

November 2020 ICAO APAC WEBINARS ON ANS & SAFETY



SAFETY CHANGE MANAGEMENT

Anthony Acfield

Safety and Environmental Systems Manager

*Change is systematically planned,
implemented and reviewed to ensure
acceptably safe transition and operation
of our services and working
environments.*

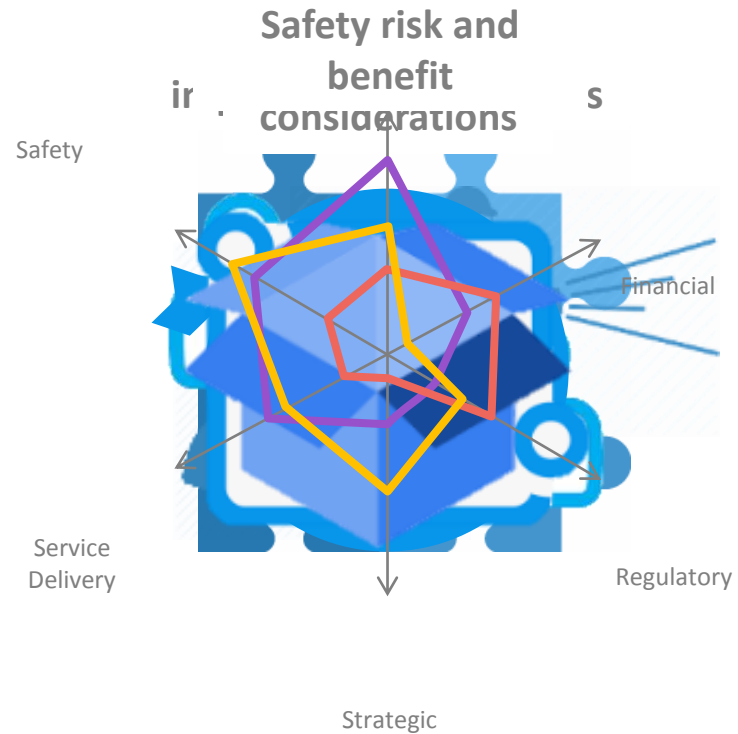
SAFETY CHANGE MANAGEMENT

CHANGING THE RIGHT THING

Identify a need...



For each option, assess...



For the preferred option...



Business Case



Safety Change Program

SAFETY CHANGE MANAGEMENT

PROCESS



**Initial impact
assessment**



**Plan safety
program**



**Execute
activities**



**Validate and
approve**



**Implement
and monitor**



**Post change
review**

SAFETY RELATED CHANGE

WHEN IS A CHANGE A CHANGE?



SAFETY RELATED CHANGE

AT AIRSERVICES

An activity that proposes to change the baseline configuration, operational role or operating environment of our people, equipment or processes.

Excluding changes that are due to scheduled or standard maintenance, or administrative in nature, for which approved and documented processes and practices will be applied throughout the change;



INITIAL IMPACT ASSESSMENT

WHO SHOULD BE INVOLVED?

Step 2: SCARD Participants

In completing the SCARD adequate representation from the appropriate technical, operational and support areas of all impacted business areas, as well as external parties if appropriate, must be involved (either present during the convened workshop(s), or otherwise be actively engaged).

The SCARD can only be completed with integrity if participants fully understand the context of the change and collectively possess sufficient subject matter expertise to understand the safety related effects.

The preparer of the SCARD must determine the expertise required and ensure they are involved in the SCARD process.

The SCARD **must** not be proposed or approved (Step 9) if the representation is inadequate.

List the persons participating in the completion of this determination

Name	Position	Date
Name	Position	Select Date
Name	Position	Select Date
Name	Position	Select Date
Name	Position	Select Date

INITIAL IMPACT ASSESSMENT

HOW BIG IS THE CHANGE?

