commitment to safety.

9. APPENDICES

The following three appendices are provided as additional guidance in the development and reporting on the safety plan:

- Appendix A – Safety Plan Quick Reference Guide
- Appendix B – Example Safety Plan Goal and Initiative
- Appendix C - Example PowerBI Summary Report

Appendix A – Safety Plan Quick Reference Guide

SAFETY PLAN DEVELOPMENT & REPORTING GUIDELINES

Quick Reference Guide

The following Quick Reference Guide (QRG) is meant to assist Safety Plan Goal Sponsors and Initiative OPIs fulfil their Safety Plan development and reporting responsibilities. Additional details are found in the full *Corporate Safety Plan Development and Reporting Guidelines* (SQ-GUIDE-001-01-01) document.

*contact Safety and Quality's Manager Safety Planning and SMS Development
with any questions.*

Context

The NAV CANADA Safety Plan:

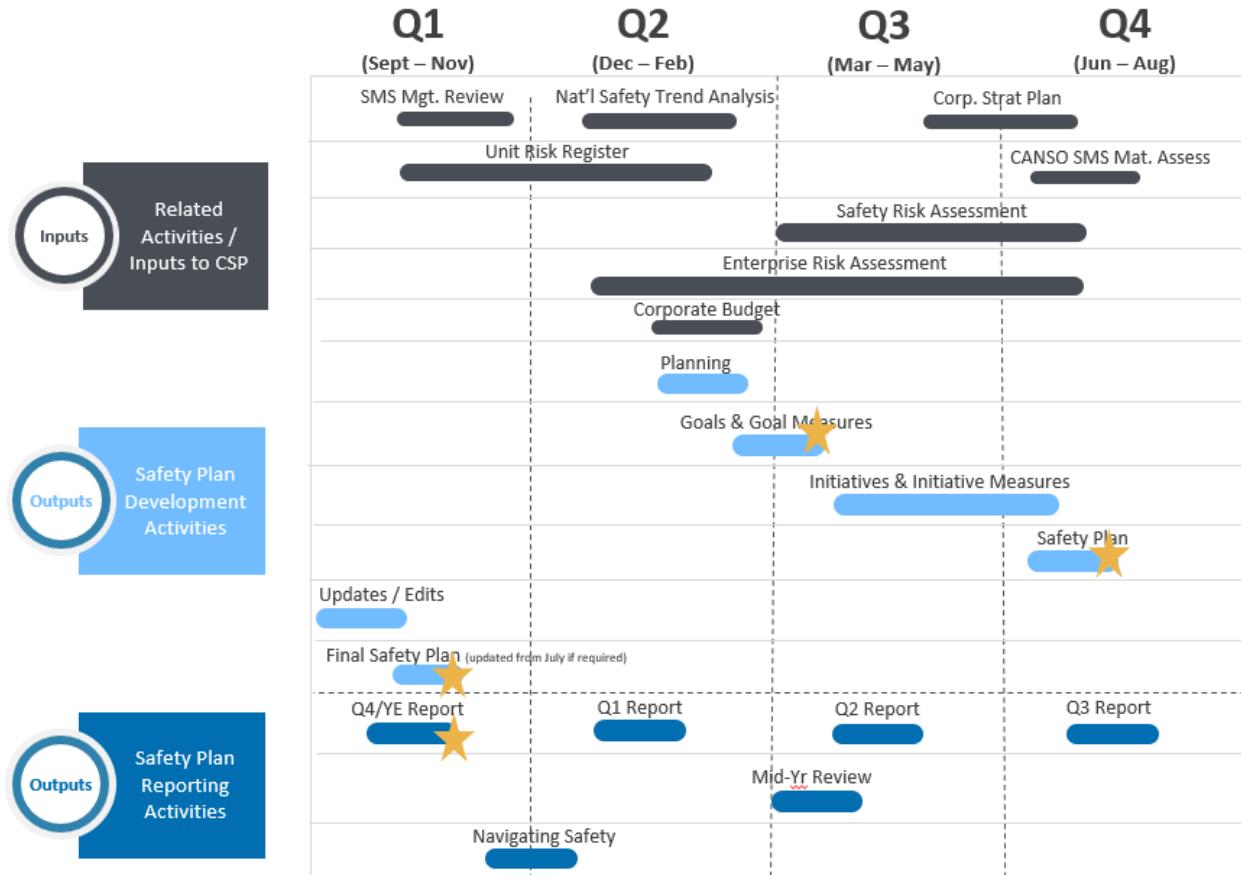
- is the mechanism by which the Company fulfills its regulatory requirement to set, monitor and report on safety objectives and goals;
- is the vehicle used at the corporate level to manage the top operational safety risks, and guide and improve safety management;
- is published annually, aligned with the company's fiscal year;
- contains safety goals that identifies long-term (multi-year) improvements in safety performance to be achieved against identified goal measures;
- contains an action plan (initiatives) for the respective fiscal year to support achievement of those safety goals; and
- is approved by NAV CANADA's Executive Management Committee (EMC) and the Board Safety Committee (BSC).

