Measurement of the safety key performance indicator and safety performance indicators in the SES Performance and Charging Scheme

Material for the implementation and measurement of the safety key performance indicator (SKPI) and safety performance indicators (SPIs) for the Fourth Reference Period (RP4) of the SES ATM Performance and Charging Scheme (Commission Implementing Regulation (EU) 2019/317)

Contents

Appendix 1

1. Safety Culture

		1.1 An intelligent and effective organisational culture is one that is responsive to the functional differences in an organisation.	
		Guidance for all levels *Organisational culture includes 'safety culture'. Organisational culture includes the whole organisation. It takes into account the way that business decisions cascade through an organisation. It also considers how different subcultures have their own view of safety, values and 'tribal knowledge'. e.g. ATCO and engineering communities' views may differ.* *Differing functions and roles in an organisation have different views of risk and different risk appetites, which results in different safety perspectives.* *As a result, differing roles and functions see safety differently with respect to the way that they build safety into their work. How all these differences are taken into account, accommodated and then transformed into actions provides an indication of the management's approach and commitment to safety. An intelligent and effective organisational culture will consider these diverse views and build a rich and complex understanding of how the organisation delivers a safe provision of services. Business decision making (resource allocation), including safety and safe production, involves trade-offs - the consequences of which influence an organisation's culture. Understanding how these decisions are made, by those with both the accountability and the authority to enable safety solutions, is one way to explore organisational culture. These decisions or trade-offs concern the allocation of resources and budgets in an organisation. They reflect policy and business choices made by the ANSP and those that are externally driven. For example, the business strategies that ANSPs adopt to meet the requirements for the SES RP4 targets in all Key Performance Areas (KPAs).*	
		Informal Arrangements	
		1	*Employees and managers believe that safety goals will be achieved by complying solely with rules and regulations.*
		2	*People, especially front-line staff, are considered to be the principal cause of occurrences. (i.e., operational staff who have a direct impact on safety)*
		3	*Sanctions are applied by management when non-compliances are found.*
		4	*The organisational view is that only frontline staff are concerned with safety.*
		5	*Safety culture is informal and applied only in the operational parts of the organisation.*
		6	*Working practices are adapted based on lessons learned from occurrences.*

Defined

1	*The organisation has developed a safety culture plan, which includes an assessment programme.*
	A safety culture plan will outline a safety culture survey, and should determine which segments of the organisation should be surveyed (e.g. operational staff only, ops and engineering, or all staff). *Describe when the safety culture plan and assessment programme will be approved for implementation.*
2	*The organisation's safety culture plan applies the concept of safety culture in both operational and support functions.*
	Usually, the first time an organisation addresses safety culture, the focus is on the operational 'sharp end'. For any ANSP this normally means controllers (whether ACC, TWR, APP, etc.) and their supervisors. Engineering support is usually considered next, as it is critical for system functioning. However, there are other support functions who can argue that they are important for safety, including Senior Management, Investigation, Training, Security, Human Resources, Finance, etc., and in surveys often such staff members are keen to participate and have their say on safety. Safety culture will be more effective if it spreads across the entire organisation (and beyond via interfaces with partners, stakeholders and contractors) and into the management layers. *Describe:* - *to what extent the safety culture is applied in both operational and support functions (i.e. throughout the entire organisation);* - *whether support staff are invited to participate in safety culture surveys and safety culture workshops;* - *whether general safety communication also reaches out to support staff;* - *whether there is a locally accessible dashboard or app showing safety performance, visible to all.*
3	*Employees contribute to safety by highlighting deficiencies in rules and procedures.*
	The organisation is developing processes to support employees' ability to share safety lessons learned with other teams or groups.

Guidance for the Defined Level

Concept of Safety:
The key difference between Level A 'Informal Arrangements' and Level B 'Defined': While the organisation still 'enforces' safety through an adherence to rules and procedures, there is a growing realisation that this approach has limitations. The organisation finds that it cannot reduce or eliminate certain behaviours with rules alone. At level A, the organisation relies on and believes that only rules and procedures ensure safety - this is central to the organisation's confidence in behaviour-based safety.
Rules and procedures cannot be expected to cover all possible operational eventualities — they cannot cover all possible situations and scenarios. The continual adding of rules and procedures to meet exceptions can make an operation less safe – rules heavy. While there is some realisation of this at the 'Defined' level, the approach is not changed.
Critical to facilitating this understanding is the way that safety departments undertake the investigation of reported occurrences.
Arrangements need to be in place that recognise these ways of thinking about safety.

Safety Culture
Organisational decisions around resources and efficiency lead to consequences that are all perceived as degrading safety such as:
- *insufficient operational resources to manage demand requiring the imposition of ATFCM measures (leading to delay performance worsening);*

			- *changes of watch rosters to adapt capacity to demands that are beyond agreed rostering guidelines;* - *an increase staff overtime hours;* - *insufficient slack/ staffing flexibility to enable secondary operational duties to be undertaken;* - *decrease in the quality engineering service level agreements;* - *decrease in the quality/ frequency/ availability of training for new projects;* - *perceived increase in fatigue.* *These issues reinforce the reality that decisions that are made in the non-operational sections of an organisation influence the safe provision of services. Therefore, it is recognised that Safety Culture should be applied in both operational and support functions.* *An ANSP at the Defined Level begins to listen to the others' views, but will have a reluctance to act upon what is heard. Therefore, concerns may be raised, but are rarely if ever pursued by those with whom the discussions take place. As a result, the risk views of those managing compared with those being managed continues to diverge. This will, therefore, shape the safety culture as well as organisational in-house employee surveys.* *Investigations seek to determine whether or not procedures were precisely followed as a means of establishing what happened and why, by placing undue emphasis on the procedures at the expense of the context.*
		4	*The organisation formally trains all levels of management on safety, safety culture and just culture and has assured its application.*
			Training should include the meaning and application of safety culture; what it is and what it is not etc. It should also include how to spot signs of when these topics are being degraded and when there is a potential to drift into failure. *Describe what training is provided to the different levels of management with regard to:* - *Safety* - *Safety culture* - *Just culture* *Describe how this training has been applied.*
		Managed	
		1	*Management at operational levels and operational staff engage to discuss operational risks and promote a positive safety culture.*
			Operational staff are regarded as those who have a direct impact on safety (the "sharp end" of the operation). *Describe:* - *what methods are used for management and staff to discuss operational risks;* - *how often these discussions take place (it is recommended that this takes place at least quarterly, but also whenever there is a change).*
		2	*The organisation's board level (Board of Directors / Supervisory Board or equivalent) is aware of the top operational risks and top organisational risks, "hotspots", key safety initiatives, and safety culture results and actions.*
			Describe how your board members are made aware of these elements.

3	*Frontline staff are involved in safety activities such as safety risk management, investigations, secondment to safety, appointed as safety officers in units.*
	Frontline staff are regarded as those who have a direct impact on safety (the "sharp end" of the operation). Within your organisation, describe how frontline staff are involved in helping the organisation to build its understanding of safety.
4	*Middle Management's approach to managing safety demonstrates a commitment to promoting a positive safety culture.*
	Safety culture is not a component that is 'stand-alone' or is the 'end point' of safety within an organisation. It is in the service of safety and is an enabler or a necessary part of the evolution to another iteration of system safety. *Describe:* - *How senior managers are made aware of the top operational risks and top organisational risks;* - *the ways that your organisation's management demonstrate their commitment to promoting a positive safety culture (examples could include communications such as newsletters, speeches or videos where leaders are discussing the importance of safety culture, leadership training, budget/resources allocated for safety culture efforts);* - *whether there is a commitment statement with regard to enhancing safety culture, that is approved and signed by the appropriate level in the organisation.*
5	*The organisation has adopted human performance-related good practices.*
	One of the reasons safety culture is so important, is because ATM is an industry where 'people make safety.' There is therefore a link between positive safety culture and supporting human performance. It is hard to have a good safety culture if human performance itself is not given at least some priority, e.g. by utilising tried and tested good practices in key human performance areas (e.g. CISM, TRM, etc.). *Describe:* - *what type of human performance-related good practices have been adopted (e.g. as defined in the CANSO Human Performance Standard of Excellence);* - *when they were implemented;* - *how effective they are.*
6	*The organisation engages in safety discussions with aviation organisations.*
	It involves outreach to aviation organisations (e.g. airlines and airports etc.), because looking outside the box can bring new insights and improvements. *Describe:* - *regarding safety discussions, which organisations your organisation engages with;* - *how often these discussions take place;* - *who is involved in these discussions;* - *what is the outcome of these safety discussions.*

Guidance for the Managed Level

Concept of Safety:
At the 'Managed' level, there is recognition that staff contribute to the safe provision of services through the way that the operational tasks are undertaken, including the way that trade-offs in the operation and beyond are taken. These rely on an intelligent use of strategies that are sensitive to operational risk and that achieve safe provision of services. For example, if ATFCM measures are needed, and it is known that if the need is there to do so, there will be no criticism around the consequences on service provision, but there may be enquiries to gain a broader appreciation of the context. The impact of this evolutionary shift is that there will be a gradual decrease in the use of disciplinary and behavioural means to sustain safety and a shift towards making changes in structural factors in the operational environment that shape safety events. There is a recognition that 'people create safety' in ways that cannot be encapsulated in rules and procedures alone.
More specific activities might include:

- *the use of traffic management techniques to allow those involved in an event and who have to file an occurrence report to have the time to do this, and to recover from the event;*
- *where there are competing demands made for limited operational resources, then safety is an explicit part of decision-making where appropriate — the safe provision of services will be embedded in the trade-offs;*
- *managers and supervisors develop a view of how the safe provision of services is by engagement with operational staff — leading to an informed discussion that develops confidence in organisational decision-making;*
- *managers and supervisors actively seek the views of both the operational and non-operational community to gain an informed view about organisational safety, which may lead to a better understanding of how effective safe production* can be enhanced;*
- *managers and supervisors make themselves available when staff wish to discuss safety concerns with them;*
- *staff representative organisations meet regularly to discuss and engage about safety;*
- *organisations accept that procedures and rules cannot fully describe every eventuality. As such, they do not rely on new or additional rules and procedures as the only safety intervention, because they know that this can introduce new risks and without addressing structural issues.*

Safety Culture
Indications that an ANSP or organisation has reached Level C 'Managed' can be found in the way that the ANSP has transitioned from the organisation seeing safety culture as a distinct independent entity, towards viewing it as a part of the overall organisational culture. The emphasis in this change can be seen in that the ANSP engages with those who work within it.

At Level C, the value or benefit of safety in an organisation is recognised and promoted by managers and supervisors. Important indications are:

- *the use of organisational resources to develop safety education;*
- *whether safety is integrated into business planning, including provisions for safety in the long-term investment planning;*
- *the safe provision of services versus quality of services is discussed.*

Safety Interventions and Enablers
ANSPs at the 'Managed' level have evolved processes and mechanisms that use means other than occurrence reporting to assess, understand and manage risks. These processes and mechanisms have evolved beyond relying solely upon the use of the attribution of causal-factor taxonomies from occurrence reporting alone as it is recognised that this alone is limited and provides an incomplete understanding of an organisation's safety because:

- *it may not reflect the actual frequency of such events; the processes and mechanisms need evolving to encourage people to report because there is little seen to happen once a report has been filed;*

- *there might be inconsistencies between incident investigators that lead to a lack of confidence in the causal-factor attribution;*
- *safety interventions derived solely from causal attribution are seen to yield limited effectiveness or not to be able to find suitable solutions.*
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The organisation's understanding of safety should be considered from multiple perspectives – that of employees in different roles in the organisation and especially those staff providing the operational service.

As a result, complementary techniques are identified, examined, and experimented with and begin to be used in occurrence reporting, although incrementally at first. Some examples of techniques that may be used are:

- *the inclusion of human factors investigation narratives;*
- *the use of 'second stories' to gain an understanding of not just 'what' happened but 'how' the event occurred;*
- *exploring 'why did it make sense to them';*
- *the scope of the occurrence and incident investigation is broad and encompasses a larger sample of accounts including those outside the ANSP;*
- *the use of aircraft operator narratives and flight data;*
- *an explicit recognition that the operational context is complex and, therefore, what happened can be better understood by exploring the interactions between actors and system components as well as the multiple views that are used to produce a composite view of the event;*
- *using the understanding of the operation that comes from observing safe production* in practice to develop an understanding of typical ATC operations;*
- *the introduction of investigator competence training and inter-investigator consistency schemes along with continuing professional development to enhance investigation skills;*
- *expanding the organisation's understanding of safety by taking the views of the wider organisation and explore path dependency (history as cause).*

Resilient

1	*The organisation's Head of Safety brings forward potential advancements in safety based on learnings, for example from conferences, partnerships, research, etc.*
	List the types of safety forums, partnerships, research etc that are attended/consulted and what learnings specifically were brought forward. Where evidence of attending such forums have been provided, but nothing was brought forward, provide evidence why nothing was brought forward.
2	*The organisation's Safety Management System (SMS) has processes that encourage staff to proactively challenge procedures, practices and people to improve safety performance. [SP]*
	At Level D, the SMS should encourage challenge and critique as part of its contribution to a safer and more effective ANSP. *Challenge and constructive critique provide a feedback loop that can include fundamental information about how the work system is behaving and ways to make structural changes.* - *How are people encouraged? Examples could include: safety concerns are freely and openly discussed at all levels of the organisation;* - *Briefly describe some examples of how employees have challenged procedures, practices or people with a view to improving safety performance;.* - *What was the outcome of these challenges;* - *Do the Just Culture principles adopted by the organisation support these processes by providing reassurance that raising concerns is appreciated, and will not have negative repercussions on employee(s)?*

		3	*The organisation includes staff in safety culture working groups with representatives from each unit and key departments including Safety, Engineering, Operations etc.*
			Following a safety culture survey, there are usually recommendations to improve in certain areas, and such improvements are often managed by small groups of safety and operational staff, who can focus on resolving the identified issue. Such groups may work over a period of six months or a couple of years, depending on the issue. *Describe:* - *to what extent staff are included in safety culture working group;* - *how often these working groups are held;* - *what triggers the need for holding a safety culture working group;* - *what are the outcomes from these sessions.*
		4	*Recognising that safety is the responsibility of the organisation as a whole, the organisation includes the potential contribution to safety by non-operational staff in its safety planning (as appropriate).*
			Describe: - *what types of non-operational staff are included;* - *what type of projects they are included in.*
		5	*The organisation engages in safety discussions with aviation partners and non-aviation organisations.*
			It involves outreach to other aviation partners, because aviation is a system of systems (e.g. involvement in an airport 'Safety group'). *It also involves outreach to non-aviation organisations (e.g. other transport sectors, energy sector, health, etc.), to bring new insights and improvements.* *Describe:* - *which organisations your organisation engages with regarding safety discussions;* - *how often these discussions take place;* - *who is involved in these discussions;* - *what is the outcome of these safety discussions.*
			Guidance for the Resilient Level *At Level D, 'Resilient', safety should be considered as a property that is created within the organisation, not something that the organisation has. Safety is viewed as the domain of the organisation as a whole, not simply a component of operational departments and a selection of non-operational departments. The ability of the organisation to effectively manage change, whether large or small, is a defining feature at this level. The ANSP recognises that non-operational elements of an organisation contribute to the safe provision of services.* *Concept of Safety:* *Change brings with it numerous challenges and threats to sustaining performance, as well as to managing resources across the organisation as a whole. Such threats and challenges are necessarily organisation-wide and will involve third parties and many other actors.*

			At the 'Resilient' level, the ANSP's SMS is designed around the recognition of the influence, effects and consequences of change on the safe provision of services, including how they affect people. It will make provision for this in business and safety management systems, including assessments and mitigations of change as both business and safety risks. More specific characteristics include the following: - *the ANSP is sensitive to the balance between design changes at a late stage and its impact on implementation, including training and user confidence;* - *accountable managers who have to accept the change draw from the widest group of actors and work with them to determine a perspective of how the change is being implemented, as well as the preparations for training and readiness for the change;* - *processes are used that assess the quality of transition training at all stages of its design and implementation and changes that flow from changes in the design;* - *the management of change processes extends beyond the actual implementation date and include post-implementation activities, including formal and informal verification of the design, the way that work has changed, review of performance, and adequacy of training;* - *sustaining an operational service throughout the transition steps will demonstrate preparedness to limit the scale of the operational task until it is agreed to increase the scale of the operational task beyond any restricted levels of service delivery.* *Safety Culture* *At this level, the ANSP recognises and implements safety as part of the overall organisational culture. In practice there are inevitable trade-offs between production–efficiency–safety–business decision making. The ANSP will have evidence of formal and informal processes that accord an appropriate priority to safety. It is in the decisions that are made that balance and reconcile these conflicting demands, and reconcile the resource implications, that the value of safety can be seen. For example:* - *situations that are assessed to influence safety are seen as opportunities to develop a stronger and more effective safe service delivery process;* - *the need to pursue a strategy that is perceived as threatening safety by the operational community is managed in ways that are transparent and open to challenge;* - *it recognises the need to gather the knowledge behind fears, concerns and perceptions, and to meaningfully engage with the organisational view that this brings.* *Safety Interventions and Enablers* *Organisational approaches to learning lessons recognise that there are limitations to classic and current approaches to safety processes. An organisation that is sensitive to this recognises that there is a learning potential in examining the formal processes and system of lessons learned at each step of the life cycle of an occurrence report. For example:* - *initial filing of the occurrence report;* - *the way that the reporter and others involved in the event were managed and cared for;* - *the process of managing those people at the time of the event, i.e. release from an operational position;* - *the quality and value of the initial occurrence report;* - *formal investigation processes and systems;* - *recommendation generation;* - *feedback loops;* - *safety oversight and review committees;* - *safety data propagation.* - *To support learning from safety occurrences, investigators should be provided with dedicated continuous professional development to enhance both their understanding of safety and their investigation techniques. Investigators should be aware of the models of accident causation that they are using.*

		1.2 Regular assessment of safety culture and an improvement programme	
		Guidance for all levels *Measuring and assessing safety culture is a practice that allows organisations, if undertaken in a systematic and structured way, to gauge the nature and strength of their safety culture and to identify the stressors that are influencing it. There are numerous and varied ways to assess and measure safety culture. All have strengths, weaknesses and limitations. Therefore, organisations that undertake measurement and assessment of the safety culture will need to demonstrate an understanding of these and explain how:* - *the choice of the assessment method was influenced by consideration of strengths, weaknesses and limitations;* - *these were considered when analysing and reviewing result data;* - *these were used to determine the safety culture.* *One of the most popular instruments for assessing and measuring safety culture is through a 'Safety Culture' questionnaire. A safety culture questionnaire can be defined as a means to conduct a survey that aims to elicit the views and attitudes of respondents about safety in an organisation. These can include values (said and done), beliefs, assumptions, and attitudes towards others. These views and attitudes can be grouped into themes that can be drawn from models of organisational safety culture.* *There are significant caveats around the use of methods such as questionnaires:* - *They are a snapshot of the current safety climate and it is by taking several over time that the enduring safety culture is identified;* - *Questionnaires alone do not provide the depth required to assess culture;* - *Safety-culture questionnaire results are difficult to reliably interpret or to use at a generic level;* - *Unwanted influences on questionnaire respondents cannot be controlled;* - *Safety climate and safety performance have been found to be weakly correlated;* - *No distinction between perceptions and attitudes can be undertaken thus obscuring results obtained from a safety-culture survey questionnaire;* - *The questionnaires may not recognise and measure the safety culture variations between operations, technical and support functions, unless this specifically designed into the questionnaire;* - *If the analysis is limited to simple statistical measures they will not provide tangible explanations of the questionnaire results.*	
		Informal Arrangements	
		1	*The organisation does not see the need to have a safety culture assessment mechanism in place.*
		2	*No improvement programme is necessary as it is believed that safety culture does not contribute to safe production.*
		Defined	
		1	*The organisation has developed a process for the assessment of its safety culture.*
		2	*The safety culture assessment method is limited to simple binary questions (such as yes/ no).*
		3	*The assessment (preparation, collection, data analysis) is conducted in an informal manner.*
		4	*Analysis of the results is limited to simple statistical measurements*

		Managed	
		1	*The organisation undertakes periodic assessments of safety culture, at least once per reference period, keeping in mind the risk of staff disengagement if these assessments are carried out too frequently. It is necessary to provide the date of such assessments.*
			Note 1: A full assessment of the whole organisation should be carried out at least once per reference period with the organisation able to demonstrate that the objective has been met (date of assessment and output). Additionally, although the survey is only run once per reference period, it is expected that the actions are monitored and reported on every year. A 'snap-shot' assessment could be conducted between full organisation-wide assessments. *If the only method used is a 'snap-shot' version, then the answer should be No with an explanation provided in the Justification field.* *Note 2: It is acknowledged that conducting a full safety survey is costly and has a high workload for staff. Consequently, such surveys are normally conducted every 5 years. As RP4 runs for five years, it is expected that the survey is at least conducted during the reference period. Prior to the final year of the reference period, Safety Surveys conducted in any of the previous 5 years may be used as evidence, even if in the previous reference period. Safety culture refers to the enduring value, priority and commitment placed on safety by every individual and every group at every level of the organisation. Safety culture reflects the individual, group and organisational attitudes, norms and behaviours related to the safe provision of air navigation services.* *Describe:* - *which types of staff are included in the assessments;* - *what were the dates of the last two assessments;* - *who carries out the assessment (i.e. whether assessments are carried out by another organisation, or by experts within your own organisation);* - *who the measurements are made available to;* - *how the results of the measurements are made available to management and staff;* - *how management are involved in and support the safety culture.*
		2	*The organisation has implemented plans to address gaps and deficiencies identified during the safety culture assessment.*
			This question refers to a safety culture plan that addresses shortcomings and seeks to reinforce good behaviours as a result of the safety culture survey. The plan should include improvements/remedial actions. Staff should have the ability to recommend remedial actions to address any deficiencies (state how).
		3	*The results of the safety culture assessments are communicated throughout the organisation*
			Describe: - *what mechanisms are used to disseminate/communicate the results of safety culture assessments to staff throughout the organisation (methods used could include: meetings, distribution of the safety culture assessment report, through the intranet, posters, flyers).*
		4	*The safety culture assessment has the commitment and endorsement from the executive / management group*
			To meet the requirement of this question, it is expected that the organisation has some way of demonstrating that safety standards are met, e.g. through a Regulatory Compliance Matrix
		5	*Process[es] are in place to monitor and measure whether gaps and deficiencies in safety culture are addressed. [SP]*
			Briefly describe the process undertaken.
		6	*The assessment method makes use of primary data gathered through a questionnaire-based independent survey and or focus groups.*

			The questions employed should use a mix of open text questions and be of a more complicated design than those typically employed at the Defined level. The evidence should include preparation for the survey. *The assessment methodology should be clearly defined and be well-structured*
		Resilient	
		1	*The organisation tailors its safety culture assessment for subcultures (such as ATC, Engineering, different ATC units etc.)*
			The questions in an assessment should be phrased in a way that they either apply to all respondents or should be tailored so that they are applicable to the resource type/role. *Describe what approach is used in your organisation.*
		2	*The safety culture assessments include all areas of the organisation (including all non-operational areas).*
			A Yes response recognises that safety is the responsibility of the organisation as a whole. As such, non-operational areas of the organisation should also be included in safety culture assessments.
		3	*The organisation commissions an external independent review and assessment of its safety culture at least every five years, keeping in mind the risk of staff disengagement if these assessments are carried out too frequently.*
			Engaging an external organisation to carry out safety culture assessments provides an independent and unbiased perspective. This often encourages more people to participate in the assessment. *Describe to what extent external organisations are involved in safety culture assessments within your organisation. This could be, for example, running the whole survey from beginning to end; running certain elements of the survey such as assessing responses, running workshops and writing the report and improvement actions.*
		4	*Analysis of the results is undertaken using structured approaches that are able to contrast the views of different organisational groups and sub-cultures.*
			Describe the structured approach used and the results found.
		5	*The output of the assessment is used by management in improvement programmes developed from the results in a collaborative manner with staff and staff associations.*
			Describe in greater detail what programmes have been improved in this manner.
		6	*The assessment methodology and findings are benchmarked with external organisations.*
			Guidance for the Resilient Level *At the 'Resilient' level, the ANSP will be aware of the issue of staff disengagement if these assessments are too frequent and recognise that the frequent administration of the survey method does not allow interventions and improvements to have full effect such that it will change the respondents' perceptions and attitudes.* *At level D it is expected that ANSPs compare their results with external organisations. This is to benchmark the safety culture assessment methods – for instance how*

			to engage with staff and how to encourage greater levels of staff participation.

1.3		A just and open climate which supports open reporting and investigation of occurrences as well as giving confidence for staff to do their job effectively without fear of reprisals. *NB: A thorough reporting and investigation process must begin with notification, data gathering, reconstruction, analysis, safety recommendation and implementation of remedial actions, resulting in final reporting, exchange of lessons learned and effective monitoring.*	
		Guidance for all levels *Just culture should not be seen as an isolated, separate phenomenon within the organisation. It is an outcome of open reporting (a prerequisite for a just culture) and it is part of the organisation's overall culture, in much the same way as safety culture. Just culture is fundamentally concerned with safety, with the knowledge that is gained from disclosing information about a reporter's experience and how this is used to derive safety interventions and improvements that lead to more effective system safety.* *Evidence for a just and 'open climate' can be sought in a number of different ways that can assess just culture and its effectiveness. An organisation that has a just and 'open climate' will be one that:* - *emphasises that the purpose of just culture is to gain access to knowledge of the safe functioning of service provision, and does not place an undue emphasis on 'gross negligence';* - *embraces a reporting and investigation process that recognises the value of the reporter's experience and the contribution and value that this knowledge brings to the safe and effective provision of services;* - *emphasises the value of knowledge gained from self-disclosure by those involved in an occurrence;* - *creates an environment where disclosure does not stigmatise individuals and works with peer groups as well as staff representatives to foster a climate of open discussion about experiences — reporters will share their experiences to increase the learning potential.* *To achieve this level of confidence, trust is required within the organisation as a whole, but especially between the safety, supervision, managerial and operational actors. This is sustained by engagement, through an active discussion, and with a shared belief across organisational groups that fairness and the safe provision of services is the objective.*	
		Informal Arrangements	
	1	*Management does not see the need for any activity or dialogue with the staff in this area.*	
		Individuals see the risks associated with reporting occurrences as outweighing the benefits because the risk of consequences to the individual is high. Most events go unreported. There are no formal policies in place to protect staff reporting, or involved in, occurrences from regulatory or judicial action.	
		Defined	
	1	*Management and employees recognise the benefit of a Just Culture for example to encourage reporting*.	