Step 3: Size of the Change

Assess the following six elements of change to determine the size of the change. For each element, choose a rating from 1 (Low) to 7 (High), and provide adequate justification that provides evidence of how and why the rating was derived. The ratings are then used to determine the overall size of the change. A guide that provides description of the low and high end of the rating scales is available at Appendix A.

1	Assess the significance of the change within Airservices. Consider the work areas affected. Consider the effects on engineering (disciplines, systems and locations), ATS (service environments, core services, service classes and locations) and ARFF (stations, equipment, services)	Initial Rating <Click>	
Justification: <input type="text"/>			
2	Assess the significance of the change outside Airservices. Consider the number and extent of service users and/or stakeholders affected, including the interfaces between these parties.	Initial Rating <Click>	
Justification: <input type="text"/>			
3	Assess the operational impact of the change on the systems, service and users (i.e. operators, maintainers, etc.). Does the change: <ul style="list-style-type: none"> enhance existing system functionality, provide different/new/novel functionality, or remove functionality; alter the services provided; affect the users' roles including their required skills and abilities, HMI interaction, work environments, systems and procedures of work, responsibilities, security requirements, organisation and staffing or teams and communication? 	Initial Rating <Click>	Weighted Rating = Initial Rating x 2 <Click>
Justification: <input type="text"/>			
4	Assess the technical impact of the change on the operating system(s). Does the change: <ul style="list-style-type: none"> affect single or multiple systems (e.g. NA/PS/Eurocat/AFTN/VHF Communications/NTAS etc.); affect operational or non-operational systems introduce new, or reconfigure, hardware or software affecting operational capability and/or performance affect system interfaces affect redundancy, maintainability, integrity, etc affect operational or business data and/or databases? 	Initial Rating <Click>	Weighted Rating = Initial Rating x 2 <Click>
Justification: <input type="text"/>			
5	How complex is the implementation of and transition to the new or changed system or service? Consider: <ul style="list-style-type: none"> temporary removal of a system, ghosting/mimicking, operational test and evaluation, control and monitoring, rollback/fallback required, etc resources available, training, documentation, procedures, communication, time lines, approvals, etc 	Initial Rating <Click>	Weighted Rating = Initial Rating x 2 <Click>
Justification: <input type="text"/>			
6	How substantial is the education and training associated with the change? Consider type of training required and for whom, none, classroom, online or simulation, time line for design/development and roll-out, duration, resources for design/development and delivery, impact on operational resources, currency, recency and licensing requirements, ongoing/refresh requirements, etc.	Initial Rating <Click>	
Justification: <input type="text"/>			
Total			<input type="text"/>
Add each rating using the initial rating for elements 1, 2 and 6 and the weighted rating for the remaining elements.			<Click>

...inside the organisation

...outside the organisation

...on the users of the system

...from a technical perspective

...to implement

...from a capability perspective

INITIAL IMPACT ASSESSMENT

WHAT CAN BE IMPACTED?

Step 4: Operational Safety Impact of the Change

To assess the operational safety impact of the change conduct a preliminary hazard identification (PHI) activity. In developing the PHI consider if the change is introducing new hazards, impacting the effectiveness of existing controls or introducing hazards of a transitional nature. Only hazards that induce safety related risk are to be recorded. Consider multiple sources of data and information to assist identify the hazards including the outcomes of Step 3. In completing the PHI, you must consider hazards associated with cyber security, physical security, personnel security as well as software and human factors. Where applicable consult subject matter experts in these fields and/or refer to applicable tools to assist.

In addition to identifying the hazards determine the effect of the hazard on service delivery and/or the aviation industry taking into consideration the existing controls in place, and their effectiveness, to manage the risk. If it is known that a proposed control will be applied to a hazard, record it in the PHI but do not use it to assess the hazard effect.

Service/System	Criticality	Hazard	Controls		Effect on	
			Existing	Proposed	Service Delivery	Aviation Industry

Giving consideration to the number of identified hazards and their potential effects, as well as the criticality of the impacted systems as determined from the Systems, Assets and Service Catalogue (SASC) estimate the operational safety impact of the change.