Reporting on the achievement of the Safety Plan is done through:

- quarterly status updates to the EMC and the BSC;
- a mid-year review including forecast to year-end with the Goal Sponsors;
- an annual year-end report to the EMC and the BSC; and
- an annual summary report (*Navigating Safety*) to other key stakeholders including employees and the Regulator.

Timeline / Cycle

The annual Safety Plan is prepared for each fiscal year (September-August). The planning for the upcoming fiscal year begins in February and the Plan is approved in July. If updates are required to reflect new inputs received following fiscal year end, the Safety Plan is updated and re-submitted for approval in October.



Format

The Safety Plan is organized into three main sections:

- Operational Safety Risks;
- SMS Opportunities; and
- Closed / Monitored Goals.

Roles and Responsibilities

Key roles and responsibilities of all those involved in the Safety Plan development and reporting process are summarized in the table below.

Role	Responsibilities	Role	Responsibilities
Board of Directors Safety Committee (BSC)	<ul style="list-style-type: none"> Approve the Plan and any changes Receive reports and provide feedback Approve the methodology to determine achievement of the Plan Approve completion of the Plan at FYE 	Goal Sponsor	<ul style="list-style-type: none"> Primary contact for goal Develop and approve goals, initiatives and measures Assign Initiative OPIs Ensure implementation of goals & related initiatives Monitor and report on achievement of goals Participate in Safety Plan review meetings
Executive Management Committee (EMC)	<ul style="list-style-type: none"> Approve the Plan and recommend approval to BSC Review and approve reports going to the BSC &/or Board Provide direction to SQ Ensure Plan completion 	Initiative Owner (OPI)	<ul style="list-style-type: none"> Provide input to the initiative description, measure(s) and target(s) Complete / implement the initiative Provide quarterly updates on each initiative measure Provide evidence to support completion/ achievement of an initiative measure
Vice President, Chief Safety and Quality Officer	<ul style="list-style-type: none"> Approve the Plan and recommend approval to EMC Provide quarterly status reports to EMC and BSC Provide an opinion at FYE regarding completion status Report year-end results to EMC and the BSC 	Corporate Planning and Performance	<ul style="list-style-type: none"> Provide information on the contents of the corporate strategic plan, and work with SQ to ensure alignment of the Safety Plan
Director, Safety and Human Performance Management (SHPM)	<ul style="list-style-type: none"> Manage all activities associated with the development, monitoring and reporting on the Safety Plan Lead a mid-year review Validate completion status of goals and initiatives Provide Safety Plan input to Corporate Planning Submit all BSC related material to VP for approval 	Internal Audit	<ul style="list-style-type: none"> Validate SHPM's assessment of completion of Plan as required / scheduled
Manager, Safety Planning and SMS Advancement	<ul style="list-style-type: none"> Coordinate the development of the Plan Monitor progress on achievement of the Plan Coordinate quarterly reporting Validate completion/ achievement of goals and initiatives Prepare quarterly reports to the BSC Prepare a detailed year-end report Prepare and disseminate <i>Navigating Safety</i> Support internal audit of Plan Develop and maintain related Plan development and reporting tools and documentation 	Communications, Public Affairs and Translation Services	<ul style="list-style-type: none"> Support the development and design of <i>Navigating Safety</i> Translate the Plan and <i>Navigating Safety</i>
		Information Management	<ul style="list-style-type: none"> Support the development and maintenance of the Safety Plan data entry and reporting tool(s)

Reviewing and Setting Goals

Each top operational safety risk and SMS opportunity must have at least one related long-term goal.