		The organisation has developed a Just Culture Policy to protect and support reporters and other staff involved in the investigation process. *Note, policies to protect reporters exist both with in Regulation (EU) 376/2014, Art 15 Confidentiality and use of information and Art.16, Protection of the information source.*
	2	*Management and employees [including the union and the staff associations] enter internal dialogue on Just Culture implementation.*
	3	*Initial and continuation training of Just Culture principles (including what is meant by 'acceptable' and 'unacceptable' behaviour) is systematically provided across the organisation.*
		Training should be provided across the organisation and at all levels. This must include managers, operational staff, investigators, and also office staff, in particular human resources. *The training should include lessons learned from the internal application of Just Culture and be tailored according to the needs, i.e. operational staff or investigators may need a more focused, intense training, while office staff might just need regular awareness campaigns.* *Describe what type of Just Culture training is provided to the different levels of the organisation/roles.*
	Managed	
	1	*The organisation has implemented a Just Culture Policy that is formally endorsed by top management after consultation with staff representatives.*
		A just-culture policy will have been developed and adopted. This policy will have evolved through the evolution of a just-culture discussion through engagement between the just-culture decision makers in an ANSP as well as others who can help create the just-culture dialog, e.g. staff associations, professional bodies, supervisory staff. This policy will reconcile how different functions and roles within an organisation understand safety. Understanding the issues and points of conflict between those inside and outside the Operations room and how differences are managed is one indication of the commitment to just culture within the ANSP by managers, safety teams, and staff associations. -
	2	*After initial just culture training and education across the organisation, continuation training and education is provided.*
		The training and preparation of staff is fundamental to implementing a just culture. The ANSP will have completed some form of initial training. The organisation will then be engaged in delivering further training across the organisation to refresh the policy and associated processes, and to maintain the concept of just culture as part of the current organisational conversation. Attendance at training will have covered managers, supervisors and others involved with administering just culture.

		3	*Decisions around 'acceptable' and 'unacceptable' behaviour are determined by body within the ANSP with the necessary independence, skills, knowledge, and attitudes for the task.*
			What is 'acceptable' and 'unacceptable behaviour' at the Managed level will be something-that will still be inferred from the investigation. Examples are micro-matching what people did with the view of what should have been done as defined in rules, procedures, manuals; consequences of individual decisions and actions are emphasised, representing a narrative that is close to the proximity of the event; causal explanations will emphasise the human as cause despite some exploration of the context surrounding the event. *The ANSP could use a process or a decision tree to help make the assessment of whether the behaviours are acceptable or unacceptable.* *A formal just culture committee could be formed to have the necessary skills, knowledge and attitudes for the task and independence to avoid conflicts of interest if assessed by direct line managers.* *For context, please review:* *EU 2017/373 AMC1 ATS.OR.200(1)(i) Safety management system ED Decision 2017/001/R* *(a)(7) clearly indicate which types of operational behaviours are unacceptable and include the conditions under which disciplinary action would not apply.* *Additionally, please consult Regulation (EU) No 376/2014 where consideration is given to the circumstances where protections are available and under what circumstances these protections do not apply:* *6. Without prejudice to applicable national criminal law, Member States shall refrain from instituting proceedings in respect of unpremeditated or inadvertent infringements of the law which come to their attention only because they have been reported pursuant to Articles 4 and 5.* *The first subparagraph shall not apply in the cases referred to in paragraph 10. Member States may retain or adopt measures to strengthen the protection of reporters or persons mentioned in occurrence reports. Member States may in particular apply this rule without the exceptions referred to in paragraph 10.* *7. If disciplinary or administrative proceedings are instituted under national law, information contained in occurrence reports shall not be used against:* *(a) the reporters; or* *(b) the persons mentioned in occurrence reports.* *The first subparagraph shall not apply in the cases referred to in paragraph 10.* *Member States may retain or adopt measures to strengthen the protection of reporters or persons mentioned in occurrence reports. Member States may in particular extend that protection to civil or criminal proceedings.*

			9. Except where paragraph 10 applies, employees and contracted personnel who report or are mentioned in occurrence reports collected in accordance with Articles 4 and 5 shall not be subject to any prejudice by their employer or by the organisation for which the services are provided on the basis of the information supplied by the reporter. *10. The protection under paragraphs 6, 7 and 9 of this Article shall not apply to any of the following situations:* *(a) in cases of wilful misconduct;* *(b) where there has been a manifest, severe and serious disregard of an obvious risk and profound failure of professional responsibility to take such care as is evidently required in the circumstances, causing foreseeable damage to a person property, or which seriously compromises the level of aviation safety.* *The deliberations around what is gross negligence, or, more importantly, what satisfies the provisions of Article 16 point 10 of Regulation (EU) No 376/2014 with regard to wilful misconduct and manifest disregard of obvious risks will be explored and discussed with all internal stakeholders, e.g. staff associations. The interpretation of these provisions has consequences. An ANSP that is at the 'Managed' level will have developed positions and processes that manage the situations where an occurrence is considered to have breached the thresholds. The context and circumstances of each occurrence will be recognised as being potentially different and thus the different contexts need to be understood. Occurrences will be considered not solely in terms of what the people closest to the event did, but there will be evidence that wider systemic factors are or will be explored and examined, e.g. training, technical system limitations, procedure under-specification, supervisory decisions, the use of ATFCM, etc*
		3	*Within legal limits the organisation's safety data and individuals' details are protected from external access and release.*
			This refers mostly to access by the press or judiciary to safety or even operational data (e.g. shifts, roster or staff on duty). *It is acknowledged that the judiciary and the NSA can obtain access through certain law enforcement means (Court decision etc.) Disclosure rules must be in place that define how safety data and individuals' details are protected from external access and release.* *Describe what is in place to protect safety data and individual details from external access and release.* *How do the protections referred to above comply with the General Data Protection Regulation (Regulation (EU) 2016/679)?*
		4	*Lessons from within the organisation are used to enhance its approach to Just Culture.*
			Describe in what way lessons are used to enhance the approach to Just Culture (e.g. as part of the investigation / safety audit and survey process). *Learning is fed into the change processes within the SMS;* *They are considered during regular structured meetings to discuss Just Culture;* *They are included in the learning process with regard to when things go wrong in Operations, Engineering and project design.* *Please provide some examples of where the organisation's approach has been improved.*
		5	*Does your organisation measure the acceptance of Just Culture by its staff and management?*

	To be credible, Just Culture measurements must be regular (e.g. at least once per reference period), and also after organisational changes. *Describe:* *- how often the acceptance of Just Culture by staff is measured; and* *- what indicators are used to determine that staff accept that Just Culture is applied within your organisation.* *e.g.: Measurement of the health of the Just Culture is expected, e.g. use of an anonymous reporting system: if used intensively, it might be an indication of the mistrust of the staff in the system. Another indicator could be the severity distribution of reported events - an absence of low-severity events may indicate staff only report what is strictly necessary and cannot be hidden.*
Resilient	
Guidance for the Resilient level **Just Culture**	*An ANSP that has evolved to the assured level will have overcome many of the problems associated with the implementation of Just Culture. This means that it has navigated its way through the tensions and conflicts that are a natural part of a change in the relationships between the many stakeholders with an interest in Just Culture. These tensions and conflicts primarily involve the occurrence reporting and investigation process.* *Evidence that an ANSP has matured or demonstrates that it has attained level D can be found in diverse ways:* - *Processes that support the development and implementation of Just Culture have evolved through experience which has in turn led to a base of knowledge that shapes solutions that support the ANSPs specific needs;* - *As a result, Just Culture is undertaken with a critical understanding that is accessible and used to explain the evolution of Just Culture within the ANSP;* - *There is less variation in the interpretation and operationalisation of Just Culture by managers and the operational community do not misinterpret a "no blame culture" as being a Just Culture;* - *Underpinning these facets is the ANSP's active and persistent commitment to arrangements surrounding disclosure of occurrence reports including, but not limited to, informal and formal cooperation with the judiciary and NCA.*
1	*Lessons from other ANSPs and other aviation industry sectors are used to enhance the organisation's approach to Just Culture.*
	Describe in what way lessons are used to enhance the approach to Just Culture. For example, lessons learned could be fed into the change processes within the SMS. *The change processes could require that reviews are carried out of best practice from other aviation industry sectors before determining the best approach for the organisation.* *A cross-organisational team could be tasked with reviewing how the just culture approach can evolve.*

		2	*The organisation has made formal preparations to encourage the NSA to engage with the state prosecution and law enforcement entities, should the need arise.*
			While it is acknowledged an ANSP or even CAA cannot do much to change criminal legislation or the law enforcement bodies' approach to safety, each organisation can have a policy, procedure, tools, strategy, prepared for cases where staff might be subject to penal proceedings. This includes, but is not limited to, financial assistance, specialised lawyers, contacts of court experts or prosecution experts (see the EUROCONTROL Prosecutor Expert list). - *The above is guidance. Where such situations are not present, a Yes response can be selected with relevant justification provided. Describe what is in place in your organisation.*
		3	*The organisation is using comparative analysis or external benchmarking for Just Culture measurement.* *[SP]*
			Note: Comparative analysis is an exercise similar to benchmarking, but carried out to a level of detail to ensure that the results of the analysis are comparable. For instance if the organisations do not have similar airspace complexity, separation standards, traffic density, ATCO tools, ATCO training and reporting culture, the results of the analysis will be inaccurate. Further to measuring the internal application and acceptability of Just Culture, an internal comparative analysis can highlight differences between various units, or changes over time. *An external comparative analysis, particularly with well-known advanced organisations is likely to yield areas for improvement.* - *Regular benchmarking will help identify Just Culture practices and indicate whether changes are necessary. Such measurements must be transparent to the staff and the changes (to the JC Policy, procedures, etc.) agreed before implementation. Benchmarking provides opportunities to assess what Just Culture does to help improve safety within the organisation.*
		4	*Do you have a regular, open Just Culture forum for staff and management discussion?*
			Staff should be given the possibility to openly discuss with top management aspects related to Just Culture. This is not only related to investigations, but any safety concerns, including changes in procedures, equipment, etc. However, this should not be mixed with the social dialogue, but must remain focused on the business/operational aspects. Such a forum is not a duplication of the reporting system, but a way top management can hear the concerns of the staff, as well as gather suggestions for improvement. *Evidence can be minutes of meetings, actions taken as a consequence of discussions, etc.* *This topic could be part of a larger discussion, but sufficient time must be allowed for the discussion.* *If there is an "open door" policy within the organisation, there must be some activity in place to ensure that information is being received; this could be achieved through management visiting the OPs room and talking to staff.* *Describe:* *- how often management and staff get together to discuss Just Culture;* *- how useful or successful these discussions are; and* *- if there is an "open door" policy within the organisation, how the management know that information is being received. Is this through visiting the OPs room and talking to staff or through other means?*
		5	*The organisation ensures that it applies just culture in its approach to working with external stakeholders and contractors.*

			- *ANSPs by their nature and purpose engage with many other aviation stakeholders, who are also expected to apply Just Culture principles in their daily work;* - *Staff and management are expected to apply the same just culture principles in their dealings with external aviation stakeholders and with contractors/ subcontractors as they would within their organisation.* *Notes: Does the JC policy address external stakeholders and contractors and, are there examples of where the JC policy has been applied as a result of incidents or occurrences that have been caused or aggravated by the contractor stakeholder. Contractors include power, HVAC, cleaning staff and stakeholders include airlines, airports and airside operations.* *Example:* *If a ground handler inadvertently strikes the fuselage of an aircraft with a vehicle, the extent and safety impact of the damage may not be immediately visible – particularly in the case of composite fuselages which are now almost ubiquitous. In these instances, the airline would want to know immediately, so that they can assess whether or not the aircraft remains airworthy and what types of repair may be needed. The ground handling organisation, airline and aerodrome may also need to know what actions they can take to prevent a recurrence. Considering that the damage may be invisible from the outside, the ground handler needs to be reassured and encouraged by a just and open reporting culture in order to report what may seem to be an innocuous incident. If the airline or aerodrome insists on punitive action, or if the contractual relationship between airline and ground handling service provider is too punitive, these occurrences may not be reported. In ATM, a similar scenario may be imagined: An ATSEP or other contractor working in the operational space who damages a piece of ATM equipment requires the same approach to just culture principles as is followed within the ANSP.* *Please provide examples of application of the JC policy principles in relation to external stakeholders and contractors. Please demonstrate that a reporting mechanism is available for external contractors and stakeholders and that remedial training for these staff is provided following any reported occurrence.*

Appendix 1 2. Safety Policy and Objectives

		2.1 The safety policy of the organisation presents the organisation's commitment to safety and its resourcing. The priority of safety within the organisation is also articulated	
		Informal Arrangements	
		1	*The need for a safety policy has been recognised but one does not exist.*
		2	*The organisation is considering which key attributes (e.g., culture (safety and just), visible endorsement, communication, safety reporting) of its approach to safety should be included in its safety policy.*
		Defined	
		1	*The way in which the organisation manages safety is reflected in its developed safety policy or related procedures.*
			At this level it is expected that an organisation has developed a safety policy or related procedures. Appropriate justification could be in the form of a relevant quotation from the Safety Policy or a related procedure. *Considerations could include:* *<u>Management commitment</u>* *The service provider shall define its safety policy in accordance with international and national requirements. The safety policy shall:* *a) reflect organisational commitment regarding safety, including the promotion of a positive safety culture;* *b) include a clear statement about the provision of the necessary resources for the implementation of the safety policy;* *c) include safety reporting procedures;* *d) clearly indicate which types of behaviours are unacceptable related to the service provider's aviation activities and include the circumstances under which disciplinary action would not apply;* *e) be signed by the accountable executive of the organisation;* *f) be communicated, with visible endorsement, throughout the organisation; and* *g) be periodically reviewed to ensure it remains relevant and appropriate to the service provider.*
		2	*The draft safety policy is available for review within the organisation.*
		Managed	
		1	*The safety policy has been proactively communicated to staff throughout the organisation and formally published (e.g., on the organisation's intranet).*

			The organisation's safety policy is the foundation of the Safety Management System (SMS) and the first important milestone of its implementation. *The formally published safety policy must have the tangible support of the most senior member (Head of organisation) of the organisation, thereby demonstrating their commitment to safety.* *It is essential that the safety policy is communicated proactively to staff throughout the organisation, this can be done in using various methods, such as training, briefings by senior managers, intranet, safety bulletins and emails to all staff.* *Briefly describe:* - *who has signed the safety policy;* - *what methods are used to proactively communicate the safety policy throughout the organisation.* *Note: Different methods of communicating may be needed depending on the best way to reach the target audience. Active methods include activities such as /induction/training or briefings; an example of a passive activity is through placing the safety policy on the company intranet or issuing a safety bulletin. A combination of approaches could be used.*
		2	*If changes are made to the organisation's safety policy, the organisation has a process to ensure that the SMS is updated to meet the amended requirements of the policy.*
			Describe when the SMS was last updated as a result of changes in the safety policy. *It is recognised that the safety policy in some ANSPs does not carry out this function as they are set at a high level. If this is the case, justification is required as to whether this is done in linked procedures.*
		3	*Updates to the safety policy are communicated throughout the organisation.*
			Describe what methods are used to communicate changes to the safety policy to staff. Examples could include: training, briefings, intranet, safety bulletins, staff newsletters, CEO emails to staff, management refresher training.
		4	*The organisation's safety policy meets all regional and international safety standards.*
			It is expected that the organisation meets all required regional and international safety standards including alignment with the requirements of ICAO Annex 19. Any exemptions will have been approved by the regulator and differences filed with ICAO. *ANSPs should comply with all requirements laid down in Reg EU 2017/373.* *If applicable, provide examples of approved exemptions and filed differences (e.g. to ICAO procedures).* *To meet the requirement of this question, it is expected that the organisation has some way of demonstrating that safety standards are met, e.g. through a Regulatory Compliance Matrix.*
		5	*The organisation conducts reviews of its safety policy at least once every five years to ensure that it continues to be relevant and appropriate.*
			Appropriate evidence could be the dated and signed off reviews.

		6	*The organisation has sufficient staff and resources to implement its safety policy and related procedures.*
			The organisation should demonstrate the sufficiency with reference to the Reg. EU 2017/373.
	Resilient		
		1	*The organisation compares its safety policy to those of other ANSPs*
			Other ANSPs' safety policies should be used for comparison to aid continuous improvement. *Provide examples of when you have compared your safety policy to that of other ANSPs and with which organisations. Indicate whether your safety policy has been amended as a result of this activity.*
		2	*The organisation actively contributes to and shares deidentified data at the regional and / or international dialogue to improve safety standards.*
			This question refers to the contribution your organisation actively makes to international safety standards, fora, research etc. Active involvement means contribution to the meeting as opposed to observing discussion and progress only. *If applicable, provide an example of where active contribution has been made to improve safety standards.*
		3	*The organisation includes safety management and safety improvement activities in the annual business planning process.*
			It is expected that safety management and safety improvement activities are resourced as a normal business activity. *Provide some examples of safety management and safety improvement activities that are included in the annual business plan.*
		4	*The safety policy is subject to ongoing review and improvement (e.g., when a new executive becomes accountable for safety or when there are indications that the policy does not adequately address the adequate level of commitment to safety).*
		5	*The organisation's safety policy is available on request.*
			It is expected at this level that the safety policy is available on request to interested parties who can demonstrate an interest based on aviation safety. This will help to ensure that ANSPs can share information and to aid comparison for continuous improvement. It is acknowledged that all requests must be considered individually and not all will be granted. *Provide evidence that the information has been suitably shared and or refused on pertinent grounds.*
		6	*The organisations safety policy encourages an integrated and collaborative approach to safety improvement, one that includes input from all areas of the organisation.*
			While top management helps sustain an initiative with vision and commitment, collaboration is vital for successful implementation. Your organisation should be encouraging all relevant areas of the organisation to work together to enhance safety improvement, for example via an integrated approach team. *Some areas where an integrated and collaborative approach to safety improvement is applied are: new technologies, development of procedures, SMS assessments, safety planning, safety management training (note: this list not exhaustive).*

			The approach used could change depending on the area - change management, safety management training, emergency response planning. *Provide an example of how this is done within your organisation.*
		7	*Management systems acknowledge that change can indirectly impact an organisation's safety performance, potentially causing instability within the organisation.*
			The organisation actively engages and prepares to avoid, or to manage this instability, including the need to prepare people for changes that may affect safety.
		8	*Safety resources are used in a flexible manner and safety activities are resourced and managed within business planning and reporting processes.*
			Typical evidence for this question would come from organisational business plans with a flexible assignment of resources being evident from planning meetings and meetings of the organisation's safety board/ committee. This question demonstrates the agility of the business in meeting unexpected or unplanned challenges.

		4.1 Clearly defined and documented safety policies, standards and processes	
		Informal Arrangements	
		1	*There is no SMS in place.*
		2	*There may be deviations from safety regulatory requirements*
		3	*The need for an SMS Implementation Plan is recognised.*
	2	Defined	
		1	*The organisation has started to implement its SMS.*
		2	*The organisation has an approved and funded SMS implementation plan, which includes provision/ resources for:* - *Safety policy and objectives;* - *SMS regulatory requirements;* - *SMS processes and procedures;* - *Accountabilities, responsibilities and authorities.*
		3	*There is an awareness that the SMS is a tool to be used and the need for training some roles in safety is identified and begun.*
			ANSPs at this level can be expected to have begun implementing a Safety Management System (SMS). As a result, the internal safety discussion begins to change with the ensuing safety measurement, and safety promotion becomes more visible. The safety discussion will be characterised by a lack of transparency — safety teams and managers, for example, leading the discussion with little structured or formal inclusivity of others in the organisation. Safety improvements are limited to what guidance is given by the SMS. There is an overwhelming confidence that safety will be delivered by following the SMS.
		Managed	

1	*The organisation has completed all work required by its SMS Implementation Plan.*
2	*All safety management documentation is readily available to appropriate staff.*
	Verify the availability of the documentation.
3	*The organisation monitors its SMS processes and output regularly to identify any problems staff may be having in applying the SMS. [SP]*
	How is this monitoring carried out?
4	*Relevant staff are informed when safety actions or safety management procedures are introduced or changed, and why.*
	Provide evidence that this information has been communicated to relevant staff.
5	*The organisation conducts formal reviews of any organisational changes that could affect safety and / or the safety management framework.*
	Provide evidence of these reviews.
6	*The organisation regularly reviews its SMS, at least once per reference period, and updates its SMS using identified and formal processes as required.*
	Provide evidence that the SMS review has been updated as described and that it has been done during the present reference period (RP4).
7	*Where a standard has not been clearly defined and there is a safety impact, rectification measures are taken without delay.*

Guidance for the Managed Level

The organisation has documented the necessary procedures, processes (e.g. SMS policy/framework) and tools internally (e.g. collecting hazards/deficiencies, feedback, lesson dissemination). A move from strictly following the SMS to an intelligent application of the processes can be seen. This is about understanding the intent of the SMS and ensuring that this is realised rather than just blindly applying its processes. This change may be driven as a result of the experience in applying the SMS to a range of changes within the ANSP, for instance across a range of technical systems with increased complexity. Additionally, there will have been new stakeholders, e.g. engineering teams, change management, business risk, supply chain and software engineering that will contribute to different issues and perspectives.
ANSPs can elect to develop proportionate applications of the requirements of an SMS so that it is not applied uniformly across all projects or within the ANSP's activities, i.e., a risk-based approach to safety management. In so doing, progressive and intelligent application of the SMS provides evidence of an ANSP or organisation that is functioning at the 'Managed' level.

'Formal process' means that the description of the responsibilities, input, output, activities, etc., put in place by the organisation for maintaining its safety management processes and procedures is formalised (documented) in the SMS documentation and is up to date.

'Regularly reviewed' means that the SMS is reviewed and, if needed, updated at least at the following occasions:
- *whenever there is an organisational change or a change in the provision of services that can have in impact on the SMS;*
- *when analysing the outcomes of the safety monitoring system and SMS audits;*
- *and in any case every reference period (in line with point 14.1).*

		Resilient	
		1	*The organisation formally assesses the usability and accessibility of its SMS processes and documents. [SP]*
		2	*The SMS contains Human Factors-related principles and also indicates where and when it needs to be considered, e.g., in investigation, risk assessment activities and management of change.*
		3	*The organisation measures the effectiveness of the SMS documentation update process. [SP]*
		Guidance for the Resilient level *The SMS will encourage challenge and critique as part of its contribution to a safer and more effective ANSP. Challenge and constructive critique act as a feedback loop that can provide fundamental information about how the work system is behaving and ways to make structural changes. The SMS will provide a clear evaluation of the strengths and weaknesses of the conventional safety interventions.* *There should be evidence to show that relevant SMS processes and outputs (at least safety policy, SMM, occurrence reporting and investigation procedures) are reviewed on an annual basis (e.g. internal audits, peer review, safety board meetings), and measures are taken without delay when a safety relevant impact from the investigation processes or performance reports have been identified Attention should be paid to ensuring that Human Factors-related principles embedded in the SMS have been applied and evidenced, as appropriate, in the SMS processes and outputs.* *The types of justifications include the following:* - *evidence and/or outputs stemming from the formal review process;* - *feedback on its SMS processes and documents from staff working within the SMS procedures.*	

		3.1 An approved, clearly documented, and recognised system for the management of safety. Management structure, responsibilities, accountabilities and authorisations are clearly defined and documented	
		Guidance for all levels *Resource: Safety Accountabilities and Responsibilities | SKYbrary Aviation Safety https://skybrary.aero/articles/safety-accountabilities-and-responsibilities* *At this level it is expected that an organisation is identifying and defining authorisations, responsibilities and accountabilities to the management and personnel involved in safety-related tasks. In particular, it is expected at Level B that these are in place for the Accountable Manager and Safety Manager already as they are key contributors to defining the roles of other members of the organisation.* *Describe what responsibilities, accountabilities and authorisations are currently in place within your organisation. The response should include those for Accountable Manager, Safety Manager and other personnel involved in safety-related tasks.* *Safety responsibility: the obligation to carry forward an assigned safety-related task to its successful conclusion. With responsibility goes authority to direct and take the necessary action to ensure success.* - *Safety accountability: the obligation to demonstrate the task achievement and take responsibility for the safety performance in accordance with agreed expectations. Accountability is the obligation to answer for an action. Accountabilities cannot be delegated to anyone else.* - *Safety authority: typically, authority is given to managers and the top people in a company to help them guide a team and achieve safety goals and objectives. Without authority, it is impossible to delegate tasks and get things done. It enables a leader to delegate work and give instructions to their staff who accept it because of the initiator's authority to make those decisions.*	
		Informal Arrangements	
		1	*No formal designation of responsibilities, accountabilities or authorisations for the management of safety exists.*
		Defined	
		1	*The organisation has identified and documented safety authorisations, responsibilities and accountabilities.*
		2	*The organisation has a safety management function or safety management position responsible for developing and maintaining its SMS.*
			Describe who is responsible for developing and maintaining the SMS within your organisation. *Note.— Depending on the size of your organisation and complexity of the service you provide, the responsibilities for the implementation and maintenance of the SMS may be assigned to one or more persons, fulfilling the role of safety manager, as their sole function or combined with other duties, provided these do not result in any conflicts of interest.*
		Managed	
		1	*The organisation has implemented authorisations, responsibilities and accountabilities for safety management, including Human Factors. [SP]*
			At this level authorisations, responsibilities and accountabilities (including Human Factors) should be clearly defined and documented. Examples of where these are documented could be in the safety policy, safety management manual, job descriptions etc. This would mean, for example, that there is a position such as Head of

			Human Factors (for a larger organisation), and/or Human Factors Expert/ Specialist, with associated Human Factors responsibilities and accountabilities to specific organisational units, departments or divisions. *Provide details of where these are documented in your organisation.* *A Human Factors Expert/ Specialist is someone with relevant degree-level training or equivalent training that is recognised by a human factors-specific professional association in the subject or a related one (e.g. applied or industrial psychology). A Human Factors leader or focal point may not necessarily be a Human Factors Expert/ Specialist (i.e. trained at degree level in HF etc.), but should have had at least some basic training in the discipline, and have access to HF expertise either within or outside the organisation.*
		2	*The organisation has an safety manager who has ultimate responsibility for the management of the SMS and who actively supports the SMS development, implementation, maintenance, and promotion throughout the organisation (including support departments). Reg 2017/373*
			The term 'Safety Manager' may be used to describe the single individual who, irrespective of other functions, has ultimate responsibility and accountability, on behalf of the organisation, for the implementation and maintenance of the SMS. *State who is the safety manager within your organisation for ensuring that the SMS framework is aligned with legislation, maintaining and evolving the framework and also for endorsing all SMS processes. Documented authorisation should reflect these accountabilities.* *Describe in what way your leadership has demonstrated their active support for the SMS. Examples could be where the executive team or board are members of a Safety Board; through safety being considered a priority when defining corporate goals, safety being a permanent item on the board's agenda, participation in safety-related activities (e.g. dedicated safety meetings, being present in the operational environment), reviewing and approving significant changes to the SMS, providing direction for the continuous improvement of safety.*
		3	*The wider leadership team (who report to the safety manager) take responsibility for the application of the SMS.*
			The wider leadership team (i.e. the executive team) is the team of people who report directly to the safety manager. The executive team should all be assigned safety responsibilities as appropriate to their role. *Briefly explain in what way the wider leadership team take responsibility for ensuring that the SMS is applied appropriately.* *Examples could include:* *through prioritising safety management activities and supporting staff to complete these safety-related tasks; attending dedicated safety meetings, etc;* *confirmation that the wider leadership team takes responsibility for the application of the SMS could be gained through the Safety Culture surveys;* *key leaders could sign the SMS Manual;* *all leaders could be required to sign off on their responsibilities.* *Describe in what way your leadership demonstrates their active support for the SMS. Examples could include:* - *that the executive team or Board are members of a Safety Board/Safety Steering Group or similar;* - *the leadership at the highest level participate in safety-related activities, e.g. attending dedicated safety meetings, being present in the operational environment, etc.*