1. Based on the identified Operational Safety hazards;
Enter the estimated Operational Safety Impact of the change. If unsure, the higher of the considered options should be chosen.

Hazards identified in the PHI must be recorded and managed in HAZLOG in accordance with AA-PROC-SAF-0105 to ensure proposed controls are implemented and the risk assessment process completed. The **only** exception is if the hazard is able to be managed to an acceptably safe level by the identified existing controls (i.e. no new controls or changes to existing controls are required to be applied).

2. Have the identified hazards that require ongoing management been transferred to the HAZLOG database?

...from a service perspective

...from a regulatory perspective

Step 5: Regulatory Impact

If you are unsure if the proposed change has an associated regulatory impact or to discuss the change's safety reporting requirements, contact [Regulatory Engagement](#). Additional information can be found in [Regulatory Approval Requirements \(C-GUIDE0756\)](#).

5.1 - Does the proposed change require an amendment to a [Provider Certificate schedule](#)?

e.g. Introduce a new service, or change to an existing service the effect of which would be that the service would no longer be in accordance with the certificate issued under:

- CASR Part 139H (Aerodrome Rescue and Fire-Fighting Services)
- CASR Part 143 (Air Traffic Services Training)
- CASR Part 171 (Aeronautical Telecommunication and Radionavigation Services)
- CASR Part 172 (Air Traffic Services Provider)
- CASR Part 173 (Instrument Flight Procedure Design), or
- CASR Part 175 (Aeronautical Information Management)

NOTE: This includes 171 Operations Manual defined Level 1 Changes (i.e. a new ICAO defined service or a new type of airways system, or the removal of an ICAO defined service or a type of airways system.)

Yes A Safety Case is required - Contact Regulatory Engagement.
[Continue onto Step 6](#)

No [Continue to Question 5.2](#)
By selecting "No", you are acknowledging that an amendment to a Provider Certificate Schedule is **not required** under the proposed change. [Regulatory Engagement](#) can provide specific advice if you are unsure of the regulatory implications associated with the change.

5.2 - Does the proposed change require notification to CASA prior to implementation / decommissioning / notification to industry?

NOTE: This includes 171 Operations Manual defined Level 2 Changes (i.e. where a facility noticeable to the user is being decommissioned or where there is a significant reduction to the level of service). Refer to paragraph 3.2.1.4 of the CASR Part 171 MOS and paragraph 6.1.2.4 of the CASR Part 172 MOS regarding the regulatory requirements for a safety case.

Yes Contact Regulatory Engagement to determine the appropriate reporting mechanism for notifying CASA in consideration of the Overall Operational Safety Magnitude identified in Step 6. [Continue onto Step 6](#)

No [Continue onto Step 6](#)
By selecting "No", you are acknowledging that the proposed change **does not require notification to CASA prior to commissioning / notification to industry**. [Regulatory Engagement](#) can provide specific advice if you are unsure of the regulatory implications associated with the change.

5.3 - Does the proposed change otherwise require approval from CASA?

e.g. changes related to the services under the CASR Parts listed above, commissioning of new ARFFS vehicles or facilities pursuant to CASR Part 139H airspace change proposals, or issuance of an exemption / instrument.

Yes Contact Regulatory Engagement to determine the appropriate reporting mechanism for gaining CASA approval in consideration of the Overall Operational Safety Magnitude identified in Step 6. [Continue onto Step 6](#)

No [Continue onto Question 5.3](#)
By selecting "No", you are acknowledging that the proposed change **does not require approval from CASA or the issuance of an exemption / instrument**. [Regulatory Engagement](#) can provide specific advice if you are unsure of the regulatory implications associated with the change.

INITIAL IMPACT ASSESSMENT

WHAT IS THE OUTCOME?