Each goal from the previous year's Safety Plan is:

- Carried forward to the new Plan; or
- Moved to the "Closed / Monitored Goals" section of the new Plan if each Goal measure has been completed / achieved in accordance with the Goal measure and target, AND all of the Initiatives associated with that Goal have also been achieved / completed in accordance with their measures and target; or
- Abandoned if no longer supporting the reduction in operational safety risk or SMS opportunity for improvement.

If all of the goals associated with a top operational risk or an SMS opportunity are marked as completed / achieved, or abandoned, yet the operational risk or SMS opportunity remains, then new goals are developed.

Goals should be specific, measurable, achievable, relevant, and time-bound (SMART).

Goal statements should include a noun, a linking verb, and an adjective phrase or adverb phrase; and each goal should be about just one thing.

The **Goal Description** is a short narrative (2-3 sentences) that provides context to the goal, including any relevant background information supporting why the goal is being set.

Goal Measures and Targets should, where possible, be outcome based – what does success look like? Each Goal must have at least one measure, and in general no more than three.

Goals (including changes to or abandonment of them) are approved by the EMC and the BSC.

EXAMPLES OF SAFETY GOALS, MEASURES AND TARGETS

Runway safety risk information is consistently and regularly captured, measured and made available by FYXX

- % of runway safety events evaluated against the framework (target #/#% by [date])
- Runway safety risk determined for each site
- Information available by site; service/facility type; FIR

Runway safety risk index is reduced to ALARP at XX% of locations where the risk is currently (FYXX) assessed as high, by FYXX

- % of sites with runway safety risk indices at ALARP

Information on System runway safety risk at locations where the risk is currently (FYXX) assessed as high is shared annually

- Frequency of information sharing activities (RSAT, local runway safety teams) related to # of locations assessed as high
- % of URR entries related to runway incursions closed during the year
- # of related SMS Follow-Ups performed

XX% reportable miscommunication events between ATS and student/GA pilots are captured

- # of ATS-OIs with miscommunication as a contributing factor compared to existence of event marker in EXCDS
- # (or %) of reportable miscommunication events reported vs observed during Operational Validation (spot check)
- # (or %) of reportable miscommunication events reported vs observed during Proficiency checks

Increase the number of units logging SMS follow-ups in NC-SIS

- % of units that have not logged any SMS follow-up

Organizational safety culture improves by XX pct. points over FYXX baseline

- Positive safety climate index

Reviewing and Identifying Initiatives

Initiatives are projects or activities that contribute to the achievement of the goals. For goals that have multi-year action plans, the initiatives associated with the relevant fiscal year are formally added to that year's Safety Plan.

Each goal must have at least one related initiative.

As a starting point, each incomplete initiative in the previous fiscal year is carried over (in part or in full) to the new Safety Plan.

The **Initiative Title** is the name of the initiative or project and should be described in one sentence. Begin with the related goal and ask "how" or at the word "by" to the end of the goal statement.

The **Initiative Description** is a short narrative (2-3 sentences) that provides context to the initiative, including any relevant background information supporting why the initiative is being undertaken.

Initiative Measures and Targets should, where possible, be outcome based; however, more often than not they will be output based – telling a story of what was produced or the activities undertaken. Each initiative must have at least one measure, and in general no more than three.

The **Initiative Priority** is assigned at the discretion of the Goal Sponsor.

GUIDANCE ON INITIATIVE PRIORITY		
High	Medium	Low
<ul style="list-style-type: none"> • addresses a regulatory requirement or finding • is critical to achieving the goal • is critical to reducing a top operational safety risk to ALARP • affects all or most NAV CANADA personnel • is specifically listed in or directly supports the Company's strategic plan • provides an opportunity to improve strategic decision making • provides significant safety value • affects other critical initiatives (i.e., has dependencies) 	<ul style="list-style-type: none"> • addresses an upcoming / forecasted regulatory requirement • resource constraints limit the available window for completion • contributes to the reduction of a medium operational safety risks • affects several organizational groups or regions • completion affects completion of other non-critical initiatives • provides an opportunity to improve tactical decision making • provides some safety value on its own • may affect other initiatives 	<ul style="list-style-type: none"> • is not related to a regulatory requirement or a finding • is important, but not critical to achieving the goal • the timing is not critical • provides little safety value on its own, but is linked to another initiative of higher value • affects a single organizational group or geographical region • is not related to or does not have other initiatives dependent on it

EXAMPLES OF SAFETY INITIATIVES, MEASURES AND TARGETS

Perform runway safety risk assessment process for every ATS-OI

- % of runway safety risk assessments compared to # of ATS-OIs
- Reliability factor of assessment > XX% for at least XX% of the assessments