			- *reviewing and approving significant changes to the SMS;* - *providing direction for the continuous improvement of safety.* *Describe in what way safety is considered a priority when defining corporate goals, and what input the safety department has in defining the corporate goals.*
		4	*The safety management function or position is independent of operational line management.*
			Provide a description of who the safety management function or position report to. For example, the Safety Manager could report to the organisation's CEO/ Accountable Manager. Essentially, the structure should be effective and benefit the management of safety.
		5	*The safety management function has the authority to develop and maintain an effective SMS.*
			Example justification could be that the Safety Management Department has accountability for ensuring that the SMS framework is aligned with legislation, maintaining and evolving the framework and also endorsing all SMS processes. Documented authorisation should reflect these accountabilities. *The Safety Management Manual should describe the authorisations, responsibilities and accountabilities related to developing and maintaining an effective SMS.*
		6	*The safety management function has access to the resources required for the proper development and maintenance of the SMS. Annex 19 1 1.1.b*
			It is expected that the organisation has a business plan that outlines the safety priorities and objectives for the coming year which includes the provision of adequate resources to develop and maintain the SMS. *Describe how the safety management function is involved in ensuring that the business plan contains provision for the relevant resources (financial and human) for the development and maintenance of the SMS.* *Some organisations may have a consistent team of safety experts working under the safety management function, while others may need to request resources from the relevant areas of the organisation.*
		7	*All relevant managers and staff have formally accepted their SMS accountabilities and responsibilities.*
			To ensure safety awareness and commitment of all personnel involved in safety related tasks, SMS accountabilities and responsibilities should be formally accepted by those accountable. This can be achieved through signing that they accept these. *Describe how this is achieved in your organisation (e.g. signing of the safety policy, signing safety accountabilities and training records).* *Note: It is expected that this is achieved within the first month of employment.*
		8	*The organisation reviews safety authorisations, responsibilities, and accountabilities after significant organisational changes.*
			It is expected that there is a procedure in place to ensure that, in the event of a significant organisational change, safety authorisations, responsibilities and accountabilities are assessed prior to the change activity to ensure that they remain effective. *Describe who is responsible for ensuring that all changes to the SMM are managed and controlled. In addition, if relevant, provide an example of where this procedure has been applied.*
		Resilient	

		1	*The organisation reviews safety authorisations, responsibilities and accountabilities at least once per reference period (present and preceding) to determine whether they are suitable and effective.*
			Each subsequent review needs to occur no later than 5 years after the previous review. Therefore, the review is conducted once every 5 years as the minimum. *Provide the dates of the last review of safety authorisations, responsibilities and accountabilities during which their suitability and effectiveness were determined. In addition, provide brief details of any significant results.* *Describe whether reviews are carried out on a continuous basis or in accordance with a prescribed review schedule.*
		2	*The organisation formally and systematically assesses the theoretical capability of managers to effectively discharge their SMS accountabilities.*
			At Level D it is expected that some form of capability statement (assessment) is produced for each set of SMS accountabilities, i.e. that describes what level of knowledge and experience is required. While it is recognised that requirements for the position were originally set in order for the position to have been filled at the levels below Resilient (D), the assessment of the theoretical capability is useful at this level and should be viewed in addition to the original requirements for the position. The statement should be a formal and systematic output of the assessment. *Describe:* - *how your organisation assesses the capability of managers to discharge their SMS accountabilities;* - *how often this assessment is carried out; and* - *whether there is there a gap analysis plan to raise the level of capability of managers.*
		3	*The Human Factors capability (Permanent staff/ contracted resource, number of specialists, level of formal HF qualification i.e., relevant academic degree, internal / external, recognition of equivalent training by a HF professional organisation) is tailored and proportionate to the maturity and complexity of the organisation.*
			It is expected that relevant staff with Human Factors capability are operating within several divisions of the organisation, particularly in operational areas. Describe which areas of your organisation have staff with Human Factors capability. Such staff can be internal staff or external expertise that may be used as required.

Appendix 1 3. Safety Risk Management

		5.1 Effectively managed safety-related internal interfaces (e.g., operations and engineering service level agreements).	
		Informal Arrangements	
		1	*The various internal interfaces operate in isolation.*
		Defined	
		1	*The organisation has developed processes to manage internal safety-related interfaces.*
			If they are managed on a formal basis, please answer Yes. *Examples could include: Technical and operational; service management centre and the operation; MET and operations; AIS and operations; occurrence reporting to accountable manager.*
		Managed	
		1	*The organisation's safety related internal interfaces are managed through documented formal interface agreements. (Letters of agreement (LOAs), memoranda of understanding (MOUs), service-level agreements (SLAs), approved common procedures etc.).*
			Even in smaller organisations, safety-related internal interfaces should be of a formal nature to avoid any misunderstanding. *As a minimum, formal internal interfaces are needed between:* - *ATS/CNS* - *ATS/MET* - *ATS/AIS-AIM* - *AIS-AIM/MET* *Where these services are provided internally. Outsourced services (e.g. MET and communications) need to be referenced in SA5.2.* *Briefly describe what type of interfaces agreements are in place.*
		2	*The organisation regularly evaluates the performance of its interface agreements (LOAs/MOUs/SLAs/approved common procedures, etc.) through a formal process. [SP]*
			To justify a Yes response to this question, what is in place must be formal in nature. Additionally, at least two reviews need to have been carried out to justify a "Yes" response, with a minimum of once per reference period being demonstrated – therefore, once in the present reference period and once in the preceding reference period. *Whether part of an overall quality assurance process, or specific reviews, "regular" is regarded as being a pre-determined, periodic exercise, which should be able to cover the whole issue within one to three years, depending on the complexity of the organisation.*

			- *This process can be embedded into the overall SMS review process.* - *The review should include all parties affected by the formal interface.* - *When describing the review process consider the results of the last review and the subsequent actions taken.* *Note: For activities not driven by AIRAC or other operational changes, reviews should take place once every five years. Therefore, once per reference period.* *Describe who is responsible for ensuring that the formal interface agreements are effective and up-to-date.* *Please state when the last review was held.*
		3	*The organisation has processes or fora in place to share the practical experiences of safety management between different departments and professional fields*
			It is expected that formalised processes are in place that bring different parts of the organisation together to discuss safety management concepts and theories that also include the efficacy of safety management training. *Describe:* - *how different departments within your organisation share discoveries of safety in practice.* - *whether your safety manager oversees these processes and facilitate these interactions.*
	Resilient		
	1	*Human Factors specialists are active and integrated within programmes, Communications, Navaids and Surveillance [CNS] and operations across the organisation.*	
			A Human Factors specialist is a person with a relevant academic degree and / or professional experience recognised by a professional body (such as CIEHF or HFES or other equivalent professional HF bodies) with experience in working in the field. Human Factors Expert/ Specialist is someone with relevant degree-level training or equivalent training that is recognised by a human factors-specific professional association (such as CIEHF or HFES) in the subject or a related one (e.g. applied or industrial psychology) with relevant experience. This function may be an externally contracted expert whose function is similarly integrated into the appropriate areas of the organisation, as a permanent staff member would be. The HF capability should reflect the volume of activities within the organisation, and should be proportionate to the size and complexity of the organisation. *NB.* • *CIEHF: Chartered Institute of Ergonomics and Human Factors* • *HFES: Human Factors and Ergonomics Society* *Often in organisations, Human Factors Specialists are located in one division or department or unit (e.g. Safety). However, other departments may periodically need access to Human Factors support, e.g. operations, design, training, etc.* *Describe whether there are management mechanisms and interfaces for sharing Human Factors expertise transversally across the organisation as needed. Demonstrate that, through the involvement of HF specialists, decision makers are able to make informed decisions that take HF into account.* *There is evidence that HF principles have been considered and adopted when implementing changes to the functional system and when introducing new provisions*

			and procedures.
		2	*The organisation carries out external comparative analysis for LOAs / MOUs / SLAs / approved common procedures, etc.*
			Internal agreements, procedures, management systems, can be compared with those of other ANSPs of similar size and complexity, such that good practices are identified and adopted, or potential gaps fixed. In essence, it's about looking at what mutual lessons ANSPs can learn with regard to managing internal interfaces. *Describe which organisations you have carried out comparative analysis with and when.*

		5.2 The effective management of external interfaces with a safety impact (e.g., military, airspace users, airports).	
		Informal Arrangements	
		1	*Safety-related external interfaces are managed on an informal basis.*
		Defined	
		1	*The organisation has developed contractual arrangements for all safety related external interfaces.*
			Question covers which external interface agreements are in place. At Level B, state which ones are in development.
		Managed	
		1	*Activities for all safety-related external interfaces and relationships are coordinated and managed through documented agreements.*
			Provide some examples of external agreements: LoAs, SLAs etc. that are in place. Examples could be: *Agreements with utility and communication providers and provision of manufacturer support for CNS equipment.* *You should be able to confirm that ALL safety-related interfaces and relationships are coordinated and managed through documented agreements.* *Describe who is responsible for ensuring that the external safety-related external interfaces are up to date.*
		2	*Safety requirements and human factors requirements (especially of equipment and user interfaces) are specified and documented in the appropriate agreements.*
			Safety is an integral part when an interface is being established to whatever level deemed necessary. *Describe how safety requirements and human factors requirements related to safety are derived for inclusion in contractual agreements. Include to what extent appropriate safety-relevant staff are consulted in the development of the requirements (e.g. safety manager, dedicated safety experts, etc).* *Explain to what extent elements such as integrity, usability, performance and repair times (although not exhaustive) are addressed.*
		3	*Safety performance indicators are used to monitor the effectiveness of the external safety-related interface agreements.*
			Describe what safety performance indicators are used to monitor the effectiveness of the external safety-related interface agreements. Examples could include: System Monthly Availability, Number of Failures Per Month, System Downtime Per Failure.

			If technical systems are not involved, other performance indicators may be needed, such as response time, quality of information, etc. Describe as appropriate.
		Resilient	
		1	*The organisation systematically reviews and revises safety requirements and human factors requirements related to safety within contractual agreements.*
			"Systematically" = in accordance with a plan. *Describe:* - *what methods are used to systematically review and revise safety requirements and human factors requirements within contractual agreements;* - *whether all assessments are carried out at a functional level as well as a contractual level;* - *how often safety requirements within contractual agreements are reviewed;* - *how often human factors requirements within contractual agreements are reviewed.*
		2	*The organisation systematically reviews the performance of its critical external service providers and suppliers against the contract, and takes action as appropriate.*
			At Level D, a supplier performance monitoring programme is expected to be in place. Key suppliers should be monitored at least quarterly on a formal basis and the findings reported to senior management level. A review of Quality, Cost, Financial, Delivery and Strategic Risk should be performed for each "key" supplier. In addition to the quarterly review, an audit/assessment option should be in place for suppliers whose performance is of concern. Findings should be raised and corrective actions verified for effectiveness. *"Systematically" = in accordance with a plan.* *Describe:* - *how performance against performance of the critical external service providers and suppliers are assessed against the contract;* - *whether assessments are carried out at a functional level as well as a contractual level;* - *how often performance within contractual agreements is reviewed;* - *what happens in the case where deviations from the documented arrangements are identified;* - *whether the contracts with external service providers and suppliers contain a clause with regard to performance reviews.* *Examples of performance indicators are: System Monthly Availability, Maximum Allowable Failure Per Month and Maximum Allowable System Downtime Per Failure. This list is not exhaustive.*
		3	*Provide examples of how external suppliers or delivery service partners are involved in safety-related activities and provide evidence demonstrating the regularity of this involvement.*
			Suppliers or even delivery service partners may not be aware of the criticality of the interface with the organisation. Further, their objectives might be different in nature than those of ATM. Involving them in briefings, activities or common projects would raise their awareness and potentially contribute to safety. Example: the Safety Stack (https://skybrary.aero/bookshelf/hindsight-26-luton-safety-stack) *Describe how external suppliers or delivery service partners are involved in safety-related activities.*

		6.1 Hazards to operations are reported and assessed	
		Informal Arrangements	
		1	*Hazards to operations are not assessed by either managers or staff. However, risks to operations are recognised.*
		Defined	
		1	*The organisation has developed processes for the identification of hazards.*
			Briefly describe what processes are in place for identifying existing hazards or hazards identified through change. *If your answer is "No", state when processes are planned to be completed and in place.*
		2	*The organisation has developed processes to document the existence of hazards.*
			Briefly describe what processes are being developed or that are in place. *If your answer is "No", explain why.* *If processes are currently being developed, state when they planned to be completed and in place.*
		3	*The organisation has developed processes to assess the risk that hazards pose to operations.*
			If your organisation has already established these processes, please select Yes. *Briefly describe what processes are being developed or that are in place.* *An example could be that Operational Unit Safety Cases document all operational hazards and their associated risk levels.* *If your answer is "No", explain why.* *If processes are currently being developed, when are they planned to be completed and in place?*
		Managed	
		1	*The organisation has implemented its hazard identification processes (Annex 19 2.1.1)*
			The requirement at Level C is that there is a process/es in place that is used specifically for identifying existing hazards and hazards associated with change. *Describe what is in place within your organisation.* *An example could be where an organisation has a safety hotspot map for operational units where the top three hazards are identified and mitigation is planned. These safety hotspot maps along with SMS outputs from SMS Assessments, normal operations safety survey (NOSS), etc. would feed the development of the hazard register.*
		2	*The organisation's hazard identification processes are based on a combination of reactive, proactive and predictive methods of safety data collection (Annex 19 2.1.2)*
			NOTE: ICAO Doc 9859 - Part 5.1.3 states: Annex 19 requires that service providers develop and maintain a formal process to collect, record, act on and generate feedback on hazards in their activities, based on a combination of reactive and proactive methods of safety data collection.

			FOR ECAC MEMBERS: Regulation EU 2017/373 - ATS.OR.200 Safety Management System states (2) Safety risk management (i) A process to identify hazards associated to its services which shall be based on a combination of reactive, proactive and predictive methods of safety data collection. *Provide examples of each type of method used. Lagging indicators are reactive measures whereas leading indicators are proactive measures:* *- Reactive: mitigate severity of safety events and threats;* *- Proactive: identify safety concerns before safety events happen; and* *- Predictive: inputs to and outputs from the safety system are used to predict future outcomes, and anticipate future exposure based on past performance data.* *Examples of each include (but is not exhaustive):* *- Reactive:* *• The Safety Investigation process triggered when trends indicate the need for an in-depth investigation;* *• Monitoring data used for risk assessment and validation;* *• The mandatory reporting process and subsequent safety investigations used to identify and mitigate hazards;* *- Proactive:* *• The change analysis and hazard identification and risk processes used to identify hazards associated with change or to identify hazards within a specific operational context;* *• A voluntary reporting process used to collect hazards from ongoing operation;* *• NOSS, to enable proactive identification and addressing of potential threats and errors before they lead to safety events;* *• Standard safety risk assessment processes.* *- Predictive:* *• Safety reviews and technology/process design.;* *• Safety analysis;* *• Simulations;* *• Test platform.*
		3	*The organisation has a sufficient number of trained or qualified staff or contractors to assist in the identification and assessment of hazards and in hazard management.*
			Note: Qualified may mean having an academic qualification in some organisations. The requirement for this question is that staff must be trained and capable of identifying and assessing hazards. *Different types and delivery methods of training could be provided to staff based on their role in the SMS (e.g. basic and refresher training; classroom, CBT; safety manager vs. operational staff).* *Describe:* *- how the resource requirements to assist in the identification and assessment of hazards area identified in an organisation's Business Plan e.g. this could be based on projected demands;* *- what form of training is provided within your organisation;* *- whether any basic training is provided during the ab initio training with regard to the identification of hazards;* *- whether training is supplemented by additional activities such as annual lectures/seminars on hazard management.*

			- *Hazard management is often carried out by operational and technical staff*
		4	*The organisation regularly includes stakeholders in its identification and assessment processes.*
			This question requires that both INTERNAL and EXTERNAL stakeholders are involved in the identification and assessment process/es. *Describe:* - *how stakeholders are included;* - *what internal stakeholders are involved;* - *what external stakeholders are involved.* *Examples could include airports, military, system providers as part of various safety activities (e.g. investigation process, change management system, safety risk management, safety surveys).*
		5	*The organisation has taken reasonable steps to identify all hazards affecting its operations.*
			A variety of means could be used to ensure that all hazards have been identified (e.g. reporting and investigation process, hazard identification techniques such as FMECA, HAZOP, What-if analysis etc, change management process, risk registry, internal safety audits and surveys). *Describe:* - *what is in place in your organisation; and* - *how you know that reasonable steps have been taken to identify hazards affecting all of its operations.*
		6	*The organisation reviews and updates its hazard identification processes at least once per reference period.*
			At least two reviews need to have been carried out to justify a "Yes" response, with a minimum of once per reference period (present and preceding) being demonstrated – therefore, once in the present reference period and once in the preceding reference period. *An effective review and monitoring cycle may include the following:* - *review the framework in light of legislative environment, internal experience and external benchmarking;* - *report on how effective the organisation has been in meeting the objectives described in its hazard identification process/es.* *Emerging hazards may include drone operations, commercial space launches, etc.* *Describe:* - *what triggers the need for a review. Examples could include safety investigations, quality assurance processes, SMS assessments etc.* - *when the last two reviews were held and whether any review resulted in the need for an update to the hazard identification and analysis process/es.*
		7	*The organisation monitors whether the hazard identification and mitigation process has been appropriately applied. [SP]*
			Any monitoring process relevant for this question should be formal in nature. *Briefly describe the monitoring process. Examples of whether the process is appropriately applied could be through verification of various safety audits and surveys*

			(e.g. regular quality checks). It could also be part of a continuous improvement approach. *Indicate whether there is an independent overview entity available within the organisation.*
		Resilient	
		1	*The organisation uses tools or procedures to tracks the status of all identified hazards relating to the change. [SP]*
			It is expected that some form of 'hazlog' is in place to track the status of hazards and also to ensure that they are dealt with in a timely manner... how many, how many closed, etc. *Describe:* - *how often the status is analysed;* - *whether hazards are occurring that are not in the hazard log.* *Provide some examples of safety improvements implemented as a result of trend analysis.* *A variety of means could be used to conduct trend analysis with regard to whether identified hazards are occurring as expected (e.g. safety report once a month, investigation reports).*
		2	*The organisation carries out ongoing reviews of lessons learnt from occurrence reports and safety surveys to improve its hazard identification processes to ensure that the processes are effective.*
			In order to establish a track record, two reviews are required to meet the requirement of this question. At least one review per reference period is required. Therefore, one review during the current reference period and one in the preceding reference period. *In addition, the process must be formal in nature to justify Level D.* *Note: If there are a lot more hazards occurring than those predicted, his is an indication that some improvement in the hazard identification process/es is required.* *In addition to lessons learned from occurrence reports and safety surveys, other activities could include safety investigations, project reviews, safety reviews etc.* *Describe:* - *what is in place in your organisation;* - *when a review last took place;* - *whether hazards are experienced that were not predicted through the normal hazard identification process/es;* - *whether the process is appropriately applied, i.e. verified through activities such as safety audits and surveys (e.g. regular quality checks).*

		6.2 Assessed risks are mitigated or controlled. Risk controls are monitored for effectiveness, and remedial action is taken if controls are not working effectively.	
		Informal Arrangements	
		1	*There is limited understanding of the need to mitigate or control risk, even when risks are recognised.*
		2	*There is little understanding of what constitutes a risk control at either a system or local level.*
		Defined	
		1	*The organisation has developed processes to identify and control or mitigate existing operational risks.*
			This could be through the hazard identification and risk management process/es. *If your answer is "No", state when the processes are planned to be completed and in place.*
		2	*The organisation has established processes to document how appropriate controls and mitigations should be selected*
			Safety Cases should be used to assess and manage the risks that hazards pose to operations. *Describe how risk controls and mitigations are selected*
		3	*The organisation has proposed the level of risk that individual managers can approve.*
			Guidance for the Defined Level *The organisation is establishing processes to document how appropriate controls and mitigations should be selected, for example, through the hazard identification process. Controls are preventative mitigations and/or recovery mitigations.*
		Managed	
		1	*The organisation has formally implemented its risk control and mitigation processes.* *A control is a design feature or procedure that reduces the likelihood of the hazard occurring.* *A mitigation is a design feature or procedure which makes the impact of the hazard less bad once the hazard has occurred.* *Risk-control and mitigation processes should be documented and implemented as part of the SMS processes. These processes may be embedded in the wider processes of monitoring the behaviour and the management of changes of the organisation's functional system.* *Risk controls and mitigation processes need to be clearly identified and documented to allow a proper monitoring of their effectiveness.*
		2	*The organisation is regularly monitoring the effectiveness of risk controls and mitigations. [SP]*
			A control is a design feature or procedure that reduces the likelihood of the hazard occurring. A mitigation is a design feature or procedure which makes the impact of the hazard less bad once the hazard has occurred.

			Whether part of an overall quality assurance process, or specific reviews, "regular" is understood as a pre-determined, periodic exercise, which should be able to review all controls and mitigations within the organisation within one to three years, depending on the complexity of the organisation. *Describe:* - *how risk controls and mitigations are monitored for effectiveness (this could be through various safety audits and surveys (e.g. regular quality checks), incident reports etc.);* - *when the last review held?;* - *how the output of the monitoring activity is reported (e.g. overviews of the performance and the in-service risks could be reported through a management review group).*
		3	*The level of analysis, assessment, mitigation and control of risk being undertaken is proportionate to the risk. (Annex 19 2.2 & 3.1.1) [SP]*
			Different risk levels require different mitigation measures and levels of authority. *It is expected that a major risk is not assessed using a minor process. What is in place must be appropriate for the level of risk identified.* *Describe the levels of assessment implemented within your organisation. Indicate whether the level of activity required in the process mean that some risks are not assessed sufficiently as it is thought the level of work is not justified.*
		4	*Staff and contractors where appropriate are educated and trained in risk and risk management.*
			It is expected that training is carried out in accordance with a formal training plan. *Briefly describe the training that is provided and to whom.* *E.g. safety management training provided to employees based on their role in the SMS (e.g. basic and refresher training; classroom, CBT, safety manager vs. operational staff).* *A variety of means could be used as competency methods to determine whether safety management training is required apart from the established general training requirements (e.g. role descriptions, job appraisals).*
		5	*The organisation has defined the level of operational risk it can tolerate. [SP]*
			An example could be the rate of losses of separation [LOS] and Runway Incursions [RI] experienced by an organisation. LOS and RI events are characterised by severity and frequency of occurrence and can be used to give a view of the risk an organisation experiences. Other measures can be proposed by the organisation. The organisation should set the maximum rate of events it can tolerate. *Describe where the level of operational risk that can be tolerated is defined.*
		6	The organisation documents and enforces the level of design risk its managers can accept. (Annex 19 1.2e)
			Different risk levels require different mitigation measures and levels of authority. *Usually, only the accountable manager [or delegate] can accept a Level B risk. Other managers may be able to accept level C and D risks depending on their seniority and safety accountabilities.* *Describe:*

			- how your organisation enforces the level of design risk that managers can accept up; and *- where this is documented.*
		7	*The organisation addresses identified risks as part of its process to improve safety performance. [SP]*
			Risk mitigation strategies could include: *1. Design for Minimum Risk - Design the system (e.g., operation, procedure, human-to-system interface, equipment) to eliminate risks. If the identified risk cannot be eliminated, reduce it to an acceptable level by selecting alternatives.* *2. Incorporate Safety Devices - If identified risks cannot be eliminated through alternative selection, reduce the risk by using fixed, automatic or other safety devices or features, and make provisions for periodic functional checks of safety devices.* *3. Provide Warnings - When neither alternatives nor safety devices can effectively eliminate or adequately reduce risk, warning devices or procedures are used to detect the condition and to produce an adequate warning. The warning must be provided in time to avert the hazard's effect(s). Warnings and their application are designed to minimise the probability of inappropriate human reaction and response.* *4. Develop Procedures and Training - Where it is impractical to eliminate risks through alternative selection, safety features and/or warning devices, procedures and training are used. However, management must concur when procedures and training are solely applied to reduce risks of catastrophic or hazardous severity.*
		8	*The organisation has proposed the level of risk that individual managers can approve.*
			Guidance for the Managed Level *This level of risk that can be approved when it is documented. When an individual or organisation accepts a risk, it does not mean that the risk is eliminated (i.e. some level of risk always remains, called residual risk). Rather, the individual or organisation accepts that the residual risk is sufficiently low. There is a less demanding process for analysis, assessment, mitigation and control when the resulting risk is minor.* *The organisation ensures that managers can only accept risk levels that have been determined and documented.*
		Resilient	
		1	*The organisation reviews its operational risk baseline at least once per reference period.*
			Most risk classification schemes are based on theoretical data. Mature organisations can use real performance data to review their risk criteria on the basis of their performance. *Describe:* *- the year in which the last assessment was conducted* *- what triggers a review;* *- how the operational risk baseline is measured;* *- where the output from these processes is documented ;* *- what is measured* *- whether actual operational performance data is used to review the organisation's risk criteria. To achieve this level, at least 5 years of performance data are required to be used in the review.*
		2	*The organisation has a process to assure that improvements in safety, which address identified key risks, are planned for and appropriately budgeted.*
			Provide relevant examples of what is included in your organisation's long-term (i.e. at least five years) business plan. Consider how safety is provided for within the business plan and how the allocation of resources to safety activities are achieved within the business plan. Consider also how the demands of non-safety activities are balanced with safety allocations both at the planning and budgetary levels.