Overall Operational Safety Magnitude	Operational Safety Impact		
	Substantial	Reasonable	Minimal
Large	<input type="checkbox"/> Major	<input type="checkbox"/> Major	<input type="checkbox"/> Moderate
Medium	<input type="checkbox"/> Major	<input type="checkbox"/> Moderate	<input type="checkbox"/> Minor
Small	<input type="checkbox"/> Moderate	<input type="checkbox"/> Minor	<input type="checkbox"/> Minor

PLANNING THE SAFETY PROGRAM

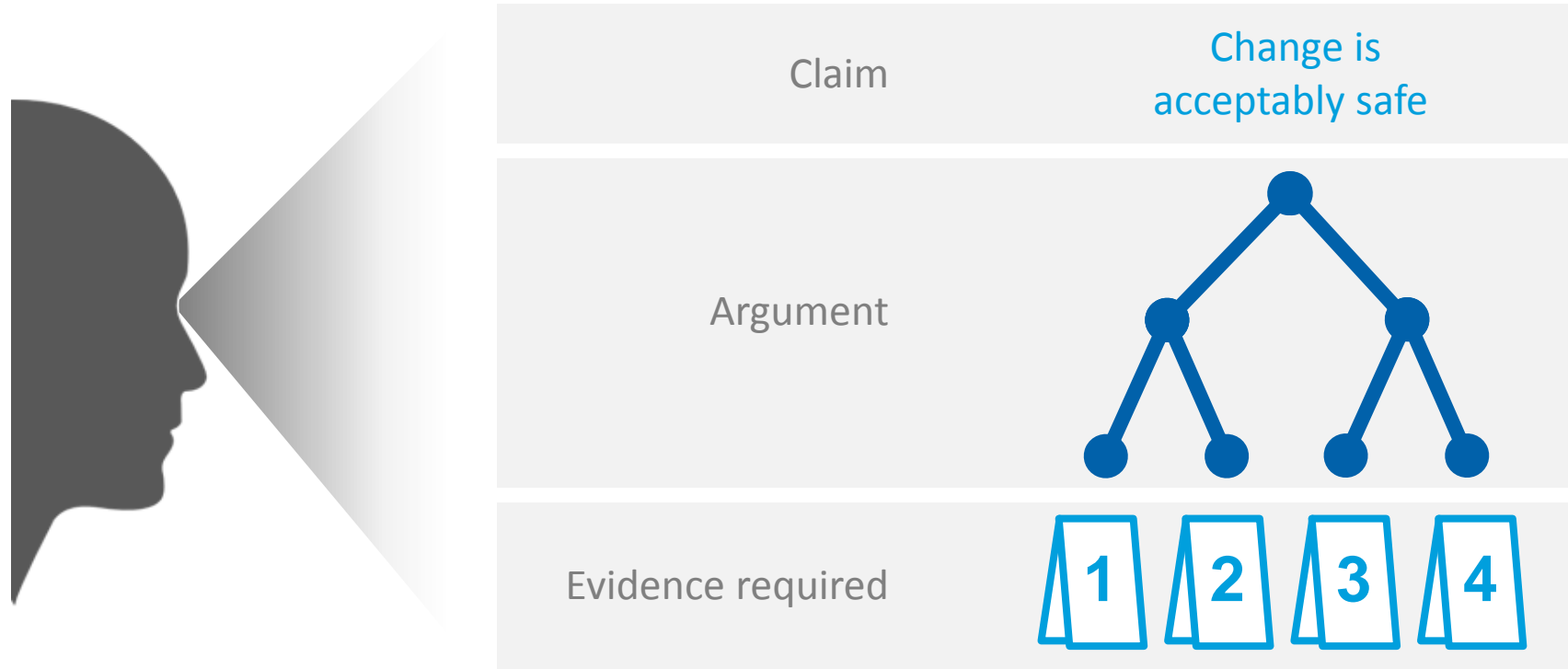
OBJECTIVES



- **Why** the change is occurring
- **Who** needs to be involved in activities
- **What** activities need to be undertaken, and **what** standard and procedures will apply for safety management activities
- **What** structure of safety case(s)
- **What** evidence will be collected
- **Where** and **when** safety management activities will take place
- **How** risks will be managed
- **How** it is intended to manage the change
- **What** performance will be monitored for safe operation