Provide training to safety investigators

- % of investigators trained by [date]
- Training materials developed as part of investigator onboarding package

Identify the systemic and non-systemic issues at locations where the risk is currently assessed as high and develop action plan(s) as appropriate

- Top issue identified at each location where the risk is currently assessed as high
- Top three common issued identified company-wide
- Local, national, or regional action plan(s) developed

Educate the Safety Pillars and local unit management on importance of URR and SMS Follow-Ups, and how to use them effectively

- % of Safety Pillars (and/or local unit management) who received training on how to formulate a risk event in the URR and monitor progress
- % of Safety Pillars (and/or local unit management) who received training on how to enter SMS follow-ups in NC-SIS

Tombstone Data

At the beginning of the fiscal year, Safety and Quality enters tombstone data (from the published Safety Plan) for each goal and initiative into the reporting tool (Sharepoint List).

Initiative OPIs are requested to add the [list of evidence](#) they intend to use to support a "completed/achieved" status for any given initiative measure.

Initiative OPIs are also requested to indicate which quarter in the fiscal year they believe the initiative measure will be completed/achieved. The [forecasted completion date \(quarter\) in the database should not be modified once set in Q1](#). This completion forecast is used for planning purposes only.

Reporting

Initiative OPIs enter the following data into the reporting tool (Sharepoint List) on a [quarterly basis for each initiative measure](#):

- status (using a drop-down menu);
- narrative (short description of what was done or achieved in the quarter);
- year-end forecast status (Q1-Q3 only); and
- year-end forecast narrative (Q1-Q3 only).

[Safety Plan Updates](#)

[+ new item or edit this list](#)

[Q3 Update](#) [All Items](#) [Q1 Update](#) ...

[✓ Initiative OPI\(s\)](#) [Initiative Number](#) [Initiative \(Name\)](#) [Initiative Priority](#) [Initiative Measure](#) [Initiative Target](#) [Req'd Evidence](#) [Q3 Measure Status](#) [Q3 Measure Narrative](#) [YE Fcst \(Status\)](#) [YE Fcst \(narrative\)](#) [Q2 Measure Status](#) [Q2 Measure Narrative](#)

The choices for the measure status use a colour-coding system. Descriptors are provided on the next page.

When choosing the initiative measure status, it is important to compare against the target. [Any measure with a "Blue – completed / achieved status" must be supported by evidence](#). Initiative OPIs upload this evidence directly into the Sharepoint list. Safety and Quality validates that the provided evidence supports a completed/achieved status.

During the quarter an initiative is considered completed / achieved, Initiative OPIs provide Safety and Quality with a very short summary including the safety benefits achieved. This summary is included in the quarterly and/or year-end report to the BSC.

Initiative Measure Status	Mid-Year Quarterly Review (Q1, Q2, Q3)		Year-End (Q4)	
Blue	Completed/Achieved	The measure is finished and considered complete and has achieved its target	Completed/Achieved or Accepted	The measure is finished and considered complete and achieved its target or a variance between achieved and intended target or threshold accepted by EMC and BSC
Green	On Schedule	The measure is on track overall and is expected to meet its planned target	Not applicable	
Yellow	Behind Schedule	The measure is behind schedule but is still expected to meet its planned target	Not applicable	
Red	Will Not Meet Target	The measure will not meet its planned target but it is still expected to be completed	Did Not Complete or Meet Target	The measure was not completed, or was completed but did not meet its planned target (<i>may signal request for variance or change to target</i>)
Grey	Not Started	The measure has not started because it (or items underneath it) is not scheduled to start until a later date	Not applicable	
Brown	Deferred	The measure is intentionally stopped or delayed but is expected to continue at a later date . Its target needs to be changed accordingly (<i>signals change to plan</i>)	Deferred	The measure is intentionally stopped or delayed but is expected to continue at a later date . Its target needs to be changed accordingly (<i>signals change to plan</i>)
Black	Abandoned	The measure is intentionally stopped with no expectation to continue in the near future (<i>signals change to plan</i>)	Abandoned	The measure is intentionally stopped with no expectation to continue in the near future (<i>signals change to plan</i>)

YE Forecasted Initiative Measure Status	Quarterly Review (Q1, Q2, Q3)	
Blue	Will be completed / Achieved	The initiative measure is already or will be completed/achieved.
Yellow	Low Risk	The initiative measure is at low risk of not being completed.
Orange	At Risk	The initiative measure is at medium to high risk of not being completed.
Red	Will Not Complete / Achieve	The initiative measure will not be met / achieved.