		3	*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).*
			Guidance for the Resilient Level *The organisation uses actual operational performance data to review its risk criteria, meaning the level of risk that the organisation can accept. To achieve this level, at least 5 years of performance data are required to be used in the review. This level of risk is ensured to be in line with the risk-tolerance level defined for the safety board of the organisation.*
		4	*The organisation analyses human contribution to risk (positive and negative).*
			Humans are contributing both negatively to the risk (errors, slips, lapses) and positively (resilience, flexibility, adaptability). Usually, human error is analysed, but not the positive contribution (the success stories). For a YES answer, the latter must also be looked for in an organised, systematic way (this is part of the Safety II philosophy). *Describe what is in place within your organisation and provide examples of where both positive contribution has been made.*
		5	*The organisation is identifying performance deviations and deficiencies to establish a buffer from the level of operational risk it can accept. [SP]*
			Most organisations do not want to operate at the limit of their tolerable operational risk [as further occurrences will push their performance in to the unacceptable region] and therefore set a buffer or margin of error between the level of risk that is unacceptable and the level they are prepared to operate at. N.B. A framework could be a process. *Describe:* - *who is responsible for ensuring improvements to the risk control framework (this should be at a senior management level);* - *who is involved in the activity of identifying performance deviations;* - *what methods are used to identify performance deviations and deficiencies (e.g. reporting system);* - *how often the risk control framework (processes and procedures, risk baseline) is reviewed;* - *whether a Corrective Action procedure is in place.*
			Guidance for the Resilient Level *When these risk controls are monitored periodically, the level 'Achieved' will enable the ANSP to claim the 'Assured' level. The organisation should be able to demonstrate the last time that the review occurred, and that it was in line with the stated periodicity.* *Deviations or deficiencies identified in the monitoring should be part of the risk-control process, and it should trigger changes to the risk controls. This means that the risk-control process should include a process to develop corrective actions, e.g. Further changes to the functional system. There is a formal responsible within the organisation to ensure improvements in the risk-control framework.* *There is a corrective-action procedure that monitors performance deviations and deficiencies from its operational risk baseline*

		7.1 A data-driven means of continuously monitoring and managing fatigue-related safety risk that aims to ensure relevant personnel are performing at adequate levels of alertness.
		Informal Arrangements

		1	*Fatigue-related risk is not recognised as a safety risk which needs to be managed.*
		Defined	
		1	*The organisation has methods in place that address fatigue-related risk.*
			Briefly describe what methods are used. *For instance:* - *Encourage managers to talk to staff to understand if they are fatigued before a shift and what can be done to help them* - *Run a formal rostering system* - *Limit the number of successive morning rosters* - *Limit the number of successive night rosters* - *Alternate morning and afternoon roster instead of using all morning rosters* - *Avoid short nights off that finish late and start early* - *Encourage staff to ensure they are rested:* - *Sleep and wake-up around the same times every day as much as possible* - *Get into a standard pre-sleep routine by doing the same things every night before you go to sleep* - *Do not work, worry or exercise immediately before trying to go to sleep* - *Use the bedroom only for sleep not work* - *Do not ingest alcohol or caffeine before trying to go to sleep* - *Do not eat or drink too much within several hours of going to bed.*
		2	*The organisation has formal processes and procedures by which fatigue is managed.*
			Briefly describe how fatigue is managed. E.g. through roster principles, reporting and investigation system or other methods (please state).
		3	*The organisation has defined the responsibilities of management and staff for the control of fatigue-related risk.*
			Briefly describe where these responsibilities are documented. Examples could be that they are documented as part of the safety management system (e.g. fatigue policy, safety management manual).
		4	*The organisation provides training on the control of fatigue-related risk to all relevant staff.*
			Describe: - *what form of training is delivered (e.g. online, classroom led, refresher, etc.);* - *whether the level of training and delivery methods used is dependent on people's role in the SMS;* - *whether any basic training is provided during the ab initio training with regard to the management of fatigue-related risk;* - *whether training is supplemented by additional activities such as annual lectures/seminars on risks and countermeasures of fatigue.*
		Managed	
		1	*The organisation assesses ongoing compliance with fatigue-related risk processes and procedures.*
			Describe: - *what triggers a fatigue-related risk assessment (examples could be changing legislation, internal lessons learned etc.);* - *what methods are used to assess ongoing compliance with fatigue-related risk processes and procedures (examples could be: safety culture survey, reporting and investigation system, internal audits and surveys, external audits, as part of an annual Integrated Management System (IMS) review*

			process); - *when the last fatigue-related risk assessment was conducted (note: it is recommended that assessments are carried out at least six monthly and reported to senior management and any safety steering group (or equivalent));* - *what happens with the results from the assessment.*
		2	*The organisation communicates the importance of measuring and reporting fatigue-related risk to all operational staff.*
			Describe what methods are used to communicate to all staff the importance of measuring and reporting fatigue-related risk. Process measures based on sleep science principles and outcome measures based on occurrences reported where fatigue is a causal or contributory factor [eTOKAI provides this option].
		Resilient	
		1	*The organisation has processes to measure and improve the management of fatigue-related risk based on internally collected data. [SP]*
			Describe: - *what methods are used to assess the ongoing management of fatigue-related risk ((e.g. safety culture survey, reporting and investigation system, internal audits and surveys, external audits);* - *how often the management of fatigue-related risk is assessed;* - *whether a gap analysis is carried out to determine deficiencies, and subsequent remedial actions put in place;* - *provide some examples of gaps that have been identified and what remedial actions were put in place.* *Describe what occurrence data is used to better understand the fatigue profile of the workforce.* - *For example, data on the number of losses of separation [LOS] and Runway Incursions [RI] experienced by an organisation might be used. LOS and RI events are characterised by severity and frequency of occurrence and can be used to give a view of the risk an organisation experiences. Such events may act as a proxy indicator of risk, but would require further investigation. It is also required that specific occurrence reports on fatigue are made under Reg. (EU) 376/2014, which may used as a direct indicator.* - *This approach is also supported by: Reg. (EU) 2017/373, Fatigue Management Policy – AMC1 ATS.OR315(a) Fatigue, (b) In accordance with the policy in point (a), the air traffic control service provider should establish and implement: (1) principles and procedures to enable fatigue reporting;* -
		2	*The organisation uses comparative analysis or data and information from external sources to improve the management of fatigue related risk.*
			To justify a Yes response, processes and procedures must be in place to collect and use data and information. *Briefly describe what type of data and information from external sources (other ANSPs, sleep scientist, airlines) is used to improve the management of fatigue-related risk in your organisation.* *Provide some examples of what improvements have been made to the management of fatigue-related risk.* *If examples are not available, then the response to this question should be "No".*

Appendix 1 4. Safety Assurance

		10.1 Internal and independent (external) SMS audits.	
		Informal Arrangements	
		1	*There is no plan to conduct systematic SMS audits.*
			Note: An SMS Audit is considered to be a formal review of the application of the organisation's safety processes as defined in its safety management manual. *Safety audits focus on the integrity/compliance of the entire SMS whereas safety surveys proactively concentrate on particular elements of the SMS or procedures of specific operations (e.g. problem areas, areas of confusion). The surveys are used to identify 'what goes right' and 'what needs to improve'.* *Safety surveys provide a systematic review to recommend improvements where needed, to provide assurance of the safety of current activities, and to confirm conformance with applicable parts of the SMS.*
		2	SMS audits and gap assessments are conducted on an ad hoc basis.
		Defined	
		1	*The organisation has developed a plan to formalise how SMS audits are conducted.*
			SMS Audits include the need to: - *Identify the scope of the audits (i.e., what will be audited)* - *Identify the target of audits and sample size (i.e., who will be audited)* - *Identify triggers for audits (planned, for cause, risk-based)* - *Develop audit material (i.e., checklists)* - *Identify who will conduct the audits* - *Estimate resource requirements* - *How people will be trained to conduct the audits* - *Develop an audit plan*
		Managed	
		1	*The organisation has implemented a formal process describing how to conduct SMS audits in a systematic way*
			The formal process should include: - *Scope of audits (i.e., what will be audited - must be all whole SMS)* - *Target of audits and sample size (i.e., will include all departments/facilities that have SMS responsibilities and a recognised approach to sampling)* - *Triggers for audits (i.e., must at least include a planned cycle that assures all SMS elements are audited across all target areas within the cycle as well as a requirement for audit for cause)* - *Requirements for capturing and actioning findings, opportunities for improvement* - *Documented audit material (i.e., guidelines, checklists)* - *Documented training requirements for auditors (auditing techniques should be acquired formally and regularly refreshed/ retrained).*

		2	*The organisation conducts SMS audits in accordance with a documented plan that assures that they are resourced and completed on schedule.*
			It is expected that there is a documented plan that requires SMS Audits be conducted over the course of the audit cycle all SMS Elements are audited (NOTE: if a formal process for risk-based auditing has been implemented then select Yes as a response (see Question 10.1 D1) . The plan should be reviewed and revised as necessary annually and include: - *scope of audits planned for each year (all SMS processes, sub-set or processes, etc.)* - *which departments/facilities will be audited* - *how many personnel resources will be needed for both the audit team as well as the departments being audited* - *budget for other associated costs such as travel, consultants, etc.* - *timelines for the audits planned for that year* - *planned audit for the 2nd and 3rd years of the audit cycle.*
		3	*SMS audits result in corrective actions for findings and planned actions for improvements being identified, captured and tracked including the relevant areas of responsibility from across the organisation (e.g., SMS, operations, engineering, operational training, etc.). Annex 19 3.3.*
			To answer YES to this question, audit findings should result in actions on all relevant areas, including, but not limited to, safety processes and procedures, operational and/or SMS training, etc. *Provide details of some improvements made as a result of an SMS Audit.* *It is expected that:* - *Audit findings and opportunities for improvements can result in actions on all relevant areas in which SMS processes are applied including but not limited to safety, operations, operational training, engineering, etc.* - *Audit findings require a root cause analysis along with an action plan* - *Opportunities for improvement require a management response including, if appropriate, planned actions* - *All planned actions are assigned to responsible persons/areas and given due dates* - *All findings, opportunities for improvement and planned actions are captured and tracked until actions have been implemented and the finding/opportunity for improvement closed.*
		4	*The organisation has established a formal process to analyse trends arising from SMS audits.*
			It is expected that: - *at least annually, SMS audit findings are analysed to identify trends* - *trends are included in a formal document such as a management review, which includes any plans for addressing identified gaps* - *results as noted above are shared with the appropriate senior managers including at a minimum - accountable executive and the Safety Manager, as well as any executives or managers impacted by the plans for addressing the gaps.*
		5	*The organisation, where appropriate, conducts reassessments to confirm that any findings corrective actions and responses to observations arising from SMS audits have been successfully implemented.*
			It is expected that, - *The audit process clearly identifies when post implementation follow-up is required to confirm corrective actions (i.e., action plans) have successfully addressed the finding.*

			- *The audit process includes an approach for assessing the effectiveness of action plans, where appropriate.*
		6	*The organisation has a formal process in place to monitor the status of the SMS audit programme (e.g., completion of audit plan, status of findings, planned improvements etc.). [SP]*
			The individual(s) managing the audit programme should monitor and report out to relevant management parties on: *a) whether schedules are being met and audit programme objectives are being achieved;* *b) the ability of the audit teams to implement the audit plan;* *c) status of the findings and corrective action plans;* *c) the performance of the audit team members including the audit team leader and the technical experts;* *d) feedback from audit clients, auditees, auditors, technical experts and other relevant parties;* *e) sufficiency and adequacy of documented information in the whole audit process.*
		Resilient	
		1	*The organisation follows a risk-based approach to SMS audits.*
			A risk-based approach should be implemented for SMS audits. This approach includes: - *Assess risks: assess and rank risks to meeting the organisations safety objectives (i.e., safety risks ALARP, regulatory compliance, strong safety culture, etc.) considering the SMS processes and departments to be audited. For each area set a risk level considering factors such as the performance risks, compliance risks, or risks to the organisation's operations. Note that the SMS audit may result in findings, corrective actions and observations made on the wider organisation.* - *Compose an audit plan: areas with higher risks will be a priority with auditors paying more attention to it and audit them more frequently. Low-risk areas are not a priority. However, it doesn't mean that auditors will neglect them. Instead, auditors will only assess these areas less frequently.* - *Conduct audits as per plan: Audits will take longer for higher-risk areas as more time is needed to ensure that proper risk management exists in those areas. Auditors can then report their findings and present any recommendations for weaknesses identified.* - *Risk-based Follow-up: Track findings and corrective action plans to ensure that the management fixes any weaknesses. A risk level is assigned to each finding so that follow up on high-risk findings occur more frequently, as required.* - *Monitor Changes In Risk: regularly monitor any fluctuations in the risk levels in order to adjust audit plan as necessary.*
		2	*The organisation has a formal process to regularly (at least once per audit cycle) evaluate the effectiveness of the audit programme. [SP]*
			The SMS audit programme should be reviewed to assess whether its objectives have been achieved. Lessons learned from the audit programme review should be used as inputs for the improvement of the programme. *The individual(s) managing the audit programme should consider the following:* - *review of the overall implementation of the audit programme;* - *identification of areas and opportunities for improvement;* - *application of changes to the audit programme if necessary;* - *review of the continual professional development of auditors;* - *reporting of the results of the audit programme and review with relevant interested parties, as appropriate.* *The audit programme review should consider the following:* *a) results and trends from audit programme monitoring;* *b) conformity with audit programme processes and relevant documented information;* *c) evolving needs and expectations of relevant interested parties;* *d) audit programme records;*

			e) alternative or new auditing methods; *f) alternative or new methods to evaluate auditors;* *g) effectiveness of the actions to address the risks and opportunities, and internal and external issues associated with the audit programme;* *h) confidentiality and information security issues relating to the audit programme.*
		3	*The organisation commissions external SMS audits at least once every five years and or once per reference period.*
			To justify a Yes response, at least 2 external reviews need to have taken place in the last ten years. One review per reference period is required and the date of each audit should be given. *It is expected that the SMS Audit plan includes an external audit by an independent body at the initiative of the ANSP at least once every five years (Examples of independent bodies include: Competent personnel from another ANSP, EUROCONTROL, SMS experts, similar stakeholders (e.g., airlines, railways, airports, etc.), dedicated audit entities). Note that if the ANSP requests an audit from the NSA in excess of the requirements of 2017/373, this is an acceptable response to the question. Audits conducted by the NSA at the request of the ANSP may be considered.* *The external audit reports should be contrasted with those conducted internally to understand the delta, if any.*
		4	*The organisation conducts joint safety audits that are planned and completed across units.*
			If your organisation only has one unit, please select Yes and explain this in the Justification *Joint safety audits should be conducted such that:* *- they are specifically captured in the safety audit plan* *- they are conducted across at least two separate units* *- they use the same the same approach (type, questions, checklists, etc.) at all units involved in the joint audits* *- they involve personnel from all units involved.*
		5	*The Safety Review Board / Safety Committee (or similar) oversees the status of the SMS audit programme (e.g., completion of audit plan, status of findings, planned improvements etc.). [SP]*
			The formal workplan for the Safety Review Board (Executive Management)/ Board of Directors Safety Committee should include a planned update on the SMS Audit Programme. The update should include: *- Completion of the audit plan* *- Summary of the findings and opportunities for improvements* *- Summary status of corrective action plans* *- Results of trend analysis(ses)* *- Planned improvements to the audit programme.*

		10.2 Internal and independent (external) safety surveys.
		Informal Arrangements

		1	*There is no plan to conduct systematic safety surveys or safety surveys are conducted on an ad hoc basis.*
		Defined	
		1	*The organisation has developed a plan to formalise how safety surveys are conducted*
			A plan to formalise the conduct of safety surveys would need to: - *Identify the type(s) of safety surveys to be conducted* - *Establish the scope of the surveys* - *Identify the triggers for the surveys (as per plan, for cause critieria, linked to other activities, etc.)* - *Describe the approach(es) to be used for the surveys (use of checklists, questionnaires, confidential interviews, direct observation, etc.)* - *Establish a survey plan* - *Identify required training to conduct a survey* - *Estimate resource requirements* - *Identify responsibilities and establish timelines for the above activities.* - *Have completed at least one safety survey with accompanying conclusions and actions generated.*
		Managed	
		1	*The organisation has implemented a formal process describing how to conduct safety surveys in a systematic way.*
			The formal process should include: - *Trigger for survey (i.e. planned cycle, trend analysis, SMS audit, etc.)* - *Determination of scope of safety survey (i.e., what will be the focus of the survey - specific procedures, operations, etc.)* - *Identification of the target of surveys and population to be surveyed* - *Identification of survey type to be used* - *Requirements for capturing and actioning results of survey* - *Documented survey material (i.e., guidelines, checklists)* - *Documented training requirements for those leading safety survey* *Provide brief details on how this is achieved.*
		2	*The organisation has a documented plan to assure that safety surveys are resourced and completed on schedule.*
			There will be a documented plan that requires Safety Surveys be conducted at planned intervals. The plan will be reviewed and revised as necessary annually and includes: - *Scope of surveys planned for each year (which processes, procedures, etc.)* - *Which departments/facilities will be reviewed* - *How many personnel resources will be needed for both the survey team as well as the departments being surveyed* - *Budget for other associated costs such as travel, consultants, etc.* - *Timelines for the surveys planned for that year* - *Planned surveys for future years of the survey cycle.*
		3	*Safety surveys result in improvement plans with specific actions being identified, captured and tracked including the relevant areas / persons responsible from across the organisation (e.g., SMS, operations, engineering, operational training, etc.).*
			Expectations include:

			- *Safety surveys can result in the identification of improvements in all relevant areas in which safety processes are applied including but not limited to safety, operations, operational training, engineering, etc.* - *Improvement plans are developed for identified gaps, weakness, deficiencies* - *All planned actions are assigned to areas/persons responsible for managing the actions, and have due dates* - *All planned actions are captured and tracked until actions have been implemented.* - *Provide feedback to those who are involved in the safety survey.*
		4	*The organisation has established a process to analyse trends arising from safety surveys.*
			Expectations include: - *at least annually, safety survey results are analysed to identify trends* - *trends are included in a formal document such as a management review, which includes any plans for addressing identified gaps* - *results as noted above are shared with the appropriate senior managers including at a minimum - accountable executive and the Safety Manager, as well as any impacted by the plans for addressing the gaps.*
		5	*The organisation has a formal process in place to monitor the status and closure of safety survey programme (e.g., completion of safety survey plan, status of findings, planned improvements etc.). [SP]*
			The individual(s) managing the safety survey programme should monitor and report out to relevant management parties on: *a) whether schedules are being met and survey programme objectives are being achieved;* *b) the ability of the survey teams to implement the survey plan;* *c) status of the findings and planned improvements;* *c) the performance of the survey team members including the survey team leader and the technical experts;* *d) feedback from staff being surveyed, surveyors, technical experts and other relevant parties;* *e) sufficiency and adequacy of documented information in the whole survey process.*
		6	*Where appropriate, the organisation conducts reassessments to confirm that any implemented recommendations arising from safety surveys have been successful. [SP]*
			Expectations include: - *Safety survey process clearly identifies when post implementation follow-up is required to confirm recommendations (i.e., action plans) have successfully addressed the finding.* - *Safety survey process includes an approach for assessing the effectiveness of action plans, where appropriate.*
		Resilient	
		1	*The organisation has a risk-based approach to safety surveys.*
			A risk-based approach to safety surveys should include the following: - *For each observational area (specific procedure, type of operation, etc.) and department, a risk level is set. There are several factors that surveyors examine during this process. They may consider the safety performance risks, compliance risks, or risks to the company's operations. Each risk area is ranked and assigned a score. Once all areas assessed, scores from the different risk areas are combined to create an overall risk score. This way, high-risk areas can be separated from those that have lower risks.* - *Higher risk areas will be surveyed more frequently. Low-risk areas will be surveyed less often. In either case, how often each area, service type and department will be surveyed is based on the risk assessment.* - *Document a schedule based on the risk assessment.*

		2	*The organisation commissions external surveys at least once every five years, meaning once per reference period.*
			To justify a Yes response, at least 2 reviews need to have taken place over the last ten years. Evidence of the date of these surveys should be provided. *The survey plan should include an external survey by an independent body at least once every five years (Examples of independent bodies include: Competent personnel from another ANSP, EUROCONTROL, SMS experts, similar stakeholders (e.g., airlines, railways, airports, etc.), dedicated survey entities) Note this is not an exhaustive list.*
		3	*The organisation has implemented observational techniques to measure safety performance (e.g., Normal Observation Safety Survey – NOSS or Day-to-Day).*
			It is expected that : - *the survey plan includes at least one type that involves the direct observation of front-line personnel working in operations, for example NOSS, Day2Day observations, workload monitoring (does not include regular proficiency checks of personnel) in order to identify threats, errors and/or positive working habits* - *an observational survey-type must be completed at least once every two years.*
		4	*The organisation conducts joint safety survey activities that are planned and completed across units.*
			If your organisation only has one unit, please select Yes and explain this in the Justification *Joint safety surveys should be conducted such that:* - *they are specifically captured in the safety survey plan* - *they are conducted across at least two separate units* - *they use the same the same approach (type, questions, checklists, etc.) at all units involved in the joint survey* - *they involve personnel from all units involved.*
			Guidance for the Resilient Level *Safety audits focus on the integrity/compliance of the entire SMS whereas safety surveys proactively concentrate on particular elements of the SMS or procedures of specific operations (e.g. problem areas, areas of confusion). The surveys are used to identify 'what goes right' and 'what needs to improve'.* *Safety surveys provide a systematic review to recommend improvements where needed, to provide assurance of the safety of current activities, and to confirm conformance with applicable parts of the SMS.* *During safety surveys, auditors examine procedures or processes related to a specific operation to identify weaknesses and/or areas for safety improvement within the aviation service provider's organisation.* *Safety surveys are conducted on the basis of a safety survey plan.* *The safety survey's results are documented in a survey report that also includes the actions to be taken.* *Lessons learned from safety surveys are disseminated and the actions identified are carried out within the defined time frame. The follow-up is conducted in a systematic way; in addition, the organisation is aware to what extent the lessons learned drive changes into the SMS.* *External surveys and SMS audits are carried out by an independent body (e.g. EUROCONTROL, SMS experts, and competent personnel from other ANSPs).* *The topics for safety surveys and SMS audits may be identified by means of safety performance (e.g. indicators, trends) as well as through suggestions from members of staff and occurrence notifications from different reporters/reporting entities (e.g. ATCOs, pilots, aerodrome personnel, operators). A risk-based approach can be applied if deemed necessary.* *Data gathered in the course of meetings (e.g. between ANSPs and operators, international best-practice exchange) may also be used to trigger a safety SMS audit.* *External data could also be gained from stakeholders' 'complaints'.*

		5	The Safety Review Board / Safety Committee (or similar) monitors the status and closure of safety survey programme (e.g., completion of safety survey plan, status of findings, planned improvements etc.). [SP]
			The formal workplan for the Safety Review Board (Executive Management)/ Board of Directors Safety Committee includes a planned update on the Safety Survey Programme. *The update includes at a minimum:* - *Completion of the survey plan* - *Summary of the results* - *Summary status of improvement plans* - *Results of trend analysis(ses)* - *Planned improvements to the safety survey programme*

		8.1 A continuing organisation wide process to report and investigate safety occurrences and risks, supported by JC and with measurable safety improvements.	
		Informal Arrangements	
		1	*There is an informal system in place for reporting safety occurrences, but reports are not reviewed systematically.*
		2	*The reporting system is not organisation-wide.*
		3	*Investigation is done on an ad hoc basis with little or no feedback.*
		Defined	
		1	*The organisation has developed an occurrence reporting and investigation system.*
			In many organisations, the occurrence reporting system and investigation system are the same. If this is not the case describe what is in place within your organisation.
		2	*The organisation investigates occurrence reports as appropriate but analyses all occurrences.*
			Only significant occurrences are required to be investigated, however all occurrences should be analysed to establish trends and how the threat may influence the ATM system of if the occurrence is safety related. *Describe what is in place within your organisation.*
		3	*The organisation provides informal feedback to staff on investigation findings*
			Note: This question is about general feedback to all relevant staff in the organisation. *Describe:* - *what methods are used to provide feedback to staff (e.g. intranet, posters, leaflets, safety bulletin, displays, meetings);* - *how often feedback is provided. In some ANSPs there may be a requirement for feedback to be provided in accordance with regulatory requirements.*

		4	*In addition to adapting rules and procedures following safety occurrences, the organisation analyses its risks more strategically.*
			Safety Interventions and Enablers *In addition to adapting rules and procedures following safety occurrences, the ANSP analyses its risks more strategically. Safety interventions, or safety mitigating actions, do not include systemic or structural solutions — instead, they just consider human actions or technical failures associated with specific occurrences.*
		Managed	
		1	*All reported ATM related occurrences follow a risk classification process (Annex 19 3.1.1)*
			Not all occurrences are equal. As competent resources are limited, ANSPs are constrained to focus their efforts primarily to the higher-risk occurrences. In order to do so, such occurrences must be systematically risk-classified. Algorithms/tools such as the EUROCONTROL RAT can be used. *Briefly describe the risk classification process that is in place in your organisation.*
		2	*The organisation has formal Mandatory Occurrence Reporting (MOR) and Voluntary Occurrence Reporting (VOR) and investigation process(es).*
			Per requirements contained in EU 376/2014.
		3	*The organisation provides feedback directly to those who report occurrences or hazards and any corrective actions taken as a result of their report.*
			Note: This refers to direct, personalised feedback. *Note: Only feedback for significant occurrences need be provided.* *Describe:* - *how feedback is provided to reporters of occurrences or hazards with respect to what corrective actions have been or will be taken as a result of their report;* - *at what point this feedback is provided.*
		4	*The organisation checks to ensure that all required occurrences have been reported. [SP & CI]*
			Describe: - *what methods are used to carry out such checks. (A variety of means may be used to ensure that all required occurrences have been reported (e.g. safety audits and surveys, communication and exchange with stakeholders (airlines, airports, other ANSPs. During safety investigations, checks could be made to confirm that controllers and specialists are knowledgeable of what needs to be reported and to confirm that they are reporting occurrences as required).* - *how often such checks take place;* - *what is done in the event of insufficient reporting being identified.* *In addition, that all required occurrences have been reported could be ensured through:* *1) Continuous monitoring of the reporting level (proportion of severity levels);* *2) Continuous monitoring of the occurrence level (proportion of traffic vs total number of occurrences);* *3) Trust and adherence of Just Culture principles.*
		5	*Human factors and just culture principles are used in safety investigations*
			To meet the requirement of this question a Human Factors method or taxonomy employing neutral language should be used to determine the underlying factors

			leading to incidents. A Human Factors taxonomy by definition takes a systems-based viewpoint, focusing on the conditions and contributory factors that led to certain human actions or inactions. From this standpoint, the actor involved (controller, engineer, other) cannot be blamed (unless there was evidence of reckless behaviour or malicious intent), and so the taxonomy itself should be blame-free and non-pejorative, as should be the investigation process itself - fact-finding, listening, and trying to understand why it happened, so that it can be avoided next time, whether by this individual or another. *Investigation can be a disturbing experience for those at the receiving end (e.g. ATCOs, technicians, other support staff), particularly if the techniques used are judgmental rather than fact-finding. Undue focus on individual contributions will lead to a feeling of being blamed. Terms used during the interviews or in the reports can also be blaming. Neutral language, explanatory factors and narratives must be used, aimed not at the individuals, but the system.* *In line with the holistic, systemic approach to safety investigation, the process must also take due account of HF involved in an incident. Issues such as training, bias, team factors etc. must be considered alongside the technical aspects, for a fair and objective identification of all explanatory factors, which may then lead to remedial actions.* *Describe:* - *what HF method or taxonomy is used within your organisation. Examples are ETOKAI or HFACS* - *how you ensure that negative language is avoided during the investigation process and in the taxonomy.*
		6	*The organisation keeps formal records of all incident and accident and any other occurrence reports and related information.*
			Guidance for the Managed Level *The organisation has a formal reporting and investigation system that is compliant with the requirements of Regulation 376/2014 and Regulation 2018/1139. Key elements are both well established and exploited in the organisation's management system, for example covering such elements as:* - *mandatory and voluntary reporting,* - *there is a formal process in place to ensure that corrective and preventive actions are monitored and managed,* - *the occurrences and related investigation information is recorded and personal data are secured,* - *De-identified information can be disseminated within the organisation, as required.* - *Personal details are protected and only used to investigate occurrences with a view to enhancing safety.* *In addition, staff are allowed, and even encouraged, to provide solutions either during the initial reporting or during the incident interview, as appropriate. Finally, the occurrence-reporting system has formal ways to provide feedback to occurrence reporters, as a minimum, either with the result of investigations or corrective actions to be implemented.*
		Resilient	
		1	*The organisation provides regular formal feedback from safety investigations results to all relevant staff and feedback to legitimate interested parties [for instance airlines and airport operators].*
			Please describe what feedback is required, what is provided and how long after the investigation is feedback provided. *Note: JC principles must be respected, i.e. ensure those involved cannot be identified. This refers to any type of useful findings that are regularly fed back to all staff, so that everyone can benefit and learn the lessons. This should be done in a systematic, organised way.*
		2	*The ANSP works with other organisations in safety critical or safety related industries (such as airlines, other ANSPs or non-aviation organisations) to conduct external comparative analysis of its reporting and investigation process.*