PLANNING THE SAFETY PROGRAM

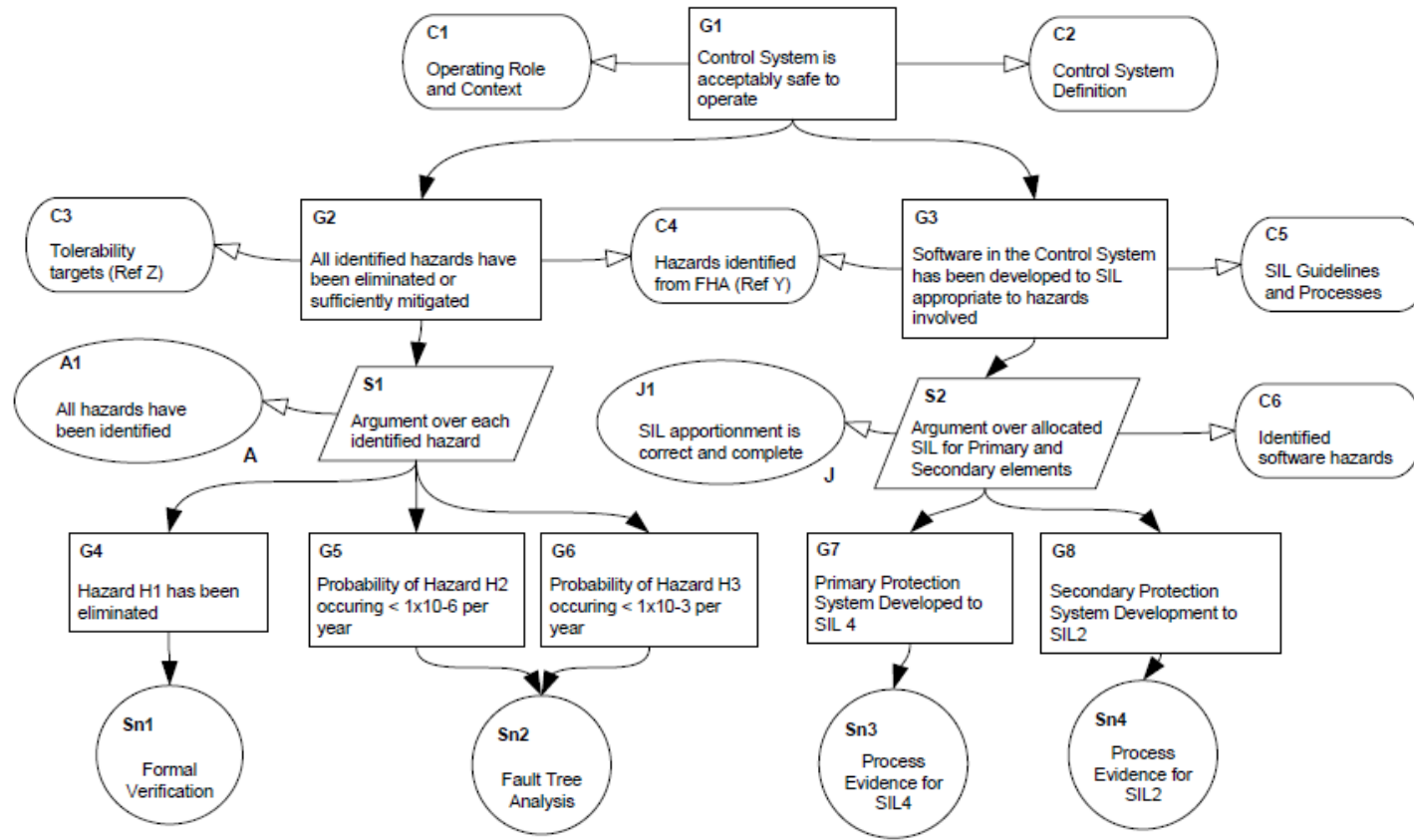
PLANNING THE ARGUMENT



PLANNING THE SAFETY PROGRAM