Assessing Completion / Achievement of an Initiative

Initiative completion is determined by the achievement of the initiative measure(s) against the initiative measure target(s). Initiatives may have multiple measures; therefore, it is important to note that the entire initiative is assessed by the status of the measure with the lowest status (e.g. if one of the multiple measures is marked as Red, then the entire initiative is marked as Red).

Initiatives can also be considered completed/achieved if both EMC and the Board of Directors Safety Committee have accepted a variance between a measure's intended and achieved outcomes (at fiscal year-end).

Measuring Overall Completion of the Plan

Success of the Safety Plan is measured by a weighted completion rate of the percentage of Initiatives (by priority) considered "completed/achieved" at year-end, as assessed against the initiative's measures.

The Plan is considered successfully completed if a weighted completion rate of the percentage of Initiatives considered "completed/achieved" at year-end is 90% or greater. The weighting, as approved by the EMC and the BSC, is high priority = 0.65; medium priority = 0.30; and low priority = 0.05.

The BSC has the discretion to approve the completion of the Safety Plan irrespective of whether or not the Plan meets the target weighted completion rate by taking into consideration a variety of factors.

Completion / achievement of Safety Plan Goals is also monitored and reported on; however, these do not impact the successful achievement of the Plan.

Appendix B – Example Safety Plan Goal and Initiative

Operational Safety Risk #7 – Similar-sounding aircraft identification results in an aircraft responding to a clearance meant for another aircraft.

Risk Owner: VP & Chief of Operations, and VP & Chief Safety and Quality Officer

Risk Rating (2021): 2.6 **Risk Target:** 2.2

Related Enterprise Risk(s): Loss of Operational System; Aircraft Accident

Goal OSR 7.1: Reduce the risk of call-sign confusion on ATS frequencies

Goal Sponsor: Anthony MacKay

Goal Description: Working with industry partners, NAV CANADA will undertake efforts to reduce the frequency of call-sign confusion. Similar call-signs used by aircraft operating in the same area while on the same frequency often give rise to potential and actual flight safety incidents. This hazard is usually referred to as "call-sign confusion". The risk of call-sign confusion extends to air traffic service personnel, and to pilots.

Goal Measures	Target	Target Completion
Investment decision for call-sign analytics program.	EMC decision on whether or not to invest in program development.	Completed. NC-SIS Steering Committee approved the inclusion of call-sign analytics into the NC-SIS project.
NAV CANADA facilitated industry efforts to reduce call-sign confusion risks.	Safety risks and potential mitigations have been formally presented to Canadian regulator and air operators.	Completed. Guidance material includes similar call-sign rule recommendations and encourages the use of alphanumeric ATC call-signs in parallel to traditional numeric call-signs.
Exposure to potential call-sign confusion error for select aircraft ident pairs as shown in the similar sounding identents (SSI) dashboard.	A working group with the airlines established, that seeks to identify solutions to deconflict the aircraft ident pairs.	FY2021 . On track for completion by FYE as planned.
Solutions to deconflict aircraft ident pairs decrease the potential exposure to call-sign confusion risk due to SSI.	Reduction of most prominently conflicting SSI pairs, as compared to FY2019 baseline.	FY2023

Initiative OSR 7.1.1:	Explore the feasibility of expanding the dashboard to capture both General Aviation, and cross-carrier conflicts
	Currently the information in the dashboard is limited to carrier-specific conflicts; GA and cross-carrier conflicts are not captured and therefore the latent risk of call-sign confusion cannot be identified. This initiative involves identifying the requirements to capture this data, as well as the implementation activities necessary to expand the dashboard.

Priority: Medium	Initiative Measures:	Target:
OPI: Kris McGeough	Feasibility assessment completed	FY2022

Initiative OSR 7.1.2:	Initiate conversations with Transport Canada regarding the issuance of "vanity" registrations for GA aircraft	
	GA aircraft owners (particularly flight schools) are often assigned sequential civil ident, for same or similar type aircraft that also often have the same or similar colour scheme (look alike). This increases the probability that controllers, specialists, and pilots will have difficulty distinguishing between aircraft. This initiative involves presenting Transport Canada with evidence regarding the challenges associated with the issuance of vanity registrations. The intent is to establish dialogue around possible mitigations for future registration assignments.	