			A number of performance indicators of the reporting system can be used for external comparative analysis, such as ratio of reports, distribution by severity/risk, etc. Testing one's own performance against other similar organisations can help identifying gaps and sharing valuable lessons.
		3	*The organisation allocates explanatory factors to all risk classified occurrences.*
			Investigated occurrences, particularly when they are risk-classified, must have a thorough list of explanatory factors (causal and mitigating). These are the only elements that allow interventions, as well as building a risk-weighed picture for the operation, thus giving the appropriate tools for safety improvements. Such safety improvements can be both ways: eliminating weaknesses and increasing resilient performance.
		4	*The organisation ensures the quality of its investigation process.*
			Describe: - *how long after an investigation is the quality and effectiveness assessed;* - *what methods are used to carry out such measurements (examples could include safety audits and surveys, reviews, meetings, through a SMS Continuous Assessment process, trend analysis);* - *what is the frequency and scope of the measurements;* - *what is done with this information;* - *whether you have any challenges in balancing efficiency and thoroughness. If so, describe what is being done to alleviate these problems.* - *How the consistency of investigations is assured.* *KPIs should include: investigation backlog, average time of investigation per type of occurrence (and risk category), ratio of accepted recommendations, average delay between reporting and investigation, ratio of risk-classified occurrences, consistency of using of explanatory factors.* *Examples of appropriate improvement measures should include:* - *continuous professional improvement of investigator skills;* - *Usefulness of investigation reports for external actors* - *training / coaching;* - *periodic peer review of investigations and moderation of the review results.*
			Guidance for the Resilient Level *The organisation actively reminds staff and promotes the reporting of occurrences, either by safety-promotion campaigns, surveys and/or audits that emphasise the importance of occurrence reporting.* *The organisation measures the quality and effectiveness of its investigation process. This concerns more the quality of the process, and less to the effectiveness of the investigation output. In particular, the number of open occurrences that require investigation, thereby monitoring the time taken to close the investigation.* *Good practices include, for example, to apply a moderation process to ensure consistency of the investigations and that the data are recorded, stored, and are of adequate quality and available for future analysis.* *Notifications on relevant ATM/ANS-related occurrences that have been reported by other organisations (e.g. operators/pilots) are included in the investigation process of the ATS provider. They may also be used for random testing that these occurrences are reported internally by its staff. Where available, automated safety data recording systems are applied, and information used in the identification and investigation of occurrences.* *The quality of the investigation process is reviewed in the course of internal audits, surveys and peer-review meetings (e.g. safety experts from adjacent ANSPs). The results from external oversight activities are used in order to improve not only the quality but also the effectiveness of the investigation process.* *Safety-promotion activities (e.g. briefings, safety days, leaflets in the OPS room) focusing on mandatory occurrences are conducted regularly.*

		5	*The organisation is adopting additional or different models and approaches to extend its investigation processes e.g. system thinking. Through these, they are actively looking to identify strengths, opportunities and what contributes to resilient barriers and successful outcomes, which helps to sustain safe and resilient system performance.*
			Safety is not only about failure and weaknesses that contribute too incidents and occurrences, but also about discovering how organisations sustaining service provision in the presence of uncertainty and performance variability. Discovering the positive characteristics of the ANSP & associated ATS in this way, can provide a different and alternative view that can lead to opportunities to make improvements in the effectiveness of service provision as well as discovering and learning the positive traits that can be further embedded in training.-This is one facet of, for example, a Safety II philosophy as well as an active approach to understanding resilient performance.
		6	*The organisation is seeking weak signals in operations.*
			Weak signals are seen as indicators of potential problems that can disrupt service provision and can lead to, or contribute to, safety risks and impact or influence safety performance. *Weak signals are, not immediately visible. Neither are they readily seen or found in regular reporting processes. For example, sector overloads may be seen as a safety issue, but can also be seen as indicators of systemic issues that are not obviously apparent and visible.* *There are various techniques available to seek and reveal such weak signals.* *As soon as a weak signal is identified, it ceases being a weak signal. Addressing this identified issue is a contribution to organisational learning which may be used within the organisation to make technical, operational or structural changes.* *Examples of weak signals could be a systematic use of a wrong procedure, repeated entries in the logs of the similar issues, people creating workarounds to something not working as designed, etc.* *Resources* *From Safety-I to Safety-II: A White Paper 2437.pdf (skybrary.aero)* *Addressing weak signals is part of Safety II and shows a proactive approach to resilient performance.* *Weak Signals in ANSP's Safety Performance (skybrary.aero)*

		8.2 An organisation-wide improvement process based on occurrence investigations, with measurable results.
		Informal Arrangements

		1	*Improvements from occurrences rarely happen, and not in a systematic way.*
		2	*Recommendations, when issued, are not followed or are systematically viewed as a nuisance.*
		Defined	
		1	*The organisation has a process to issue safety recommendations and monitor their implementation as corrective actions.*
			Occasionally some recommendations, considered critical, generate an improvement action and are followed. There is a plan to make issuing safety recommendations systematic.
		Managed	
		1	*Investigations of occurrences result, if necessary, in recommendations and corrective action.*
			Briefly describe: - *the process that is in place to ensure that corrective actions are managed effectively (it is expected that, following an investigation, appropriate corrective actions are developed, documented, and implemented in line with established investigation processes);* - *how effective the investigation and remedial action process is (the implementation of the corrective actions could monitored through an established system (e.g. continuous improvement system));* - *give some examples of corrective actions taken.* *Investigations should include a formal process by which findings are shared with relevant internal stakeholders (training, procedures, technology, etc.) and the necessary actions to address safety deficiencies identified and tracked.* - *If examples are not available, then the response to this question should be "No" with some relevant justification provided.*
		2	*The organisation has implemented quantitative indicators (e.g., losses of separation, runway incursions and problem reports) to measure and verify safety performance. (Annex 19 3.1.2 & 1.1.2a) [SP & CI]*
			Describe what indicators are used within your organisation.
		3	*Staff reporting safety occurrences are encouraged to suggest ways to solve problems identified in the occurrence investigation.*
			Briefly describe what mechanisms are in place that enable staff to suggest ways to solve problems identified in the occurrence investigation (a variety of means may be used to collect feedback from staff reporting safety occurrences (e.g. investigation interview, review and comment on the draft investigation report). *Give some examples of suggestions that have been put forward by staff who have reported a safety occurrence.*
		Guidance for the Managed Level	
			Examples of safety-related information are: - *supplementary instructions;* - *temporary operating instructions;* *safety notices.*
		Resilient	
		1	*The organisation measures the effectiveness of its safety improvement plans. [SP]*
			This should include, as a minimum, e.g. ratio and number of repeat recommendations, delays in implementing recommendations, ratio between accepted and rejected

			recommendations, focus on human-centric improvement actions vs. systemic changes.
		2	*The organisation routinely coordinates improvements with relevant external stakeholders.*
			Relevant external stakeholders can be: the local airlines, airports, suppliers, external partners (e.g. MET provider, if applicable), etc. *Note: This question deals with improvements rather than corrective action plans.*
		3	*The organisation works with stakeholders to conduct external comparative analysis of its safety improvement investigation process as appropriate with a view to performance improvement. [SP & CI]*
			Note this question is an extension of the safety investigation process that may be required for unusual occurrences. *Describe:* - *What form of organisational learning your organisation is seeking to achieve from the comparative analysis. For example airspace re-design or increased levels of automation that may have been instigated in response to occurrence investigations.* - *with which external stakeholders comparative analysis is conducted.* - *what type of comparative activity is carried out. An example may be to compare the way occurrences are recorded, investigated and analysed.* - *Indicate the frequency and rationale for which external comparative analysis is carried out.*
		4	*The organisation conducts internal comparative analysis of its occurrence reports between ATC units / Teams . [SP]* *Note: This question relates to comparative analysis between departments/units within your own organisation.*
			Describe how internal comparative analysis is carried out. For example, monthly, quarterly, annual reports on safety performance could be used to directly compare the safety performance of the various operational units. *State whether staff are given the opportunity to review performance of their unit against others.* *For single units the comparative analysis should be carried out between teams.*

		11.1 Documentation and reporting mechanisms are in place to ensure that internal and external stakeholders understand how safety risks introduced during and/or following implementation of change are managed and mitigated.	
		Informal Arrangements	
		1	*There are no change management processes in place even though the organisation recognises that impacts of change must be managed*
		Defined	

		1	*The organisation has developed change management processes to assess and quantify the risks of change.*
			Change management processes are being developed to address how the impact of change can be assessed from a risk perspective, how to involve stakeholders, how to document and quantify the impacts, and who will determine whether a change is authorised or not.
		2	*The organisation recognises that change impacts and can influence human performance. Consequently, considerations of human performance during system or organisational changes should be undertaken in change processes to enable discovery of such impacts and changes on human performance.*
			Change can often impact human performance in ways that not so easy to predict, and so should be considered explicitly in the change process. *Describe how the process ensures:* - *to what extent end users should be consulted about the change; and* - *how they should be given the opportunity to provide their feedback.*
			Guidance for the Defined Level *The organisation does inform other organisations and, where feasible, stakeholders affected by the planned change. Furthermore, the organisation and these other organisations, in coordination, shall determine: (1) the dependencies with each other and, where feasible, with the affected stakeholders; and (2) the assumptions and risk mitigations that relate to more than one organisation or stakeholder.*
		Managed	
		3	*The change management processes are tailored for importance and the resources needed for the change. [SP]*
			Describe how your organisation's methodology allows for the scaling of changes. E.g. there could be a 'light approach' in place that is used for minor changes or for changes where there is no safety relevance. *It is expected that:* - *an initial assessment is held to determine the safety impact and benefits, which then guides the amount of work and resources devoted to justifying that the change is safe to implement.* - *the safety planning process allows the change manager to vary the approach to safety assurance (for instance to follow a 'light approach' for a minor change) provided the approach proposed is approved and endorsed in the resultant project Safety Plan.* - *staff involved in change management are trained to ensure that the content and depth of the assessment (e.g. light approach / minor change, routine change, full assessment) are appropriately applied.* - *there is a regular exchange (e.g. through meetings) is used to ensure a systematic approach throughout the organisation.*
		4	*When designing new procedures, airspace or equipment, the organisation has formal processes for addressing failures that have been identified through occurrences, investigations or safety surveys. [SP]*
			Achieving a safe design is part of the change management and risk management processes. *Describe:* - *what mechanisms are in place to detect problems or failures in the system;* - *what formal processes exist that feed information identified from occurrences, investigations or safety surveys into design solutions.*
		5	*The organisation's change management processes involve all relevant internal stakeholders.*

			Describe to what extent each type of user is involved in the change management process/es. Particularly, state whether front-line controllers are involved in assessing the safety impact and suggesting corrective actions, or whether this is done by managerial roles. *Provide an example of the internal stakeholders who were involved in a recent change. These can be the safety manager, safety experts, subject matter experts, adjacent units/departments affected by the change, ATCOs etc.*
		6	*The organisation's change management processes involve all relevant external stakeholders (including the regulator).*
			Describe to what extent external stakeholders are involved in the change management process/es. *Provide an example of the external stakeholders who were involved in a recent change. These can be the airport, airlines, military, adjacent ANSPs, engineering companies, the regulator, etc.*
		7	*Lessons learnt on human performance are fed back into design activities to reduce the likelihood of reoccurrence.*
			Describe how, - *when beginning the change management process, related incident information is searched to identify key safety learning points relevant to the change.* - *to what extent have trained HP specialists contributed to the assessment of the change.* - *What methods to obtain knowledge of changes are defined;*
		8	*Operational trade-offs in decision making, especially those that involve the allocation or redistribution of resources across KPAs, are evaluated for effects and consequences on operational and organisational risk.*
			Describe what techniques and protocols are used to assess the effects on safety when introducing new processes and procedures that improve efficiency and / or reduce costs. *Provide evidence that:* - *Demonstrates the use of these techniques and protocols.* - *Provide evidence of interventions to maintain safety that manage the effects of change and.* - *Show that they are the subject of post-implementation reviews that contribute to learning.* - *Prior to choosing an option, analysis should include the safety risk assessment of each option being considered.*
	Resilient		
		1	*The organisation measures the effectiveness of the change management process.*
			In order to establish a track record, two reviews are required to meet the requirement of this question. *Alternatively, there should be a continuous monitoring process in place.* *Describe how the effectiveness of the change management process/es is measured.* *Provide some examples of gaps that have been identified and remedial actions put in place to improve the effectiveness of the change management process.*

			Specifically, state: - *when was the last time the change management process/es was measured;* - *whether this assessment indicated changes were required to the change management process;* - *how often the change management process is assessed to determine its effectiveness.* *Note:* *1) This process can be embedded into an overall review process.* *2) When describing the review process consider the results of the last review and the subsequent actions taken.* *3) This question should cover operational, technical and organisational change.*
		2	*There is a function or role in place that manages and monitors the potential impact of multiple changes (from a programme view) on human performance.*
			Many organisations today have multiple change projects ongoing that overlap in time. Each project may have assessed its own impacts on safety and human performance, but it can be harder to see and predict the cumulative impact of several changes coming to fruition in the same timeframe. Additionally, even in terms of pre-deployment and deployment, there may be a need for different change projects to call upon the same resource pools at the same time, e.g. safety experts for safety cases, or controllers for testing and validation new kit etc. *Describe:* - *whether there a role or function within your organisation wherein the collective impact of multiple projects is evaluated to avoid problems (e.g. resource conflicts);* - *the means used to assess the combined impact of multiple changes to operational systems on safety as well as controller performance include factors such as workload, situation awareness and fatigue.* - *Whether one change can interfere with a controller's or engineer's operational model and the potential for mode confusion.*
		3	*The organisation's long-term investment planning includes strategic provision of safety activities.*
			Provide relevant examples of what is included in your organisation's long-term investment programme. *It is expected that an organisation has an approved Safety Strategy spanning the next five years at least.*
		4	*The organisation engages in cross-comparison and sharing of change management processes with other ANSPs/industries.*
			To achieve a Yes response, what is in place needs to be formal in nature rather than carried out on an ad hoc basis. *Describe:* - *which ANSPs/industries are engaged with regard to cross-comparison of change management processes;* - *when the last cross-comparison exercise took place.*
			Guidance for the Resilient Level *A total system approach to the management of change is employed. The ATM system is considered as a whole rather than focusing on the human element.* *There is a strong relationship between in-service monitoring and design. Change assessments employ a common set of operational hazards and they are monitored in service to confirm the effectiveness of the risk controls and mitigations. Besides, monitoring criteria tailored to the change implemented are part of the change management processes. These criteria are specific to each change and hence ensure that the change will remain acceptably safe for as long as it is in operation.* *Transitional risks are risks linked to the transition from the current functional system to the changed functional system. These might be mitigated, e.g., by training depending on the nature of the change and the transitional risk associated to it.*

		5	*Emerging or changing trends in human performance are identified.*
			As change occurs, there may be longer-term unintended impacts on human performance, e.g. loss of certain skills as new automation is put in place, changes in how teams work together, etc. *Describe:* - *how trends and shifts in human performance are identified and tracked, e.g. via workshops with controllers (both more experienced and newer controllers) run post-change (e.g. 6 months to a year later) to identify such shifts and mitigate any potential safety impacts;* - *what trends have been identified.*

		9.1 Emergency response procedures and an emergency response plan that documents the orderly and efficient transition from normal to emergency operations and the return to normal operations	
		Informal Arrangements	
		1	*The organisation has limited emergency response procedures for the most likely abnormal and unexpected situations.*
		Defined	
		1	*The organisation has developed emergency response procedures for each unit.*
		Managed	
		1	*Emergency response procedures have been fully implemented and distributed to the appropriate staff. Annex 19 1.4*
		2	*The organisation has a formal schedule for exercising types of emergency and responses.*
		3	*The organisation rehearses desktop emergency response procedures in accordance with the formal schedule (and involves frontline controllers).*
		4	*The organisation's emergency response procedures have been rehearsed through live or simulated operational exercises in accordance with the emergency plan schedule.*
		5	*The organisation's emergency response plan has been properly coordinated with the emergency response plans of other organisations that it must interface with during the provision of services. Annex 19 1.4*
			Guidance for the Managed Level *The organisation ensures that emergency response procedures are updated at least once per year, e.g. contact information.* *To achieve the managed process, organisations should have a defined and documented process that has been shown to work.* *Emergencies include sudden system failures or other abnormal or unexpected situations, such as:* - *the loss of major air traffic systems, (e.g. radar display picture, electronic flight progress strip system, standby and emergency communications on multiple frequencies due to external interference);*

			- *the loss or failure in support facilities (e.g. power, air conditioning, building integrity);* - *aircraft emergencies (e.g. emergency descent, hijack, air defence security);* - *disruption of air traffic services (e.g. emergency dispersal of traffic, closure of an adjacent air traffic centre, runway closure leading to mass diversion).* *The 'plan' should encompass what is to be done, including the interactions with other organisations (e.g. police, emergency services) and the 'procedure' should describe how it is to be done.* *See requirement ATS.OR.200(1)(iv).* *For example, Letters of Agreement or any other form of service agreement are in place with organisations and support the emergency response plan.*
		Resilient	
		1	*The plan is regularly reviewed using the results from the simulations and/or live practice as part of safety performance monitoring. [SP]*
		2	*The organisation carries out comparative analysis on the effectiveness of the emergency response plans against other organisations. [SP & CI]*
			The organisation uses performance indicators to assess the effectiveness of its emergency response procedures, as tested during the regular exercises and rehearsals. [SP]
			Guidance for the Resilient Level *To reach the 'Resilient' level, the organisation should be able to measure the output by running a simulation assessed by a combination of qualitative and quantitative indicators. The simulated exercise may include, for example, aircraft accident, hijacking events, environmental disaster, access to the OPS room, bomb threat, etc.*

Appendix 1 5. Safety Promotion

		12.1 Staff are competent to conduct their obligations under the SMS	
		Guidance for all levels *This is applicable only to staff with SMS obligations.*	
		Informal Arrangements	
		1	*There are no formal competency methods that incorporate safety management principles (including proficiency, licensing and training).*
		Defined	
		1	*The organisation has developed methods to ensure that staff are competent to conduct their obligations under the SMS.*
			Competency Methods' refers to a system where the core professional competence of staff is checked and assessed at a defined intervals confirming that they have a sufficient standard of knowledge and ability to carry out their job safely; competency checks and assessment records must be kept for each staff member together with a gap analysis showing where staff may need additional training.

			This Study Area seeks to ensure that there are professional competency checks in place for staff with safety accountabilities/responsibilities, so that they understand how these should be discharged.
		Managed	
		1	*Competency methods have been designed and implemented to ensure that staff and contractors who directly support air navigation service provision are trained and assessed as competent to perform the specific duties required of them by the organisation's SMS.*
			It is expected that organisations have an annual or multiannual plan in place for training staff required to undertake safety management competency checks. *Describe:* - *what is in place within your organisation - list the different types of staff who undergo competency checks in safety management* - *whether there is a scheme for examiners, i.e. to evaluate their competency* - *who has the responsibility to design safety management principles into the competency methods* - *how often competency checks (for each professional specialisation) are held. The period between checks may be required by regulation or can be established by the ANSP where there is no regulatory requirement.*
		2	*Records of competence training are kept and maintained.*
			Training records should be kept at least in line with regulatory requirements. *Describe:* - *who is responsible for maintaining records of competence* - *where records are kept (e.g. database including all training records, Learning Management System, etc.*
		3	*Additional training is delivered to address gaps in competence*
			It is expected that, if gaps in safety management competence are identified, additional training is provided. This can be achieved through a variety of means (e.g. additional training sessions, briefing, coaching, meetings, safety-related communication). *Provide some examples of where gaps in competence were found and what was done to address these. Also state who is responsible for ensuring safety management gaps in competency schema are addressed.*
		4	*Relevant staff and contractors are aware that their actions affect the safety of the wider operation.*
		5	*Relevant staff and contractors are aware that the actions of others could affect safety.*
			The aim of the questions is to ensure that the organisation does not operate in silos and the impact of actions on safety is understood across the organisation. The responsibility rests with management rather than with the staff and contractors.
		Resilient	
		1	*The means by which competency standards are determined are subject to review and improvement.*
			It is expected that safety management training requirements are outlined in the safety management manual or related SMS documentation. *Briefly describe:* - *how competency standards are assessed to determine whether they need to be improved. Examples could be through audits or reviews* - *what would trigger an audit or review. Examples are through internal audits or surveys or if deemed necessary, by safety relevant personnel (e.g. safety manager)*

			on an ad-hoc basis.
		2	*Relevant staff and contractors throughout the organisation have responsibility for promoting and improving safety.*
		3	*The organisation reviews and assesses documented safety management responsibilities at least once every five years.*
			Guidance for the Resilient Level *The assessment should occur at least once per reference period and should be documented in a log that has been verified by the NSA.* *An evaluation of the effectiveness of the SMS training is not necessarily linked to the competence in a licensed role (e.g. ATCO, ATSEPs).*

		13.1 Staff are informed about the safety lessons, safety-critical information and safety management policies and standards relevant to their positions.	
		Informal Arrangements	
		1	*Staff have limited knowledge of SMS processes and procedures.*
		2	*Safety-relevant information is not routinely shared.*
		Defined	
		1	*The organisation issues internal staff communications that focus on safety and safety management.*
			Briefly describe what type of methods are used. *A variety of means may be used for communication in regards to safety management (e.g. training, meetings, intranet, posters, leaflets, safety bulletin).*
		2	Relevant staff are informed when safety actions or new safety management procedures are introduced.
		Managed	
		1	*Safety is a key focus of internal communications.*
			Describe how your organisation ensures that safety remains a key focus of internal communications. Activities could include: - *internal safety letters and communications;* - *safety days for staff;* - *publication of safety bulletin on a regular basis;* - *fixed location for safety communication on the intranet, established meeting schedule in regards to safety relevant topics.* *State:* - *whose responsibility it is to ensure that safety is a key focus* - *what type of communication activities are in place for safety.*
		2	*The organisation has a formal process for systematically sharing operational safety lessons learned including human performance aspects. (Annex 19 4.2.c)*
			It is essential that lessons from incident investigation are fed back to the operational workforce, so that people can learn from others' mistakes and also others'

			ways of solving problems and avoiding safety-related events. *Briefly describe:* - *what methods are used to systematically share operational safety and human performance lessons learned;* - *whether lessons are regularly fed back to operational staff (e.g. controllers etc);* - *whether such feedback includes reference to human performance issues (e.g. issues of situation awareness such as with 'blindspots') where these have been identified;* - *how effective the process is;* - *whether the process is embedded in SMS-related documentation (e.g. investigation process).*
		3	*The organisation tailors its safety communications to meet the recipients' needs. (Annex 19 4.1.2.a & 4.2.d)*
			Not all recipients need safety communication to be at the same level of detail. It should be developed so that it is relevant and appropriate. *Describe:* - *Whether safety communications are adapted to relevant staff's roles within the organisation as well as the SMS* - *how you know that the safety communications meet the recipients' needs.*
		4	*The organisation disseminates safety critical information to all appropriate staff. (Annex 19 4.2.b)*
			Briefly describe how safety-critical information is disseminated to all appropriate staff. - *How effective is this process?* *Note: Safety-critical information is deemed to be critical action required in the safety operation; e.g.* - *temporary operating instructions* *safety notices*
		5	*Staff are informed when procedures have changed*
		6	*The organisation involves frontline relevant staff in the development of safety-related communication.*
			To meet the requirement of this question, what is in place must be formal in nature and carried out on a regular basis. *Please provide some examples of what type of staff have been involved and in what type of safety-related communication.*
		7	*Staff are informed when procedures have changed.*
		Resilient	
		1	*The organisation qualitatively and/or quantitively measures the effectiveness of its communication on a regular basis and address any deficiencies.*
			Whether part of an overall quality assurance process, or specific reviews, "regular" is understood as a pre-determined, periodic exercise, which should be able to cover the whole communication process within one to three years, depending on the complexity of the ANSP. *Briefly describe the process of how the assessment takes place and the corresponding reporting/correction process, including the date of the last review of the effectiveness of safety communication including the effectiveness of the distribution process.* *A variety of means are used to measure the effectiveness of communication in regards to safety management (e.g. meetings, internal audits and surveys, investigation system).*

			Describe what type of deficiencies have had to be addressed (if any).
		2	*Staff are given the appropriate means to react on the communications process and to alert the organisation of any perceived problems.*
			This is to be considered as outside of the regular occurrence reporting system. *This question deals with the communication process itself and seeks to identify whether:* - *staff are getting the communication they should get;* - *they receive it in a timely manner;* - *the communication is in the right format for them;* - *what is done to encourage staff to raise safety issues with their managers in the framework of an open discussion.* *It is expected that staff are able to flag up issues associated with whether they receive safety-related communications on time, that it is relevant for them etc.* *Describe how staff are able to react on communications within your organisation. Examples could be: directly or by email to the issuer of the communication; to their manager or safety representative; to the safety manager; during meetings/briefings etc.* *Please provide one or two examples of when staff have alerted the organisation of a communication problem.*
		3	*The organisation carries out external comparative analysis with other ANSPs or industries to assess the effectiveness of its safety communication activity.*
			Briefing describe: - *with which organisations you compare your safety communication activity* - *how often this carried out* - *whether these discussions resulted in improvements being made in your organisation.*

		13.2 Appropriate safety information and knowledge is shared with industry stakeholders. Information disclosure complies with agreed publication and confidentiality policies/agreements.	
		Guidance for all levels *Information disclosure should be consistent with the requirements of Regulation (EU) No 376/2014.*	
		Informal Arrangements	
		1	*Safety data and information are treated as confidential.*
		2	*There are no plans to disseminate it to any industry stakeholders.*
		Defined	