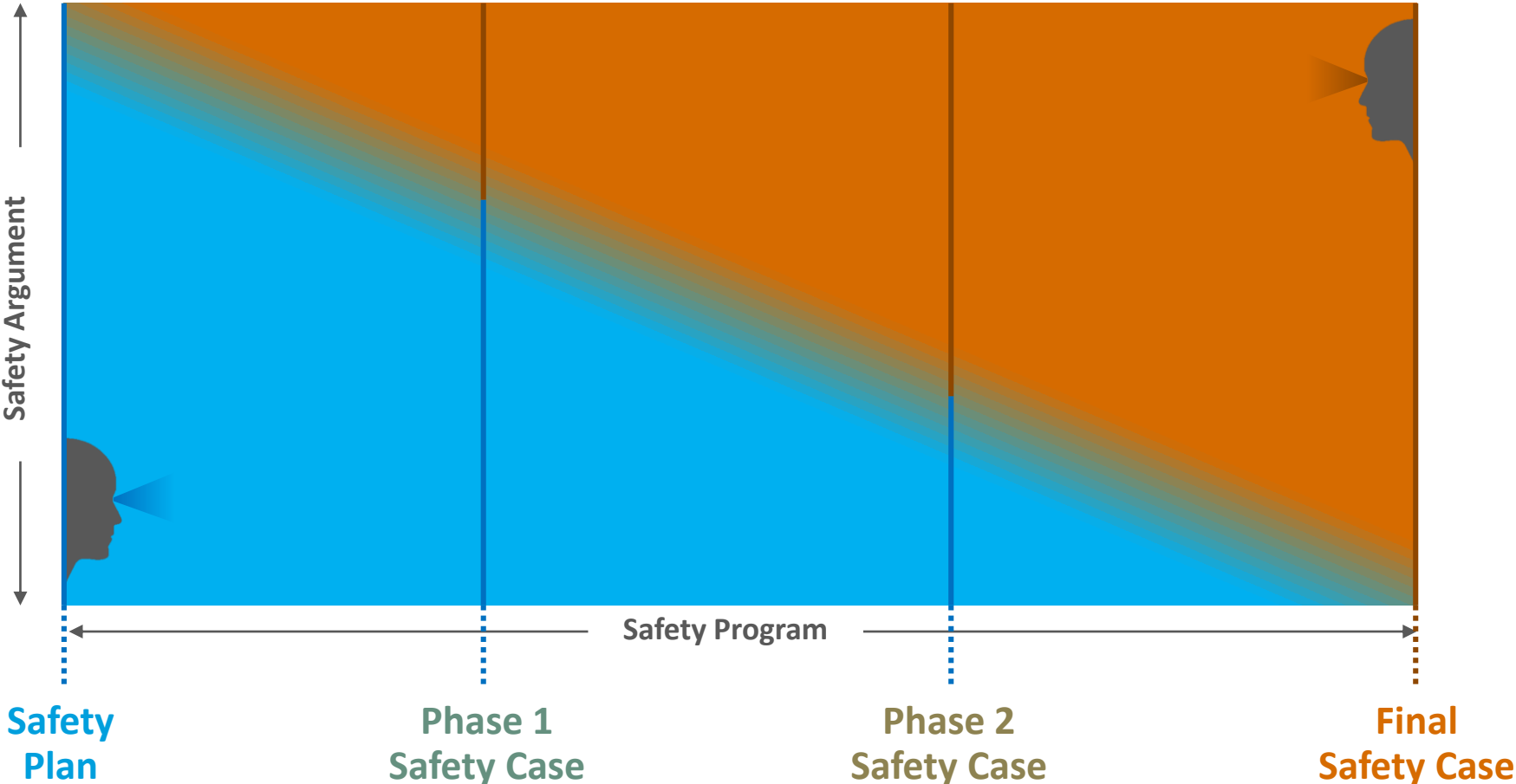
GOAL STRUCTURING NOTATION

GSN COMMUNITY STANDARD VERSION 1



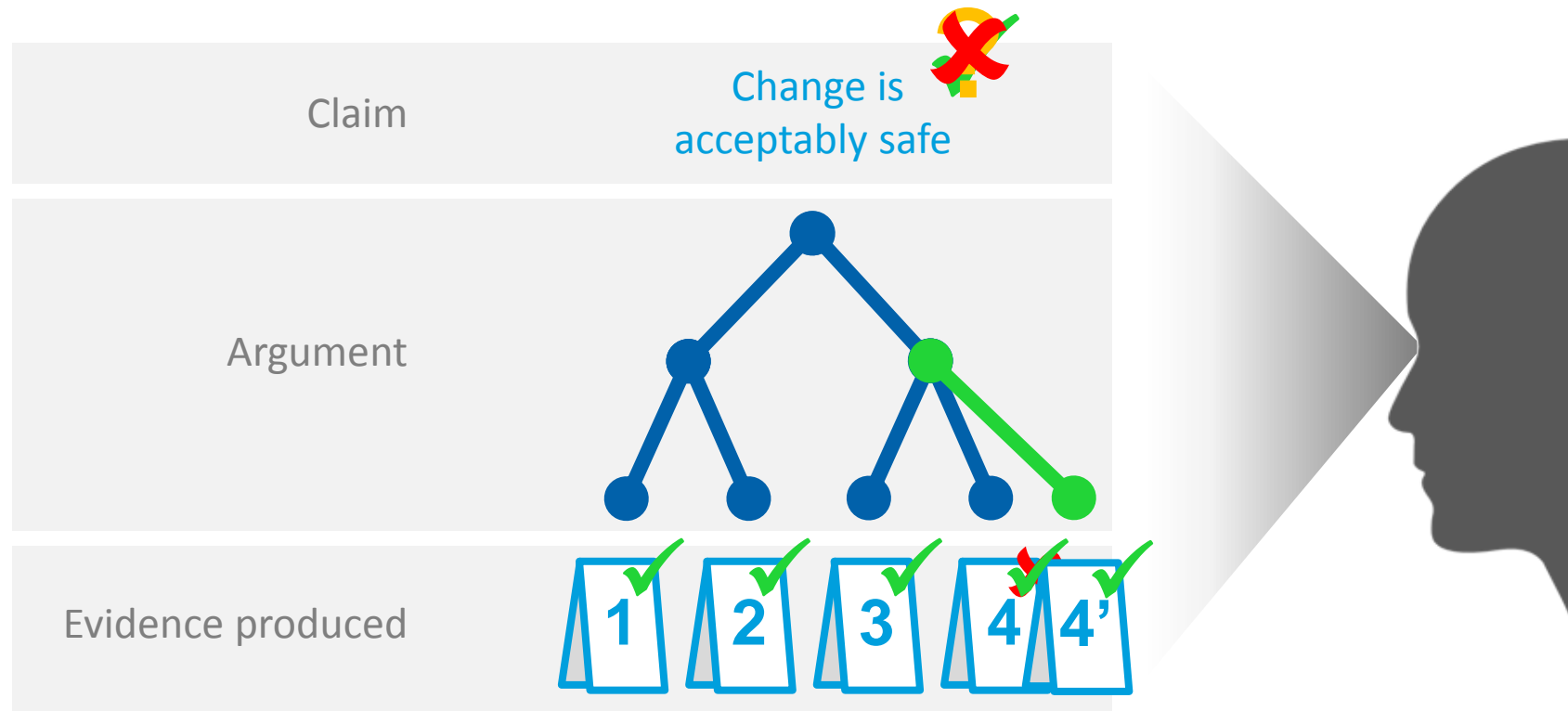
EXECUTING THE SAFETY PROGRAM