Priority: Low	Initiative Measures:	Target:
OPI: Kris McGeough	Evidence presented to Transport Canada	FY2022

Appendix C – Example PowerBI Summary Report

Corporate Safety Plan

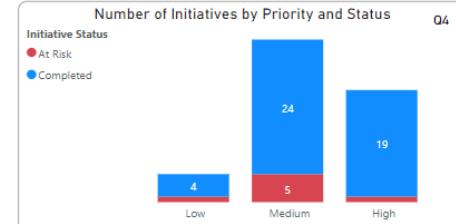
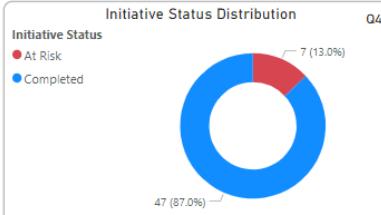
Safety Plan Performance

Data Validation Date
Pending Validation

Fiscal Year Fiscal Quarter

2021

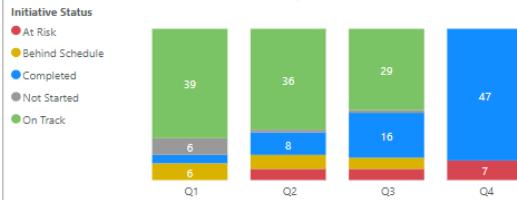
Q1 Q2 Q3 Q4



Index	Initiative Priority	Number of Active Initiatives	Completed	Completed (%)	Weighted Progress (%)
3	High	20	19	95.0%	61.8%
2	Medium	29	24	82.8%	24.8%
1	Low	5	4	80.0%	4.0%
Total		54	47	87.0%	90.6%

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Number of Initiatives by Quarter and Status



Corporate Safety Plan

Goals and Initiatives

Data Validation Date
Pending Validation

Fiscal Year Fiscal Quarter Initiative Priority Status Goal

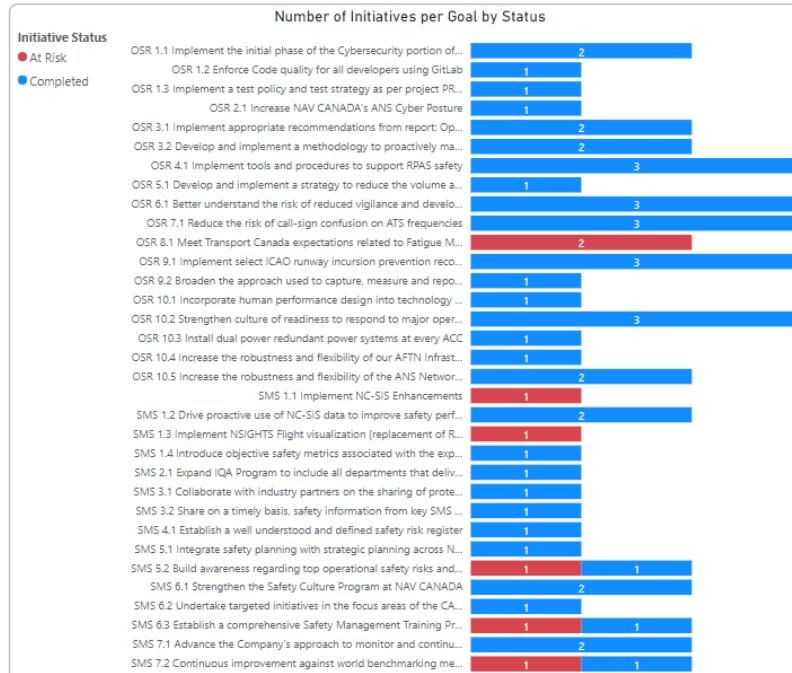
2021

Q1 Q2 Q3 Q4

All

All

All



Department Lead

All

Number of Initiatives per Goal by Status			
Priority Index	1	2	3
Initiative Status	Low	Medium	High
At Risk	1	5	1
Completed	4	24	19
Total	5	29	20

Percentage of Initiatives by Priority

Priority Index	1	2	3
Initiative Status	Low	Medium	High
At Risk	20.0%	17.2%	5.0%
Completed	80.0%	82.8%	95.0%
Total	100.0%	100.0%	100.0%

Number of Initiatives per Goal by Status

OSR	2	31
SMS	5	16