		1	*The organisation shares safety information issues / lessons (if relevant) externally.*
			Describe: *- what information is shared, for instance SMI and RI trend analysis* *- which external organisations you share safety data and information with;* *- what methods are used (e.g. meetings, bilateral communication on expert level etc.)* *Note this question does not relate to sharing radar or other system data.*
		Managed	
		1	*The organisation shares safety information issues / lessons nationally on request (e.g., with airlines, airports and other service providers.*
			That is, by national regulation or by the performance scheme. Note this may require a confidentiality agreement with external bodies.
		2	*The organisation shares safety data and information with international bodies*
			When required by regulation, the organisation shares safety data and information with international bodies.
		Resilient	
		1	*The organisation monitors the effectiveness of communications with industry stakeholders. [SP]*
			Describe how this is done and what indicators are used to monitor the effectiveness of communication.
		2	*The organisation actively shares safety information with international bodies to drive safety improvement beyond the scope of regulation.*
			Describe: *- which international bodies safety information is shared with* *- whether this is done on an ad hoc basis or whether it is done on a more proactive basis* *- what methods are used to share safety information. e.g. participation in regular expert group meetings.*
		3	*The organisation has established a formal process to receive and act on safety information exchanged with external stakeholders.*
			Briefly describe: *- whether formal interfaces have been established on a national level to gather safety information (e.g. regular meetings involving all relevant stakeholders (operators, airports, military)* *- whether SMS documentation contains a description of how to act upon receiving safety information (systematically as well as on an ad-hoc basis) in general terms.*

		13.3 A general public knowledgeable of the ANSP's performance through routine publication of achieved safety levels and trends. (Information disclosure complies with the requirements ICAO Annex 13, Attachment E)	
		Guidance for all levels	
		Information disclosure should be consistent with the requirements of Regulation (EU) No 376/2014.	
		Informal Arrangements	
		1	*Safety-related performance information is not made available to the public under any circumstances.*

		Defined	
		1	*The organisation makes safety-related performance information available to selected authorities.*
			Examples could be through the Annual Report; on the intranet; through Safety Days open to the public.
		Managed	
		1	*The organisation makes high-level safety-related performance information publicly available according to regulatory requirements.*
			Describe: *- what type of information is made available to the general public* *- what methods are used (examples could be through the Annual Report; on the intranet; through Safety Days open to the public).*
		Resilient	
		1	*The organisation monitors the effectiveness of communications with the general public. [SP]*
			Describe: *- how effectiveness is measured – for instance web-analysis* *- what indicators are used to measure the effectiveness* *- how often measurements are conducted.*
		2	*The organisation makes safety performance information available to the general public beyond what is required by regulation. [SP]*
			Describe: *- what type of safety information is made available to the general public. (This may vary from publishing a summary of ANSP performance, or publishing detailed statistics such as Airprox Reports, Serious Loss of Separation, etc.)* *- how is this information made available. E.g. through the annual business report, internet webpage, through regular meeting with various stakeholders (e.g. operators, airport, military, general aviation).*

Appendix 1 6. Interdependency

		18.1 Mature ANSPs sustain the safe provision of services through managing the organisation in a way that recognises that system safety is at risk from cost, capacity and environmental targets. Such organisations embed safety in organisational processes. The ANSP assigns and distributes resources, both in terms of finances and personnel, to support safe provision of services through safety promotion, safety improvement, safety assurance and safety risk management.	
		Guidance for all levels *The financial and personnel resources that are needed to support safe production* through safety promotion, safety improvement, safety assurance and safety risk management are reviewed annually. Business plans are adjusted annually to ensure that these needs are met.* *The financial calculations should include capital expenditure and staff costs that is budgeted for, allocated, and spent on:* *- The safety functions the organisation needs to meet its compliance activities.* *- Safety activities beyond the needs of formal compliance, e.g. forward-thinking safety-promotion and improvement activities*	
		Informal Arrangements	
		1	*Organisational business planning and strategy makes no formal allowance for safe provision of service.*
		2	*The regulatory, commercial, operational and organisation pressures that can be exerted on safe production, and achieving safety benefit, are not well understood and therefore are not systematically included in long-term investment decisions.*
			Although making provision for safety in long term business decisions may occur on an ad hoc basis, it is not indicative of coherent integrated planning nor is it in the service of structural influences on safety performance. – mark as guidance
		3	*Safety benefits are not systematically included in changes to the functional system (including airspace design changes) other than on an ad-hoc basis.*
		4	*The emphasis in business planning is on cost efficient service provision.*
		Defined	
		1	*Organisational business planning and strategy formally takes account of all safety-regulatory requirements.*
		2	*The pressures of implementing business strategies can emphasise efficiency at the expense of safety resilience. To diminish this risk, the organisation has developed a process to ensure that safety levels are not diminished.*
		3	*Safety is managed as an independent part of the wider organisation.*

4	*It is acknowledged that business decisions can influence safe provision of air traffic services.*
	Guidance Material *It is recognised that managing Safety critical organisations involves making business decisions that can lead to conditions that can have adverse effects upon safety directly or indirectly, by introducing changes which alters the way that operational functions work or which change existing relationships and dependencies. Thereby making resources unavailable that enable the organisation to adapt.* *Examples of such situations are provided below:* • *redistributing resources away from safe production, such as the number of controllers rostered for duty at any one time through prioritising commercial and business goals e.g. aircraft operators' preferences to prioritise a first rotation.* • *the availability of engineering support to maintain the engineered system as well as updating current systems through updated software versions that require testing capacity that is a limited resource in the time available.* • *Contracting out services for commercial gain and losing operational control over the service availability.* *Practical considerations* *In practical terms, ANSPs will be mindful of the influence of regulatory and business decisions that are taken in the normal course of organisational activity and have introduced business risk processes in organisational management systems that take into consideration such risks.* *At differing levels of maturity, these processes will include provisions for mitigations and consideration of business risks as a component of organisational governance.* *In advanced organisations, ways by which business risk management, management of change as well as safety management adopt an integrated approach will have evolved. A consequence of this is that departments in organisations work less in silos but collaborate and draw upon different organisational functions.* *In terms of Safety and HF departments, both have a contribution to make and will be recognised as such within these organisations. Where these contributions are recognised, they are used to form or contribute to arguments that influence business decisions in the context of safe production.* *It is implicit at the mature level, safety first is not seen as the principal argument, this being reserved for external communications. Internally, safe production is seen as always relevant but relative to organisational goals. Choices will be made that give preference to business aims but never compromising safety.*
Managed	
1	*The financial and personnel resources that are needed to support safe production through safety promotion, safety improvement, safety assurance and safety risk management are reviewed annually.*
2	*Resource allocation is assessed as adequate for safe provision of services during corporate business planning for all operational and selected non-operational departments.*

		Provide evidence that appropriate resources are allocated as part of corporate business planning and identify the rationale for the selection of non-operational areas included in the assessment.
	3	*Business plans are adjusted annually to ensure that resources are made available.*
		Organisations review and reappraise business plans so that continuity in safety interventions that mitigate risks identified through safety management are maintained. Monitoring of the plans established and implemented are reviewed and the resource required is secured and programmed into staff planning so that operational staff are released.
		Provide evidence that the implementation of the plan is monitored during the reporting period.
	4	*Trade-offs and prioritisations in operational decision making involve managing finite resources within the operation. Describe how your organisation manages the response to unanticipated demands in the operation to ensure safe production.*
		Provide evidence which shows how the resources have been allocated accordingly.
	5	*Financial and personnel resources are provided to enable the release of staff for safety activities, such as training.*
		Provide training plans and roster schedules to demonstrate that staff are released as planned for training.
	Resilient	
	1	*The organisation incorporates safety seamlessly into its business planning, ensuring the provision of safe production in a transparent manner that is subject to organisational governance.*
	2	*Safety activities, such as training and improvement are incorporated into business planning processes and included in regular business reporting.*
		Decisions around the impact of taking people away from service provision are considered, but the plans and resource are adequately protected as a normal business activity. This may result in delay but the organisation consciously accepts this outcome. Staff are given the opportunity to experience scenarios that help to improve their adaptive capacity to abnormal situations.

		3	*Long term investment planning embeds the provision of safety activities as a strategic corporate activity, as well as the means to achieve the safety benefits that can develop from these activities over the long term and improve the organisations resilient performance.*
			The Organisations long term investment planning will be informed by the potential safety performance benefits and costs of investment proposals by applying a systems view of organisational activities. These will be influenced by HF considerations as well as safety to deliver the operational strategy using emerging technologies. This enables continuous change to be delivered coherently and resourced to sustain safe production.
		4	*The organisation assesses its business models and/or strategies for their impact on its ability to ensure safe production. This involves considering their effects and consequences on organisational and operational capacity.*
			Operational trade-offs are one part of this. There is flexibility in the system that is utilised in operational trade-offs used in decision-making. The flexibility comes from the margins and buffers – slack – that is within the resources available e.g. contingency in number of staff rostered, or through controllers who hold multiple sector validations, that allows adaptations such as reconfiguring sectors to manage unanticipated variability in traffic conditions. *New or changing organisational business models and/or strategies can influence the organisation's capability to adapt. Assessing the changes, effects and consequences on the organisation and its ability to adapt to changing circumstances becomes a characteristic of organisation at the Resilient Level.*
		5	*The organisation discovers and manages the known characteristics of organisational capability that degrade resilient performance.*
			Resilient performance describes sustaining safe production not solely at the operational level but at the organisational level too. *Inherent in this view is how organisations perform. It is not just about being safe. Safety in this sense is an investment in the organisation's capability to manage and cope in various conditions – including disturbances, challenges and opportunities. Describe your organisation's ability to adapt and exploit what is discovered so that resilient performance can be developed through experience that can lead to improvements.* *See further Guidance Material below*
			Guidance Material *The organisation discovers and manages characteristics of organisational capability that degrades resilient performance.* *Resilient performance is grounded in the view that 'resilience' is not what an organisation has, but what it does' (Hollnagel & Nemeth, 2022). In this sense, resilient performance can be discovered and can be 'measured'.* *Behind these statements there are several assumptions. One of which is about the nature of complex systems and the degree to which they can be understood, in in reality anyone can claim to understand the level of complexity. The nature of such systems is that they are characterised by interactions between systems functions that cannot easily be predicted. Such systems are also characterised by uncertainty. Therefore, the idea that we can understand such systems is misleading. However, we can start to make discoveries about such systems.*

			Resilient performance shares some Safety-II principles and ideas. In essence, resilient performance is concerned with how organisations sustain safe production. This is how, in the face of challenges and performance variability it manages to sustain its operations. In discovering what the organisation does that achieves this, it is possible to learn what makes resilient performance possible. With this knowledge, coming from what is discovered, the characteristics of resilient performance can be identified, learning taken, and changes made to improve resilient performance or make changes to maintain the capability to adapt. How organisations adapt to changing circumstances and performance variability, which complex organisations just do as a part of safe production, is considered the fundamental means to sustaining safe production. *In this sense, safety is seen differently. Safety is seen as an investment in sustaining the organisation in safe production, its goals and objectives. Organisational learning is used to adapt the organisation structurally not solely for conventional safety objectives but to exploit the opportunities that occur and are experienced in everyday operation.* *In verifying an organisation's resilient performance, several of the study item 18.1 indicators have relevance. Several of these explore an organisation's ability to adapt and the capacity that there is to adapt. Business decisions and strategies adopted by organisations therefore influence the entities' ability to adapt. These then are opportunities, as well as weaknesses, which characterises resilient performance from which organisations can draw from and institute change.* *Sources of verification can be discovered by looking at how organisations learn from the adaptive nature of their complex operational lives and what do they do with it.*

Appendix 2 1. Safety Culture

		1.1 An intelligent and effective organisational culture (is one that) is responsive to the functional differences in an organisation.	
		Guidance for all levels *Organisational culture includes 'safety culture'. Organisational culture includes the whole organisation. It takes into account the way that business decisions cascade through an organisation. It also considers how different subcultures have their own view of safety, values and 'tribal knowledge'. e.g. Operational/ Duty Staff' views may differ. Differing functions and roles in an organisation have different views of risk and different risk appetites, which results in different safety perspectives.* *As a result, differing roles and functions see safety differently with respect to the way that they build safety into their work. How all these differences are taken into account, accommodated and then transformed into actions provides an indication of the management's approach and commitment to safety. An intelligent and effective organisational culture will consider these diverse views and build a rich and complex understanding of how the organisation delivers a safe provision of services. Business decision making (resource allocation), including safety and safe production, involves trade-offs - the consequences of which influence an organisation's culture. Understanding how these decisions are made, by those with both the accountability and the authority to enable safety solutions, is one way to explore organisational culture. These decisions or trade-offs concern the allocation of resources and budgets in an organisation. They reflect policy and business choices made by the ANSP and those that are externally driven. For example, the business strategies that ANSPs adopt to meet the requirements for the SES RP4 targets in all Key Performance Areas (KPAs).*	
		Informal Arrangements	
		1	*Employees and managers believe that safety goals will be achieved by complying solely with rules and regulations.*
		2	*People, especially front-line staff, are considered to be the principal cause of occurrences. (i.e., operational staff who have a direct impact on safety)*
		3	*Sanctions are applied by management when non-compliances are found.*
		4	*The organisational view is that only frontline staff are concerned with safety.*
		5	*Safety culture is informal and applied only in the operational parts of the organisation.*
		6	*Working practices are adapted based on lessons learned from occurrences.*
		Defined	
		1	*The organisation has developed a safety culture plan, which includes an assessment programme.*

	A safety culture plan will outline a safety culture survey, and should determine which segments of the organisation should be surveyed (e.g. operational staff only, ops and engineering, or all staff). *Describe when the safety culture plan and assessment programme will be approved for implementation.*
2	*The organisation's safety culture plan applies the concept of safety culture in both operational and support functions.*
	Usually, the first time an organisation addresses safety culture, the focus is on the operational 'sharp end'. This normally means operational staff on duty and their supervisors. Engineering support is usually considered next, as it is critical for system functioning. However, there are other support functions who can argue that they are important for safety, including Senior Management, Investigation, Training, Security, Human Resources, Finance, etc., and in surveys often such staff members are keen to participate and have their say on safety. Safety culture will be more effective if it spreads across the entire organisation (and beyond via interfaces with partners, stakeholders and contractors) and into the management layers. *Describe:* - *to what extent the safety culture is applied in both operational and support functions (i.e. throughout the entire organisation);* - *whether support staff are invited to participate in safety culture surveys and safety culture workshops;* - *whether general safety communication also reaches out to support staff;* - *whether there is a locally accessible dashboard or app showing safety performance, visible to all.*
3	*Employees contribute to safety by highlighting deficiencies in rules and procedures.*
	The organisation is developing processes to support employees' ability to share safety lessons learned with other teams or groups.

Guidance for the Defined Level

Concept of Safety:
The key difference between Level A 'Informal Arrangements' and Level B 'Defined': While the organisation still 'enforces' safety through an adherence to rules and procedures, there is a growing realisation that this approach has limitations. The organisation finds that it cannot reduce or eliminate certain behaviours with rules alone. At level A, the organisation relies on and believes that only rules and procedures ensure safety - this is central to the organisation's confidence in behaviour-based safety.
Rules and procedures cannot be expected to cover all possible operational eventualities — they cannot cover all possible situations and scenarios. The continual adding of rules and procedures to meet exceptions can make an operation less safe – rules heavy. While there is some realisation of this at the 'Defined' level, the approach is not changed.
Critical to facilitating this understanding is the way that safety departments undertake the investigation of reported occurrences.
Arrangements need to be in place that recognise these ways of thinking about safety.

Safety Culture
Organisational decisions around resources and efficiency lead to consequences that are all perceived as degrading safety such as:
- *insufficient operational resources to manage demand requiring the imposition of ATFCM measures (leading to delay performance worsening);*
- *changes of watch rosters to adapt capacity to demands that are beyond agreed rostering guidelines;*
- *an increase staff overtime hours;*
- *insufficient slack/ staffing flexibility to enable secondary operational duties to be undertaken;*
- *decrease in the quality engineering service level agreements;*
- *decrease in the quality/ frequency/ availability of training for new projects;*
- *perceived increase in fatigue.*

			These issues reinforce the reality that decisions that are made in the non-operational sections of an organisation influence the safe provision of services. Therefore, it is recognised that Safety Culture should be applied in both operational and support functions. *An ANSP at the Defined Level begins to listen to the others' views, but will have a reluctance to act upon what is heard. Therefore, concerns may be raised, but are rarely if ever pursued by those with whom the discussions take place. As a result, the risk views of those managing compared with those being managed continues to diverge. This will, therefore, shape the safety culture as well as organisational in-house employee surveys.* *Investigations seek to determine whether or not procedures were precisely followed as a means of establishing what happened and why, by placing undue emphasis on the procedures at the expense of the context.*
		4	*The organisation formally trains all levels of management on safety, safety culture and just culture and has assured its application.*
			Training should include the meaning and application of safety culture; what it is and what it is not etc. It should also include how to spot signs of when these topics are being degraded and when there is a potential to drift into failure. *Describe what training is provided to the different levels of management with regard to:* - *Safety* - *Safety Culture* - *Just Culture* *Describe how this training has been applied.*
	Managed		
		1	*Management at operational levels and operational staff engage to discuss operational risks and promote a positive safety culture.*
			Operational staff are regarded as those who have a direct impact on safety (the "sharp end" of the operation). *Describe:* - *what methods are used for management and staff to discuss operational risks;* - *how often these discussions take place (it is recommended that this takes place at least quarterly, but also whenever there is a change).*
		2	*The organisation's board level (Board of Directors / Supervisory Board or equivalent) is aware of the top operational risks and top organisational risks, "hotspots", key safety initiatives, and safety culture results and actions.*
			Describe how your board members are made aware of these elements.
		3	*Frontline staff are involved in safety activities such as safety risk management, investigations, secondment to safety, appointed as safety officers in units.*
			Frontline staff are regarded as those who have a direct impact on safety (the "sharp end" of the operation). *Within your organisation, describe how frontline staff are involved in helping the organisation to build its understanding of safety.*

4	*Middle Management's approach to managing safety demonstrates a commitment to promoting a positive safety culture.*
	Safety culture is not a component that is 'stand-alone' or is the 'end point' of safety within an organisation. It is in the service of safety and is an enabler or a necessary part of the evolution to another iteration of system safety. *Describe:* - *How senior managers are made aware of the top operational risks and top organisational risks.* - *the ways that your organisation's management demonstrate their commitment to promoting a positive safety culture (examples could include communications such as newsletters, speeches or videos where leaders are discussing the importance of safety culture, leadership training, budget/resources allocated for safety culture efforts);* - *whether there is a commitment statement with regard to enhancing safety culture, that is approved and signed by the appropriate level in the organisation.*
5	*The organisation has adopted human performance-related good practices*
	One of the reasons safety culture is so important, is because ATM is an industry where 'people make safety.' There is therefore a link between positive safety culture and supporting human performance. It is hard to have a good safety culture if human performance itself is not given at least some priority, e.g. by utilising tried and tested good practices in key human performance areas (e.g. CISM, TRM, etc.). *Describe:* - *what type of human performance-related good practices have been adopted (e.g. as defined in the CANSO Human Performance Standard of Excellence);* - *when they were implemented;* - *how effective they are.*
6	*The organisation engages in safety discussions with aviation organisations.*
	It involves outreach to aviation organisations (e.g. airlines and airports etc.), because looking outside the box can bring new insights and improvements. *Describe:* - *which organisations your organisation engages with regarding safety discussions;* - *how often these discussions take place;* - *who is involved in these discussions;* *what is the outcome of these safety discussions.*
	Guidance for the Managed Level *Concept of Safety:* *At the 'Managed' level, there is recognition that staff contribute to the safe provision of services through the way that the operational tasks are undertaken, including the way that trade-offs in the operation and beyond are taken. These rely on an intelligent use of strategies that are sensitive to operational risk and that achieve safe provision of services. For example, if ATFCM measures are needed, and it is known that if the need is there to do so, there will be no criticism around the consequences on service provision, but there may be enquiries to gain a broader appreciation of the context. The impact of this evolutionary shift is that there will be a gradual decrease in the use of disciplinary and behavioural means to sustain safety and a shift towards making changes in structural factors in the operational environment that shape safety events. There is a recognition that 'people create safety' in ways that cannot be encapsulated in rules and procedures alone.*

More specific activities might include:

- *the use of traffic management techniques to allow those involved in an event and who have to file an occurrence report to have the time to do this, and to recover from the event;*
- *where there are competing demands made for limited operational resources, then safety is an explicit part of decision-making where appropriate — the safe provision of services will be embedded in the trade-offs;*
- *managers and supervisors develop a view of how the safe provision of services is by engagement with operational staff — leading to an informed discussion that develops confidence in organisational decision-making;*
- *managers and supervisors actively seek the views of both the operational and non-operational community to gain an informed view about organisational safety, which may lead to a better understanding of how effective safe production* can be enhanced;*
- *managers and supervisors make themselves available when staff wish to discuss safety concerns with them;*
- *staff representative organisations meet regularly to discuss and engage about safety;*
- *organisations accept that procedures and rules cannot fully describe every eventuality. As such, they do not rely on new or additional rules and procedures as the only safety intervention, because they know that this can introduce new risks and without addressing structural issues.*

Safety Culture

Indications that an ANSP or organisation has reached Level C 'Managed' can be found in the way that the ANSP has transitioned from the organisation seeing safety culture as a distinct independent entity, towards viewing it as a part of the overall organisational culture. The emphasis in this change can be seen in that the ANSP engages with those who work within it.

At Level C, the value or benefit of safety in an organisation is recognised and promoted by managers and supervisors. Important indications are:

- *the use of organisational resources to develop safety education;*
- *whether safety is integrated into business planning, including provisions for safety in the long-term investment planning;*
- *the safe provision of services versus quality of services is discussed.*

Safety Interventions and Enablers

ANSPs at the 'Managed' level have evolved processes and mechanisms that use means other than occurrence reporting to assess, understand and manage risks. These processes and mechanisms have evolved beyond relying solely upon the use of the attribution of causal-factor taxonomies from occurrence reporting alone as it is recognised that this alone is limited and provides an incomplete understanding of an organisation's safety because:

- *it may not reflect the actual frequency of such events; the processes and mechanisms need evolving to encourage people to report because there is little seen to happen once a report has been filed;*
- *there might be inconsistencies between incident investigators that lead to a lack of confidence in the causal-factor attribution;*
- *safety interventions derived solely from causal attribution are seen to yield limited effectiveness or not to be able to find suitable solutions.*

The organisation's understanding of safety should be considered from multiple perspectives – that of employees in different roles in the organisation and especially those staff providing the operational service.

As a result, complementary techniques are identified, examined, and experimented with and begin to be used in occurrence reporting, although incrementally at first. Some examples of techniques that may be used are:

- *the inclusion of human factors investigation narratives;*
- *the use of 'second stories' to gain an understanding of not just 'what' happened but 'how' the event occurred;*
- *exploring 'why did it make sense to them';*
- *the scope of the occurrence and incident investigation is broad and encompasses a larger sample of accounts including those outside the ANSP;*
- *the use of aircraft operator narratives and flight data;*
- *an explicit recognition that the operational context is complex and, therefore, what happened can be better understood by exploring the interactions between*

	actors and system components as well as the multiple views that are used to produce a composite view of the event; - *using the understanding of the operation that comes from observing safe production*;* - *the introduction of investigator competence training and inter-investigator consistency schemes along with continuing professional development to enhance investigation skills;* - *expanding the organisation's understanding of safety by taking the views of the wider organisation and explore path dependency (history as cause).*
Resilient	
1	*The organisation's Head of Safety brings forward potential advancements in safety based on learnings from conferences, partnerships, research, etc.*
	List the types of safety forums that are attended.
2	*The organisation's Safety Management System (IMS) has processes that encourage staff to proactively challenge procedures, practices and people to improve safety performance. [SP]*
	At Level D, the SMS should encourage challenge and critique as part of its contribution to a safer and more effective ANSP. *Challenge and constructive critique are means of a feedback loop that can provide fundamental information about how the work system is behaving and ways to make structural changes.* - *How are people encouraged? Examples could include: safety concerns are freely and openly discussed at all levels of the organisation.* - *Briefly describe some examples of how employees have challenged procedures, practices or people with a view to improving safety performance.* - *What was the outcome of these challenges?* - *Do the Just Culture principles adopted by the organisation support these processes by providing reassurance that raising concerns is appreciated, and will not have negative repercussions on employee(s)?*
3	*The organisation includes staff in safety culture working groups with representatives from each unit and key departments including Safety, Engineering, Operations etc.*
	Following a safety culture survey, there are usually recommendations to improve in certain areas, and such improvements are often managed by small groups of safety and operational staff, who can focus on resolving the identified issue. Such groups may work over a period of six months or a couple of years, depending on the issue. Describe: - *to what extent staff are included in safety culture working group;* - *how often these working groups are held;* - *what triggers the need for holding a safety culture working group;* - *what are the outcomes from these sessions.*
4	*Recognising that safety is the responsibility of the organisation as a whole, the organisation includes the potential contribution to safety by non-operational staff in its safety planning (as appropriate).*
	Describe: - *what types of non-operational staff are included;*

- *what type of projects they are included in.*

5 *The organisation engages in safety discussions with aviation partners and non-aviation organisations.*

It involves outreach to other aviation partners, because aviation is a system of systems (e.g. involvement in an airport 'Safety Stack').
It also involves outreach to non-aviation organisations (e.g. other transport sectors, energy sector, health, etc.), because looking outside the box can bring new insights and improvements.

Describe:
- *which organisations your organisation engages with regarding safety discussions;*
- *how often these discussions take place;*
- *who is involved in these discussions;*

what is the outcome of these safety discussions.

Guidance for the Resilient Level

At Level D, 'Resilient', safety should be considered as a property that is created within the organisation, not something that the organisation has. Safety is viewed as the domain of the organisation as a whole, not simply a component of operational departments and a selection of non-operational departments. The ability of the organisation to effectively manage change, whether large or small, is a defining feature at this level. The ANSP recognises that non-operational elements of an organisation contribute to the safe provision of services.