CHANGING THE TENSE



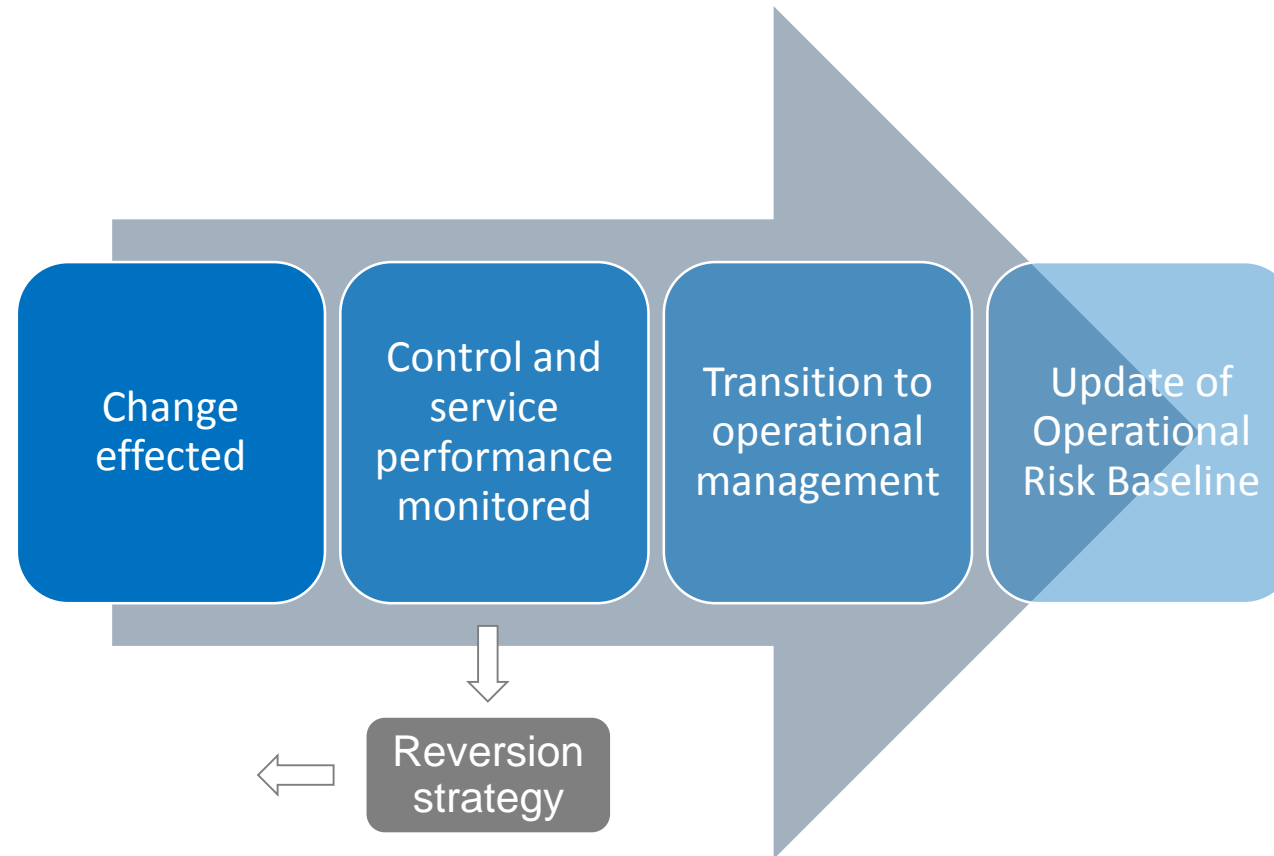
VALIDATING AND APPROVING

DOES THE EVIDENCE SUPPORT THE ARGUMENT?



IMPLEMENTING AND MONITORING

IS THE SERVICE SAFE DURING AND AFTER THE CHANGE?



POST CHANGE REVIEW

ARE THE IMPACTS AS EXPECTED?



QUESTIONS