Concept of Safety:
Change brings with it numerous challenges and threats to sustaining performance, as well as to managing resources across the organisation as a whole. Such threats and challenges are necessarily organisation-wide and will involve third parties and many other actors.
At the 'Resilient' level, the ANSP's SMS is designed around the recognition of the influence, effects and consequences of change on the safe provision of services, including how they affect people. It will make provision for this in business and safety management systems, including assessments and mitigations of change as both business and safety risks. More specific characteristics include the following:
- *the ANSP is sensitive to the balance between design changes at a late stage and its impact on implementation, including training and user confidence;*
- *accountable managers who have to accept the change draw from the widest group of actors and work with them to determine a perspective of how the change is being implemented, as well as the preparations for training and readiness for the change;*
- *processes are used that assess the quality of transition training at all stages of its design and implementation and changes that flow from changes in the design;*
- *the management of change processes extends beyond the actual implementation date and include post-implementation activities, including formal and informal verification of the design, the way that work has changed, review of performance, and adequacy of training;*
- *sustaining an operational service throughout the transition steps will demonstrate preparedness to limit the scale of the operational task until it is agreed to increase the scale of the operational task beyond any restricted levels of service delivery.*

Safety Culture
At this level, the ANSP recognises and implements safety as part of the overall organisational culture. In practice there are inevitable trade-offs between production–efficiency–safety–business planning. The ANSP will have evidence of formal and informal processes that accord an appropriate priority to safety. It is in the decisions that are made that balance and reconcile these conflicting demands, and reconcile the resource implications, that the value of safety can be seen. For example:
- *situations that are assessed to influence safety are seen as opportunities to develop a stronger and more effective safe service delivery process;*

- *the need to pursue a strategy that is perceived as threatening safety by the operational community is managed in ways that are transparent and open to challenge;*
- *it recognises the need to gather the knowledge behind fears, concerns and perceptions, and to meaningfully engage with the organisational view that this brings.*

Safety Interventions and Enablers
Organisational approaches to learning lessons recognise that there are limitations to classic and current approaches to safety processes. An organisation that is sensitive to this recognises that there is a learning potential in examining the formal processes and system of lessons learned at each step of the life cycle of an occurrence report. For example:

- *initial filing of the occurrence report;*
- *the way that the reporter and others involved in the event were managed and cared for;*
- *the process of managing those people at the time of the event, i.e. release from an operational position;*
- *the quality and value of the initial occurrence report;*
- *formal investigation processes and systems;*
- *recommendation generation;*
- *feedback loops;*
- *safety oversight and review committees;*
- *safety data propagation.*

To support learning from safety occurrences, investigators should be provided with dedicated continuous professional development to enhance both their understanding of safety and their investigation techniques. Investigators should be aware of the models of accident causation that they are using.

1.2 Regular assessment of safety culture and an improvement programme

Guidance for all levels

Measuring and assessing safety culture is a practice that allows organisations, if undertaken in a systematic and structured way, to gauge the state and strength of their safety culture and to identify the stressors that are influencing it. There are numerous and varied ways to assess and measure safety culture. All have strengths, weaknesses and limitations. Therefore, organisations that undertake measurement and assessment of the safety culture will need to demonstrate an understanding of these and explain how:

- *the choice of the assessment method was influenced by consideration of strengths, weaknesses and limitations;*
- *these were considered when analysing and reviewing result data;*
- *these were used to determine the safety culture.*

One of the most popular instruments for assessing and measuring safety culture is through a 'Safety Culture' questionnaire. A safety culture questionnaire can be defined as a means to conduct a survey that aims to elicit the views and attitudes of respondents about safety in an organisation. These can include values (said and done), beliefs, assumptions, and attitudes towards others. These views and attitudes can be grouped into themes that can be drawn from models of organisational safety culture.
There are significant caveats around the use of methods such as questionnaires:

- *They have been described as 'quick and dirty' thus not capturing respondents' views on long-term safety culture but instead the current prevailing safety climate;*
- *Questionnaires alone do not provide the depth required to assess culture;*
- *Safety-culture questionnaire results cannot be reliably interpreted or used at a generic level.*
- *Unwanted influences on questionnaire respondents cannot be controlled.*

		- *Safety climate and safety performance have been found to be weakly correlated.* - *No distinction between perceptions and attitudes can be undertaken thus obscuring results obtained from a safety-culture survey questionnaire.* - *The questionnaires may not recognise and measure the safety culture variations between operations, technical and support functions.* *If the analysis is limited to simple statistical measures they will not provide tangible explanations of the questionnaire results.*	
		Informal Arrangements	
		1	*The organisation does not see the need to have a safety culture assessment mechanism in place.*
		2	*No improvement programme is necessary as it is believed that safety culture does not contribute to safe production.*
		Defined	
		1	*The organisation has developed a process for the assessment of its safety culture.*
		2	*The safety culture assessment method is limited to simple binary questions (such as yes/ no).*
		3	*The assessment (preparation, collection, data analysis) is conducted in an informal manner.*
		4	*Analysis of the results is limited to simple statistical measurements*
		Managed	
		1	*The organisation undertakes periodic assessments of safety culture (at least once per reference period, keeping in mind the risk of staff disengagement if these assessments are carried out too frequently. It is necessary to provide the date of such assessments.*
			Note 1: A full assessment of the whole organisation should be carried out at least once per reference period with the organisation able to demonstrate that the objective has been met (date of assessment and output). Additionally, although the survey is only run once per reference period, it is expected that the actions are monitored and reported on every year. A 'snap-shot' assessment could be conducted between full organisation-wide assessments. *If the only method used is a 'snap-shot' version, then the answer should be No with an explanation provided in the Justification field.* *Note 2:* *It is acknowledged that conducting a full safety survey is costly and has a high workload for staff. Consequently, such surveys are normally conducted every 5 years. As RP4 runs for five years, it is expected that the survey is at least conducted during the reference period. Prior to the final year of the reference period, Safety Surveys conducted in any of the previous 5 years may be used as evidence, even if in the previous reference period.* *The definition of SC in the CANSO SoE doc says "Safety culture refers to the enduring value, priority and commitment placed on safety by every individual and every group at every level of the organisation. Safety culture reflects the individual, group and organisational attitudes, norms and behaviours related to the safe provision of air traffic management/air navigation services."* *Describe:* - *which types of staff are included in the assessments;* - *what were the dates of the last two assessments;* - *who carries out the assessment (i.e. whether assessments are carried out by another organisation, or by experts within you own organisation);* - *who the measurements are made available to;* - *how the results of the measurements are made available to management and staff;*

			- *how management are involved in and support the safety culture.*
		2	*The organisation has implemented plans to address gaps and deficiencies identified during the safety culture assessment.*
			This question refers to a safety culture plan that addresses shortcomings and seeks to reinforce good behaviours as a result of the safety culture survey. The plan should include improvements/remedial actions. Staff should have the ability to recommend remedial actions to address any deficiencies (state how).
		3	*The results of the safety culture assessments are communicated throughout the organisation*
			Describe: - *what mechanisms are used to disseminate/communicate the results of safety culture assessments to staff throughout the organisation (methods used could include: meetings, distribution of the safety culture assessment report, through the intranet, posters, flyers).*
		4	*The safety culture assessment has the commitment and endorsement from the executive / management group*
			To meet the requirement of this question, it is expected that the organisation has some way of demonstrating that safety standards are met, e.g. through a Regulatory Compliance Matrix.
		5	*Process[es] are in place to monitor and measure whether gaps and deficiencies in safety culture are addressed. [SP]*
			Briefly describe the process undertaken.
		6	*The assessment method makes use of primary data gathered through a questionnaire-based independent survey and or focus groups.*
			The questions employed should use a mix of open text questions and be of a more complicated design than those typically employed at the Defined level. The evidence should include preparation for the survey. The assessment methodology should be clearly defined and be well-structured
		Resilient	
		1	*The organisation tailors its safety culture assessment for subcultures (such as Operators, ATSEP, etc.)*
			The questions in an assessment should be phrased in a way that they either apply to all respondents or should be tailored so that they are applicable to the resource type/role. *Describe what approach is used in your organisation.*
		2	*The safety culture assessments include all areas of the organisation (including all non-operational areas).*
			A Yes response recognises that safety is the responsibility of the organisation as a whole. As such, non-operational areas of the organisation should also be included in safety culture assessments.
		3	*The organisation commissions an external independent review and assessment of its safety culture at least every five years, keeping in mind the risk of staff disengagement if these assessments are carried out too frequently.*
			Engaging an external organisation to carry out safety culture assessments provides an independent and unbiased perspective. This often encourages more people to participate in the assessment. *Describe to what extent external organisations are involved in safety culture assessments within your organisation. This could be, for example, running the whole*

			survey from beginning to end; running certain elements of the survey such as assessing responses, running workshops and writing the report and improvement actions.
		4	*Analysis of the results is undertaken using structured approaches that are able to contrast the views of different organisational groups and sub-cultures.*
			Describe the structured approach used and the results found.
		5	*The output of the assessment is used by management in improvement programmes developed from the results in a collaborative manner with staff and staff associations.*
			Describe in greater detail what programmes have been improved in this manner.
		6	*The assessment methodology and findings are benchmarked with external organisations.*
			Guidance for the Resilient Level *At the 'Resilient' level, the ANSP will be aware of the issue of staff disengagement if these assessments are too frequent and recognise that the frequent administration of the survey method does not allow interventions and improvements to have full effect such that it will change the respondents' perceptions and attitudes* *At level D it is expected that ANSPs compare their results with external organisations. This is to benchmark the safety culture assessment methods – for instance how to engage with staff and how to encourage greater levels of staff participation.*

		1.3 A just and open climate which supports open reporting and investigation of occurrences as well as giving confidence for staff to do their job effectively without fear of reprisals. *NB: A thorough reporting and investigation process must begin with notification, data gathering, reconstruction, analysis, safety recommendation and implementation of remedial actions, resulting in final reporting, exchange of lessons learned and effective monitoring.*
		Guidance for all levels *Just culture should not be seen as an isolated, separate phenomenon within the organisation. It is an outcome of open reporting (a prerequisite for a just culture) and it is part of the organisation's overall culture, in much the same way as safety culture. Just culture is fundamentally concerned with safety, with the knowledge that is gained from disclosing information about a reporter's experience and how this is used to derive safety interventions and improvements that lead to more effective system safety.* *Evidence for a just and 'open climate' can be sought in a number of different ways that can assess just culture and its effectiveness. An organisation that has a just and 'open climate' will be one that:* • *emphasises that the purpose of just culture is to gain access to knowledge of the safe functioning of service provision, and does not place an undue emphasis on 'gross negligence';* • *embraces a reporting and investigation process that recognises the value of the reporter's experience and the contribution and value that this knowledge brings to the safe and effective provision of services;* • *emphasises the value of knowledge gained from self-disclosure by those involved in an occurrence;*

		• *creates an environment where disclosure does not stigmatise individuals and works with peer groups as well as staff representatives to foster a climate of open discussion about experiences — reporters will share their experiences to increase the learning potential.* *To achieve this level of confidence, trust is required within the organisation as a whole, but especially between the safety, supervision, managerial and operational actors. This is sustained by engagement, through an active discussion, and with a shared belief across organisational groups that fairness and the safe provision of services is the objective.*
	Informal Arrangements	
	1	*Management does not see the need for any activity or dialogue with the staff in this area.*
		Individuals see the risks associated with reporting occurrences as outweighing the benefits because the risk of consequences to the individual is high. Most events go unreported. There are no formal policies in place to protect staff reporting, or involved in, occurrences from regulatory or judicial action.
	Defined	
	1	*Management and employees recognise the benefit of a Just Culture for example to encourage reporting.*
		The organisation has developed a Just Culture Policy to protect and support reporters and other staff involved in the investigation process. *Note, policies to protect reporters exist both with in Regulation (EU) 376/2014, Art 15 Confidentiality and use of information and Art.16, Protection of the information source.*
	2	*Management and employees [including the union and the staff associations] enter internal dialogue on Just Culture implementation.*
	3	*Initial and continuation training of Just Culture principles (including what is meant by 'acceptable' and 'unacceptable' behaviour) is systematically provided across the organisation.*
		Training should be provided across the organisation and at all levels. This must include managers, operational staff, investigators, and also office staff, in particular human resources. *The training should include lessons learned from the internal application of Just Culture and be tailored according to the needs, i.e. operational staff or investigators may need a more focused, intense training, while office staff might just need regular awareness campaigns.*

			Describe what type of Just Culture training is provided to the different levels of the organisation/roles.
		Managed	
		1	*The organisation has implemented a Just Culture Policy that is formally endorsed by top management after consultation with staff representatives.*
			A just-culture policy will have been developed and adopted. This policy will have evolved through the evolution of a just-culture discussion through engagement between the just-culture decision makers in an ANSP as well as others who can help create the just-culture dialog, e.g. staff associations, professional bodies, supervisory staff. This policy will reconcile how different functions and roles within an organisation understand safety. Understanding the issues and points of conflict between those inside and outside the Operations room and how differences are managed is one indication of the commitment to just culture within the ANSP by managers, safety teams, and staff associations. -
		2	*After initial just culture training and education across the organisation, continuation training and education is provided.*
			The training and preparation of staff is fundamental to implementing a just culture. The ANSP will have completed some form of initial training. The organisation will then be engaged in delivering further training across the organisation to refresh the policy and associated processes, and to maintain the concept of just culture as part of the current organisational conversation. Attendance at training will have covered managers, supervisors and others involved with administering just culture.
		3	*Decisions around 'acceptable' and 'unacceptable' behaviour are determined by body within the ANSP with the necessary independence, skills, knowledge, and attitudes for the task.*
			What is 'acceptable' and 'unacceptable behaviour' at the Managed level will be something-that will still be inferred from the investigation. Examples are micro-matching what people did with the view of what should have been done as defined in rules, procedures, manuals; consequences of individual decisions and actions are emphasised, representing a narrative that is close to the proximity of the event; causal explanations will emphasise the human as cause despite some exploration of the context surrounding the event. *The ANSP could use a process or a decision tree to help make the assessment of whether the behaviours are acceptable or unacceptable.* *A formal just culture committee could be formed to have the necessary skills, knowledge and attitudes for the task and independence to avoid conflicts of interest if assessed by direct line managers.* *Additionally, please consult Regulation (EU) No 376/2014 where consideration is given to the circumstances where protections are available and under what circumstances these protections do not apply:* *6. Without prejudice to applicable national criminal law, Member States shall refrain from instituting proceedings in respect of unpremeditated or inadvertent infringements of the law which come to their attention only because they have been reported pursuant to Articles 4 and 5.*

			The first subparagraph shall not apply in the cases referred to in paragraph 10. Member States may retain or adopt measures to strengthen the protection of reporters or persons mentioned in occurrence reports. Member States may in particular apply this rule without the exceptions referred to in paragraph 10. *7. If disciplinary or administrative proceedings are instituted under national law, information contained in occurrence reports shall not be used against:* *(a) the reporters; or* *(b) the persons mentioned in occurrence reports.* *The first subparagraph shall not apply in the cases referred to in paragraph 10.* *Member States may retain or adopt measures to strengthen the protection of reporters or persons mentioned in occurrence reports. Member States may in particular extend that protection to civil or criminal proceedings.* *9. Except where paragraph 10 applies, employees and contracted personnel who report or are mentioned in occurrence reports collected in accordance with Articles 4 and 5 shall not be subject to any prejudice by their employer or by the organisation for which the services are provided on the basis of the information supplied by the reporter.* *10. The protection under paragraphs 6, 7 and 9 of this Article shall not apply to any of the following situations:* *(a) in cases of wilful misconduct;* *(b) where there has been a manifest, severe and serious disregard of an obvious risk and profound failure of professional responsibility to take such care as is evidently required in the circumstances, causing foreseeable damage to a person property, or which seriously compromises the level of aviation safety.* *The deliberations around what is gross negligence, or, more importantly, what satisfies the provisions of Article 16 point 10 of Regulation (EU) No 376/2014 with regard to wilful misconduct and manifest disregard of obvious risks will be explored and discussed with all internal stakeholders, e.g. staff associations. The interpretation of these provisions has consequences. An ANSP that is at the 'Managed' level will have developed positions and processes that manage the situations where an occurrence is considered to have breached the thresholds. The context and circumstances of each occurrence will be recognised as being potentially different and thus the different contexts need to be understood. Occurrences will be considered not solely in terms of what the people closest to the event did, but there will be evidence that wider systemic factors are or will be explored and examined, e.g. training, technical system limitations, procedure under-specification, supervisory decisions, the use of ATFCM, etc*
		3	*Within legal limits the organisation's safety data and individuals' details are protected from external access and release.*
			This refers mostly to access by the press or judiciary to safety or even operational data (e.g. shifts, roster or staff on duty). *It is acknowledged that the judiciary and the NSA can obtain access through certain law enforcement means (Court decision etc.) Disclosure rules must be in place that defines how safety data and individuals' details are protected from external access and release.* *Describe what is in place to protect safety data and individual details from external access and release.* *How do the protections referred to above comply with the General Data Protection Regulation (Regulation (EU) 2016/679)?*

		4	*Lessons from within the organisation are used to enhance its approach to Just Culture.*
			Describe in what way lessons are used to enhance the approach to Just Culture (e.g. as part of the investigation / safety audit and survey process, fed into the change processes within the SMS, regular structured meetings to discuss Just Culture; inclusion in learning process with regard to when things go wrong in Operations, Engineering and project design. Please provide some examples of where the organisation's approach has been improved.
		5	*Does your organisation measure the acceptance of Just Culture by its staff and management?*
			To be credible, Just Culture measurements must be regular (e.g. at least once per reference period), and also after organisational changes. *Describe:* *- how often the acceptance of Just Culture by staff is measured; and* *- what indicators are used to determine that staff accept that Just Culture is applied within your organisation.* *e.g.: Measurement of the health of the Just Culture is expected, e.g. use of an anonymous reporting system: if used intensively, it might be an indication of the mistrust of the staff in the system. Another indicator could be the severity distribution of reported events - an absence of low-severity events may indicate staff only report what is strictly necessary and cannot be hidden.*
	Resilient		
			Guidance for the Assured level *Just Culture* *An ANSP that has evolved to the assured level will have overcome many of the problems associated with the implementation of Just Culture. This means that it has navigated its way through the tensions and conflicts that are a natural part of a change in the relationships between the many stakeholders with an interest in Just Culture. These tensions and conflicts primarily involve the occurrence reporting and investigation process.* *Evidence that an ANSP has matured or demonstrates that it has attained level D can be found in diverse ways:* • *Processes that support the development and implementation of Just Culture have evolved through experience which has in turn led to a base of knowledge that shapes solutions that support the ANSPs specific needs.* • *As a result, Just Culture is undertaken with a critical understanding that is accessible and used to explain the evolution of Just Culture within the ANSP.* • *There is less variation in the interpretation and operationalisation of Just Culture by managers and the operational community do not misinterpret a "no blame culture" as being a Just Culture* • *Underpinning these facets is the ANSP's active and persistent commitment to arrangements surrounding disclosure of occurrence reports including, but not limited to, informal and formal cooperation with the judiciary and NCA.*
		1	*Lessons from other ANSPs and other aviation industry sectors are used to enhance the organisation's approach to Just Culture.*
			Describe in what way lessons are used to enhance the approach to Just Culture. For example, lessons learned could be fed into the change processes within the

			SMS. *The change processes could require that reviews are carried out of best practice from other aviation industry sectors before determining the best approach for the organisation.* *A cross organisational team could be tasked with reviewing how the just culture approach can evolve.*
		2	*The organisation has made formal preparations to encourage the NSA to engage with the state prosecution and law enforcement entities, should the need arise.*
			While it is acknowledged an ANSP or even CAA cannot do much to change the criminal legislation or the law enforcement bodies' approach to safety, each organisation can have a policy, procedure, tools, strategy, prepared for cases where staff might be subject to penal proceedings. This includes, but is not limited to, financial assistance, specialised lawyers, contacts of court experts or prosecution experts (see the EUROCONTROL Prosecutor Expert list). - *The above is guidance. Where such situations are not present, a Yes response can be selected with relevant justification provided. State what is in place in your organisation.*
		3	*Do you have a regular, open Just Culture forum for staff and management discussion?*
			Staff should be given the possibility to openly discuss with top management aspects related to Just Culture. This is not only related to investigations, but any safety concerns, including changes in procedures, equipment, etc. However, this should not be mixed with the social dialogue, but must remain focused on the business/operational aspects. Such a forum is not a duplication of the reporting system, but a way top management can hear the concerns of the staff, as well as gather suggestions for improvement. *Evidence can be minutes of meetings, actions taken as a consequence of discussions, etc.* *This topic could be part of a larger discussion, but sufficient time must be allowed for the discussion.* *If there is an "open door" policy within the organisation, there must be some activity in place to ensure that information is being received; this could be achieved through management visiting the OPs room and talking to staff.* *Describe* *- how often management and staff get together to discuss Just Culture;* *- how useful or successful these discussions are; and* *- if there is an "open door" policy within the organisation, how the management know that information is being received. Is this through visiting the OPs room and talking to staff or through other means?*
		4	*The organisation ensures that it applies just culture in its approach to working with external stakeholders and contractors.*
			• *ANSPs by their nature and purpose engage with many other aviation stakeholders, who are also expected to apply just culture principles in their daily work,* • *Staff and management are expected to apply the same just culture principles in their dealings with external aviation stakeholders and with contractors/ subcontractors as they would within their organisation.* *Notes: Does the JC policy address external stakeholders and contractors, and, are there examples of where the JC policy has been applied as a result of incidents or occurrences that have been caused or aggravated by the contractor stakeholder.* *Contractors include Power, HVAC, Cleaning staff and stakeholders include airlines, airports and airside operations.* *If a ground handler inadvertently strikes the fuselage of an aircraft with a vehicle, the extent and safety impact of the damage may not be immediately visible –*

			particularly in the case of composite fuselages which are now almost ubiquitous. In these instances, the airline would want to know immediately, so that they can assess whether or not the aircraft remains airworthy and what types of repair may be needed. The ground handling organisation, airline and aerodrome may also need to know what actions they can take to prevent a recurrence. Considering that the damage may be invisible from the outside, the ground handler needs to be reassured and encouraged by a just and open reporting culture in order to report what may seem to be an innocuous incident. If the airline or aerodrome insists on punitive action, or if the contractual relationship between airline and ground handling service provider is too punitive, these occurrences may not be reported. In ATM a similar scenario of an ATSEP or cleaner damaging a piece of ATM equipment requires the same approach to just culture as followed within the ANSP. *Please provide examples of application of the JC policy in relation to external stakeholders and contractors. Please demonstrate that a reporting mechanism is available for external contractors and stakeholders and that remedial training for these staff is provided following any reported occurrence.*

Appendix 2 2. Safety Policy and Objectives

		2.1 The safety policy of the organisation presents the organisation's commitment to safety and its resourcing. The priority of safety within the organisation is also articulated	
		Informal Arrangements	
		1	*The need for a safety policy has been recognised but one does not exist.*
		2	*The organisation is considering which key attributes (e.g., culture (safety and just), visible endorsement, communication, safety reporting) of its approach to safety should be included in its safety policy.*
		Defined	
		1	*The way in which the organisation manages safety is reflected in its developed safety policy or related procedures.*
			At this level it is expected that an organisation has developed a safety policy or related procedures. Appropriate justification could be in the form of a relevant quotation from the Safety Policy or a related procedure. *Considerations could include:* *1.1 Management commitment* *1.1.1 The service provider shall define its safety policy in accordance with international and national requirements. The safety policy shall:* *a) reflect organisational commitment regarding safety, including the promotion of a positive safety culture;* *b) include a clear statement about the provision of the necessary resources for the implementation of the safety policy;* *c) include safety reporting procedures;* *d) clearly indicate which types of behaviours are unacceptable related to the service provider's aviation activities and include the circumstances under which disciplinary action would not apply;* *e) be signed by the accountable executive of the organisation;* *f) be communicated, with visible endorsement, throughout the organisation; and* *g) be periodically reviewed to ensure it remains relevant and appropriate to the service provider.*
		2	*The draft safety policy is available for review within the organisation.*
		Managed	
		1	*The safety policy has been proactively communicated to staff throughout the organisation and formally published (e.g., on the organisation's intranet).*
			The organisation's safety policy is the foundation of the Safety Management System (SMS) and the first important milestone of its implementation.

			The formally published safety policy must have the tangible support of the most senior member (Head of organisation) of the organisation, thereby demonstrating their commitment to safety. *It is essential that the safety policy is communicated proactively to staff throughout the organisation, this can be done in using various methods, such as training, briefings by senior managers, intranet, safety bulletins and emails to all staff.* *Briefly describe:* - *who has signed the safety policy;* - *what methods are used to proactively communicate the safety policy throughout the organisation.* *Note: Different methods of communicating may be needed depending on the best way to reach the target audience. Active methods include activities such as /induction/training or briefings; an example of a passive activity is through placing the safety policy on the company intranet or issuing a safety bulletin. A combination of approaches could be used.*
		2	*If changes are made to the organisation's safety policy, the organisation has a process to ensure that the SMS is updated to meet the amended requirements of the policy.*
			Describe when the SMS was last updated as a result of changes in the safety policy. *It is recognised that the safety policy in some ANSPs does not carry out this function as they are set at a high level. If this is the case, justification is required as to whether this is done in linked procedures.*
		3	*Updates to the safety policy are communicated throughout the organisation.*
			Describe what methods are used to communicate changes to the safety policy to staff. Examples could include: training, briefings, intranet, safety bulletin, staff newsletters, CEO emails to staff, management refresher training.
		4	*The organisation's safety policy meets all regional and international safety standards.*
			It is expected that the organisation meets all required regional and international safety standards including alignment with the requirements of ICAO Annex 19. Any exemptions will have been approved by the regulator and differences filed with ICAO. *ECAC ANSPs should comply with all requirements laid down in Reg EU 2017/373.* *If applicable, provide examples of approved exemptions and filed differences (e.g. to ICAO procedures).* *To meet the requirement of this question, it is expected that the organisation has some way of demonstrating that safety standards are met, e.g. through a Regulatory Compliance Matrix.*
		5	*The organisation conducts reviews of its safety policy at least once every five years to ensure that it continues to be relevant and appropriate.*
			Appropriate evidence could be the dated and signed off reviews.
		6	*The organisation has sufficient staff and resources to implement its safety policy and related procedures.*
			Guidance for the Managed Level *The organisation should demonstrate the sufficiency with reference to the Reg. EU 2017/373.*

		Resilient	
		1	*The organisation compares its safety policy to those of other ANSPs*
			Other ANSPs' safety policies should be used for comparison to aid continuous improvement. *Provide examples of when you have compared your safety policy to that of other ANSPs and with which organisations. Indicate whether your safety policy has been amended as a result of this activity.*
		2	*The organisation actively contributes to and shares deidentified data at the regional and / or international dialogue to improve safety standards.*
			This question refers to the contribution your organisation actively makes to international safety standards, fora, research etc. Active involvement means contribution to the meeting as opposed to observing discussion and progress only. *If applicable, provide an example of where active contribution has been made to improve safety standards.*
		3	*The organisation includes safety management and safety improvement activities in the annual business planning process.*
			It is expected that safety management and safety improvement activities are resourced as a normal business activity. *Provide some examples of safety management and safety improvement activities that are included in the annual business plan.*
		4	*The safety policy is subject to ongoing review and improvement (e.g., when a new executive becomes accountable for safety or when there are indications that the policy does not adequately address the adequate level of commitment to safety).*
		5	*The organisation's safety policy [is available on request]*
			It is expected at this level that the safety policy is available on request to interested parties who can demonstrate an interest based on aviation safety. This will help to ensure that ANSPs can share information and to aid comparison for continuous improvement. It is acknowledged that all requests must be considered individually and not all will be granted. *Provide evidence that the information has been suitably shared and or refused on pertinent grounds.*
		6	*The organisations safety policy encourages an integrated and collaborative approach to safety improvement, one that includes input from all areas of the organisation.*
			While top management helps sustain an initiative with vision and commitment, collaboration is vital for successful implementation. Your organisation should be encouraging all relevant areas of the organisation to work together to enhance safety improvement, for example via an integrated approach team. *Some areas where an integrated and collaborative approach to safety improvement is applied are: new technologies, development of procedures, SMS assessments, safety planning, safety management training (note: this list not exhaustive).* *The approach used could change depending on the area - change management, safety management training, Contingency or Emergency response planning.*

			Provide an example of how this is done within your organisation.
		7	*Management systems acknowledge that change can indirectly impact an organisation's safety performance, potentially causing instability within the organisation.*
			The organisation actively engages and prepares to avoid, or to manage this instability, including the need to prepare people for changes that may affect safety.
		8	*Safety resources are used in a flexible manner and safety activities are resourced and managed within business planning and reporting processes.*
			Typical evidence for this question would come from organisational business plans with a flexible assignment of resources being evident from planning meetings and meetings of the organisation's safety board/ committee. This question demonstrates the agility of the business in meeting unexpected or unplanned challenges.

		4.1 Clearly defined and documented safety policies, standards and processes	
		Informal Arrangements	
		1	*There is no SMS in place.*
		2	*There may be deviations from safety regulatory requirements*
		3	*The need for an SMS Implementation Plan is recognised.*
		Defined	
		1	*The organisation has started to implement its SMS.*
		2	*The organisation has an approved and funded SMS implementation plan, which includes provision/ resources for:* -
			- *Safety policy and objectives* - *SMS regulatory requirements* - *SMS processes and procedures* - *Accountabilities, responsibilities and authorities*

		3	*There is an awareness that the SMS is a tool to be used and the need for training some roles in safety is identified and begun.*
			ANSPs at this level can be expected to have begun implementing a Safety Management System (SMS). As a result, the internal safety discussion begins to change with the ensuing safety measurement, and safety promotion becomes more visible. The safety discussion will be characterised by a lack of transparency — safety teams and managers, for example, leading the discussion with little structured or formal inclusivity of others in the organisation. Safety improvements are limited to what guidance is given by the SMS. There is an overwhelming confidence that safety will be delivered by following the SMS.
		Managed	
		1	*The organisation has completed all work required by its SMS Implementation Plan.*
		2	*All safety management documentation is readily available to appropriate staff.*
			Verify the availability of the documentation.
		3	*The organisation monitors its SMS processes and output regularly to identify any problems staff may be having in applying the SMS.*
			How is this monitoring carried out?
		4	*Relevant staff are informed when safety actions or safety management procedures are introduced or changed, and why.*
			Provide evidence that this information has been communicated to relevant staff.
		5	*The organisation conducts formal reviews of any organisational changes that could affect safety and / or the safety management framework.*
			Provide evidence of these reviews.
		6	*The organisation regularly reviews its SMS, at least once per reference period, and updates its SMS using identified and formal processes as required.*
			Provide evidence that the SMS review has been updated as described and that it has been done during the present reference period (RP4).
		7	*Where a standard has not been clearly defined and there is a safety impact, rectification measures are taken without delay.*
			Guidance for the Managed Level *The organisation has documented the necessary procedures, processes (e.g. SMS policy/framework) and tools internally (e.g. collecting hazards/deficiencies, feedback, lesson dissemination).* *A move from strictly following the SMS to an intelligent application of the processes can be seen. This is about understanding the intent of the SMS and ensuring that this is realised rather than just blindly applying its processes. This change may be driven as a result of the experience in applying the SMS to a range of changes within the ANSP, for instance across a range of technical systems with increased* *complexity. Additionally, there will have been new stakeholders, e.g. engineering teams, change management, business risk, supply chain and software engineering that will contribute to different issues and perspectives.* *ANSPs can elect to develop proportionate applications of the requirements of an SMS so that it is not applied uniformly across all projects or within the ANSP's activities, i.e., a risk-based approach to safety management. In so doing, progressive and intelligent application of the SMS provides evidence of an ANSP or organisation that is functioning at the 'Managed' level.* *'Formal process' means that the description of the responsibilities, input, output, activities, etc., put in place by the organisation for maintaining its safety*

			management processes and procedures is formalised (documented) in the SMS documentation and is up to date. *'Regularly reviewed' means that the SMS is reviewed and, if needed, updated at least at the following occasions:* *- whenever there is an organisational change or a change in the provision of services that can have in impact on the SMS;* *- when analysing the outcomes of the safety monitoring system and SMS audits;* *and in any case every reference period (in line with point 14.1).*
		Resilient	
		1	*The organisation formally assesses the usability and accessibility of its SMS processes and documents. [SP]*
		2	*The SMS contains Human Factors-related principles and also indicates where and when it needs to be considered, e.g., in investigation, risk assessment activities and management of change.*
		3	*The organisation measures the effectiveness of the SMS documentation update process. [SP]*
			Guidance for the Resilient level *The SMS will encourage challenge and critique as part of its contribution to a safer and more effective ANSP. Challenge and constructive critique act as a feedback loop that can provide fundamental information about how the work system is behaving and ways to make structural changes. The SMS will provide a clear evaluation of the strengths and weaknesses of the conventional safety interventions.* *There should be evidence to show that relevant SMS processes and outputs (at least safety policy, SMM, occurrence reporting and investigation procedures) are reviewed on an annual basis (e.g. internal audits, peer review, safety board meetings), and measures are taken without delay when a safety relevant impact from the investigation processes or performance reports have been identified Attention should be paid to ensuring that Human Factors-related principles imbedded in the SMS have been applied and evidenced, as appropriate, in the SMS processes and outputs.* *The types of justifications include the following:* *- evidence and/or outputs stemming from the formal review process;* *feedback on its SMS processes and documents from staff working within the SMS procedures.*

		3.1 An approved, clearly documented, and recognised system for the management of safety. Management structure, responsibilities, accountabilities and authorisations are clearly defined and documented	
		Informal Arrangements	
		1	*No formal designation of responsibilities, accountabilities or authorisations for the management of safety exists.*
		Defined	
		1	*The organisation has identified and documented safety authorisations, responsibilities and accountabilities.*
			Resource: Safety Accountabilities and Responsibilities | SKYbrary Aviation Safety https://skybrary.aero/articles/safety-accountabilities-and-responsibilities *At this level it is expected that an organisation is identifying and defining authorisations, responsibilities and accountabilities to the management and personnel involved in safety-related tasks. In particular, it is expected at Level B that these are in place for the Accountable Manager and Safety Manager already as they are key contributors to defining the roles of other members of the organisation.*

			Describe what responsibilities, accountabilities and authorisations are currently in place within your organisation. The response should include those for Accountable Manager, Safety Manager and other personnel involved in safety-related tasks *Safety responsibility: the obligation to carry forward an assigned safety-related task to its successful conclusion. With responsibility goes authority to direct and take the necessary action to ensure success.* - *Safety accountability: the obligation to demonstrate the task achievement and take responsibility for the safety performance in accordance with agreed expectations. Accountability is the obligation to answer for an action. Accountabilities cannot be delegated to anyone else.* - *Safety authority: typically, authority is given to managers and the top people in a company to help them guide a team and achieve safety goals and objectives. Without authority, it is impossible to delegate tasks and get things done. It enables a leader to delegate work and give instructions to their staff who accept it because of the initiator's authority to make those decisions.*
		2	*The organisation has a safety management function or safety management position responsible for developing and maintaining its SMS.*
			Describe who is responsible for developing and maintaining the SMS within your organisation. *Note.— Depending on the size of your organisation and complexity of the service you provide, the responsibilities for the implementation and maintenance of the SMS may be assigned to one or more persons, fulfilling the role of safety manager, as their sole function or combined with other duties, provided these do not result in any conflicts of interest.*
		Managed	
		1	*The organisation has implemented authorisations, responsibilities and accountabilities for safety management, including Human Factors. [SP]*
			At this level authorisations, responsibilities and accountabilities (including Human Factors) should be clearly defined and documented. Examples of where these are documented could be in the safety policy, safety management manual, job descriptions etc. This would mean, for example, that there is a position such as Head of Human Factors (for a larger organisation), and/or Human Factors Expert/ Specialist, with associated Human Factors responsibilities and accountabilities to specific organisational units, departments or divisions. *Provide details of where these are documented in your organisation.* *A Human Factors Expert/ Specialist is someone with relevant degree-level training or equivalent training that is recognised by a human factors-specific professional association in the subject or a related one (e.g. aviation psychology, applied or industrial psychology). A Human Factors leader or focal point may not necessarily be a Human Factors Expert/ Specialist (i.e. trained at degree level in HF etc.), but should have had at least some basic training in the discipline, and have access to HF expertise either within or outside the organisation.*
		2	*The organisation has a safety manager who has ultimate responsibility for the management of the SMS and who actively supports the SMS development, implementation, maintenance, and promotion throughout the organisation (including support departments). Reg 2017/373*
			The term 'Safety Manager' may be used to describe the single individual who, irrespective of other functions, has ultimate responsibility and accountability, on behalf of the organisation, for the implementation and maintenance of the SMS. *State who is the safety manager within your organisation for ensuring that the SMS framework is aligned with legislation, maintaining and evolving the framework and also for endorsing all SMS processes. Documented authorisation should reflect these accountabilities.*

			Describe in what way your leadership has demonstrated their active support for the SMS. Examples could be where the executive team or board are members of a Safety Board; through safety being considered a priority when defining corporate goals, safety being a permanent item on the board's agenda, participation in safety-related activities (e.g. dedicated safety meetings, being present in the operational environment), reviewing and approving significant changes to the SMS, providing direction for the continuous improvement of safety.
		3	*The wider leadership team (who report to the accountable executive) take responsibility for the application of the SMS.*
			The wider leadership team (i.e. the executive team) is the team of people who report directly to the safety manager. The executive team should all be assigned safety responsibilities as appropriate to their role. *Briefly explain in what way the wider leadership team take responsibility for ensuring that the SMS is applied appropriately.* *Examples could include through prioritising safety management activities and supporting staff to complete these safety-related tasks; attending dedicated safety meetings, etc.* *Confirmation that the wider leadership team takes responsibility for the application of the SMS could gained through the Safety Culture surveys.* *Key leaders could sign the SMS Manual.* *All leaders could be required to sign off on their responsibilities.* *Describe in what way your leadership demonstrates their active support for the SMS. Examples could include:* - *that the executive team or Board are members of a Safety Board/Safety Steering Group or similar;* - *the leadership at the highest level participate in safety-related activities, e.g. attending dedicated safety meetings, being present in the operational environment, etc.* - *reviewing and approving significant changes to the SMS;* - *providing direction for the continuous improvement of safety.* *Describe in what way safety is considered a priority when defining corporate goals, and what input the safety department has in defining the corporate goals.*
		4	*The safety management function or position is independent of operational line management.*
			Provide a description of who the safety management function or position report to. For example, the Safety Manager could report to the organisation's Accountable Manager. Essentially, the structure should be effective and benefit the management of safety.
		5	*The safety management function has the authority to develop and maintain an effective SMS.*
			Example justification could be that the Safety Management Department has accountability for ensuring that the SMS framework is aligned with legislation, maintaining and evolving the framework and also endorsing all SMS processes. Documented authorisation should reflect these accountabilities. *The Safety Management Manual should describe the authorisations, responsibilities and accountabilities related to developing and maintaining an effective SMS.*
		6	*The safety management function has access to the resources required for the proper development and maintenance of the SMS. Annex 19 1 1.1.b*
			It is expected that the organisation has a business plan that outlines the safety priorities and objectives for the coming year which includes the provision of adequate resources to develop and maintain the SMS. *Describe how the safety management function is involved in ensuring that the business plan contains provision for the relevant resources (financial and human) for the*

			development and maintenance of the SMS. *Some organisations may have a consistent team of safety experts working under the safety management function, while others may need to request resources from the relevant areas of the organisation.*
		7	*All relevant managers and staff have formally accepted their SMS accountabilities and responsibilities.*
			To ensure safety awareness and commitment of all personnel involved in safety related tasks, SMS accountabilities and responsibilities should be formally accepted by those accountable. This can be achieved through signing that they accept these. *Describe how this is achieved in your organisation (e.g. signing of the safety policy, signing safety accountabilities and training records).* *Note: It is expected that this is achieved within the first month of employment.*
		8	*The organisation reviews safety authorisations, responsibilities, and accountabilities after significant organisational changes.*
			It is expected that there is a procedure in place to ensure that, in the event of a significant organisational change, safety authorisations, responsibilities and accountabilities are assessed prior to the change activity to ensure that they remain effective. *Describe who is responsible for ensuring that all changes to the SMM are managed and controlled. In addition, if relevant, provide an example of where this procedure has been applied.*
		Resilient	
		1	*The organisation reviews safety authorisations, responsibilities and accountabilities at least once per reference period (present and preceding) to determine whether they are suitable and effective.*
			Each subsequent review needs to occur no later than 5 years after the previous review. Therefore, the review is conducted once every 5 years as the minimum. *Provide the dates of the last review of safety authorisations, responsibilities and accountabilities during which their suitability and effectiveness were determined. In addition, provide brief details of any significant results.* *Describe whether reviews are carried out on a continuous basis or in accordance with a prescribed review schedule.*
		2	*The organisation formally and systematically assesses the theoretical capability of managers to effectively discharge their SMS accountabilities.*
			At Level D it is expected that some form of capability statement (assessment) is produced for each set of SMS accountabilities, i.e. that describes what level of knowledge and experience is required. While it is recognised that requirements for the position were originally set in order for the position to have been filled at the levels below Resilient (D), the assessment of the theoretical capability is useful at this level and should be viewed in addition to the original requirements for the position. The statement should be a formal and systematic output of the assessment. *Describe:* - *how your organisation assesses the capability of managers to discharge their SMS accountabilities;* - *how often this assessment is carried out; and* - *whether there is there a gap analysis plan to raise the level of capability of managers.*

		3	*The Human Factors capability (Permanent staff/ contracted resource, number of specialists, level of formal HF qualification i.e., academic degree, internal / external, recognition of equivalent training by a HF professional organisation) is tailored and proportionate to the maturity and complexity of the organisation.*
			It is expected that relevant staff with Human Factors capability are operating within several divisions of the organisation, particularly in operational areas. Describe which areas of your organisation have staff with Human Factors capability. Such staff can be internal staff or external expertise that may be used as required.

Appendix 2 3. Safety Risk Management

		5.1 Effectively managed safety-related internal interfaces (e.g., operations and engineering service level agreements).	
		Informal Arrangements	
		1	*The various internal interfaces operate in isolation.*
		Defined	
		1	*The organisation has developed processes to manage internal safety-related interfaces.*
			If they are managed on a formal basis, please answer Yes. *Examples could include: Technical and operational; service management centre and the operation; MET and operations; AIS and operations; occurrence reporting to accountable manager.*
		Managed	
		1	*The organisation's safety related internal interfaces are managed through documented formal interface agreements.*
		2	*The organisation regularly evaluates the performance of its interface agreements.*
			*To justify a Yes response to this question, what is in place must be formal in nature. Additionally, a**t least two reviews need to have been carried out to justify a "Yes" response, with a minimum of once per reference period being demonstrated – therefore, once in the present reference period and once in the preceding reference period.*** *Whether part of an overall quality assurance process, or specific reviews, "regular" is regarded as being a pre-determined, periodic exercise, which should be able to cover the whole issue within one to three years, depending on the complexity of the organisation.* - *This process can be embedded into the overall SMS review process.* - *The review should include all parties affected by the formal interface.* - *When describing the review process consider the results of the last review and the subsequent actions taken.* *Note: For activities not driven by AIRAC or other operational changes, reviews should take place once every five years. Therefore, once per reference period.* *Describe who is responsible for ensuring that the formal interface agreements are effective and up-to-date.* *Please state when the last review was held.*
		3	*The organisation has processes or fora in place to share the practical experiences of safety management between different departments and professional fields*
			It is expected that formalised processes are in place that bring different parts of the organisation together to discuss safety management concepts and theories that also include the efficacy of safety management training.

			Describe: - *how different departments within your organisation share discoveries of safety in practice.* - *whether your safety manager oversees these processes and facilitate these interactions.*
		Resilient	
		1	*Human Factors specialists are active and integrated within programmes, Communications, Navaids and Surveillance [CNS] and operations across the organisation.*
			A Human Factors specialist is a person with a relevant academic degree and / or professional experience recognised by a professional body (such as CIEHF or HFES or other equivalent professional HF bodies) with experience in working in the field. *Human Factors Expert/ Specialist is someone with relevant degree-level training or equivalent training that is recognised by a human factors-specific professional association* (such as CIEHF or HFES) *in the subject or a related one (e.g. applied or industrial psychology)* with relevant experience. This function may be an externally contracted expert whose function is similarly integrated into the appropriate areas of the organisation, as a permanent staff member would be. The HF capability should reflect the volume of activities within the organisation, and should be proportionate to the size and complexity of the organisation. Examples of professional associations: • *CIEHF: Chartered Institute of Ergonomics and Human Factors* • *HFES: Human Factors and Ergonomics Society* *Often in organisations, Human Factors Specialists are located in one division or department or unit (e.g. Safety). However, other departments may periodically need access to Human Factors support, e.g. operations, design, training, etc.* *Describe whether there are management mechanisms and interfaces for sharing Human Factors expertise transversally across the organisation as needed. Demonstrate that, through the involvement of HF specialists, decision makers are able to make informed decisions that take HF into account.* There is evidence that human factors principles have been considered and adopted when implementing changes to the functional system and when introducing new provisions and procedures

		5.2 The effective management of external interfaces with a safety impact (e.g., military, airspace users, airports).	
		Informal Arrangements	
		1	*Safety-related external interfaces are managed on an informal basis.*
		Defined	
		1	*The organisation has developed contractual arrangements for all safety related external interfaces.*

			Question covers which external interface agreements are in place. At Level B, state which ones are in development.
		Managed	
		1	*Activities for all safety-related external interfaces and relationships are coordinated and managed through documented agreements.*
			Provide some examples of external agreements: LoAs, SLAs etc. that are in place. Examples could be: *Agreements with utility and communication providers and provision of manufacturer support for CNS equipment.* *You should be able to confirm that ALL safety-related interfaces and relationships are coordinated and managed through documented agreements.* *Describe who is responsible for ensuring that the external safety-related external interfaces are up to date.*
		2	*Safety requirements and human factors requirements (especially of equipment and user interfaces) are specified and documented in the appropriate agreements.*
			Safety is an integral part when an interface is being established to whatever level deemed necessary. *Describe how safety requirements and Human Factors requirements related to safety are derived for inclusion in contractual agreements. Include to what extent appropriate safety-relevant staff are consulted in the development of the requirements (e.g. safety manager, dedicated safety experts, etc).* *Explain to what extent elements such as integrity, usability, performance and repair times (although not exhaustive) are addressed.*
		3	*Safety performance indicators are used to monitor the effectiveness of the external safety-related interface agreements. [SP]*
			Describe what safety performance indicators are used to monitor the effectiveness of the external safety-related interface agreements. Examples could include: System Monthly Availability, Number of Failures Per Month, System Downtime Per Failure. *If technical systems are not involved, other performance indicators may be needed, such as response time, quality of information, etc. Describe as appropriate.*
		Resilient	
		1	*The organisation systematically reviews and revises safety requirements and human factors requirements related to safety within contractual agreements.*
			"Systematically" = in accordance with a plan. *Describe:* - *what methods are used to systematically review and revise safety requirements and human factors requirements within contractual agreements;* - *whether all assessments are carried out at a functional level as well as a contractual level;* - *how often safety requirements within contractual agreements are reviewed;* - *how often human factors requirements within contractual agreements are reviewed.*
		2	*The organisation systematically reviews the performance of its critical external service providers and suppliers against the contract, and takes action as appropriate.*
			At Level D, a supplier performance monitoring programme is expected to be in place. Key suppliers should be monitored at least quarterly on a formal basis and the findings reported to senior management level. A review of quality, cost, financial, delivery and strategic risk should be performed for each "key" supplier. In addition to the quarterly review, an audit/assessment option should be in place for suppliers whose performance is of concern. Findings should be raised and corrective actions

			verified for effectiveness. *"Systematically" = in accordance with a plan.* *Describe:* - *how performance of the critical external service providers and suppliers are assessed against the contract;* - *whether assessments are carried out at a functional level as well as a contractual level;* - *how often performance within contractual agreements is reviewed;* - *what happens in the case where deviations from the documented arrangements are identified;* - *whether the contracts with external service providers and suppliers contain a clause with regard to performance reviews.* *Examples of performance indicators are: system monthly availability, maximum allowable failure per month and maximum allowable system downtime per failure. This list is not exhaustive.*
		3	*Provide examples of how external suppliers or delivery service partners are involved in safety-related activities and provide evidence demonstrating the regularity of this involvement.*
			Suppliers or even delivery service partners may not be aware of the criticality of the interface with the organisation. Further, their objectives might be different in nature than those of ATM. Involving them in briefings, activities or common projects would raise their awareness and potentially contribute to safety. Example: the Safety Stack (https://skybrary.aero/bookshelf/hindsight-26-luton-safety-stack) *Describe how external suppliers or delivery service partners are involved in safety-related activities.*

		6.1 Hazards to operations are reported and assessed	
		Informal Arrangements	
		1	*Hazards to operations are not assessed by either managers or staff. However, risks to operations are recognised.*
		Defined	
		1	*The organisation has developed processes for the identification of hazards.*
			Briefly describe what processes are in place for identifying existing hazards or hazards identified through change. *If your answer is "No", state when processes are planned to be completed and in place.*
		2	*The organisation has developed processes to document the existence of hazards.*
			Briefly describe what processes are being developed or that are in place. *If your answer is "No", explain why.*

			If processes are currently being developed, state when they planned to be completed and in place.
		3	*The organisation has developed processes to assess the risk that hazards pose to operations.*
			If your organisation has already established these processes, please select Yes. *Briefly describe what processes are being developed or that are in place.* *An example could be that Operational Unit Safety Cases document all operational hazards and their associated risk levels.* *If your answer is "No", explain why.* *If processes are currently being developed, when are they planned to be completed and in place?*
	Managed		
		1	*The organisation has implemented its hazard identification processes (Annex 19 2.1.1)*
			The requirement at Level C is that there is a process/es in place that is used specifically for identifying existing hazards and hazards associated with change. *Describe what is in place within your organisation.* *An example could be where an organisation has a safety hotspot map for operational units where the top three hazards are identified and mitigation is planned. These safety hotspot maps along with SMS outputs from SMS Assessments, normal operations safety survey (NOSS), etc. would feed the development of the hazard register.*
		2	*The organisation's hazard identification processes are based on a combination of reactive, proactive and predictive methods of safety data collection (Annex 19 2.1.2)*
			NOTE: ICAO Doc 9859 - Part 5.1.3 states: Annex 19 requires that service providers develop and maintain a formal process to collect, record, act on and generate feedback on hazards in their activities, based on a combination of reactive and proactive methods of safety data collection. *Provide examples of each type of method used. Lagging indicators are reactive measures whereas leading indicators are proactive measures:* - *Reactive: mitigate severity of safety events and threats;* - *Proactive: identify safety concerns before safety events happen; and* - *Predictive: inputs to and outputs from the safety system are used to predict future outcomes, and anticipate future exposure based on past performance data.* *Examples of each include (but is not exhaustive):* - *Reactive:* • *The Safety Investigation process triggered when trends indicate the need for an in-depth investigation;* • *Monitoring data used for risk assessment and validation;* • *The mandatory reporting process and subsequent safety investigations used to identify and mitigate hazards;* - *Proactive:* • *The change analysis and hazard identification and risk processes used to identify hazards associated with change or to identify hazards within a specific operational context;* • *A voluntary reporting process used to collect hazards from ongoing operation;* • *NOSS, to enable proactive identification and addressing of potential threats and errors before they lead to safety events;* • *Standard safety risk assessment processes.*

			- *Predictive:* • *Safety reviews and technology/process design.;* • *Safety analysis;* • *Simulations;* • *Test platform.*
		3	*The organisation has a sufficient number of trained or qualified staff or contractors to assist in the identification and assessment of hazards and in hazard management.*
			Note: Qualified may mean having an academic qualification in some organisations. The requirement for this question is that staff must be trained and capable of identifying and assessing hazards. *Different types and delivery methods of training could be provided to staff based on their role in the SMS (e.g. basic and refresher training; classroom, CBT; safety manager vs. operational staff).* *Describe:* - *how the resource requirements to assist in the identification and assessment of hazards area identified in an organisation's Business Plan e.g. this could be based on projected demands;* - *what form of training is provided within your organisation;* - *whether any basic training is provided during the ab initio training with regard to the identification of hazards;* - *whether training is supplemented by additional activities such as annual lectures/seminars on hazard management.* - *Hazard management is often carried out by operational and technical staff*
		4	*The organisation regularly includes stakeholders in its identification and assessment processes.*
			This question requires that both INTERNAL and EXTERNAL stakeholders are involved in the identification and assessment process/es. *Describe:* - *how stakeholders are included;* - *what internal stakeholders are involved;* - *what external stakeholders are involved.* *Examples could include airports, military, system providers as part of various safety activities (e.g. investigation process, change management system, safety risk management, safety surveys).*
		5	*The organisation has taken reasonable steps to identify all hazards affecting its operations.*
			A variety of means could be used to ensure that all hazards have been identified (e.g. reporting and investigation process, hazard identification techniques such as FMECA, HAZOP, What-if analysis etc, change management process, risk registry, internal safety audits and surveys). *Describe:* - *what is in place in your organisation; and* - *how you know that reasonable steps have been taken to identify hazards affecting all of its operations.*
		6	*The organisation reviews and updates its hazard identification processes at least once per reference period.*

			At least two reviews need to have been carried out to justify a "Yes" response, with a minimum of once per reference period (present and preceding) being demonstrated – therefore, once in the present reference period and once in the preceding reference period. *An effective review and monitoring cycle may include the following:* - *review the framework in light of legislative environment, internal experience and external benchmarking;* - *report on how effective the organisation has been in meeting the objectives described in its hazard identification process/es.* *Emerging hazards may include drone operations, commercial space launches, etc.* *Describe:* - *what triggers the need for a review. Examples could include safety investigations, quality assurance processes, SMS assessments etc.* - *when the last two reviews were held and whether any review resulted in the need for an update to the hazard identification and analysis process/es.*
		7	*The organisation monitors whether the hazard identification and mitigation process has been appropriately applied. [SP]*
			Any monitoring process relevant for this question should be formal in nature. *Briefly describe the monitoring process. Examples of whether the process is appropriately applied could be through verification of various safety audits and surveys (e.g. regular quality checks). It could also be part of a continuous improvement approach.* *Indicate whether there is an independent overview entity available within the organisation.*
		Resilient	
		1	*The organisation uses tools or procedures to tracks the status of all identified hazards relating to the change. [SP]*
			It is expected that some form of 'hazlog' is in place to track the status of hazards and also to ensure that they are dealt with in a timely manner... how many, how many closed, etc. *Describe:* - *how often the status is analysed;* - *whether hazards are occurring that are not in the hazard log.* *Provide some examples of safety improvements implemented as a result of trend analysis.* *A variety of means could be used to conduct trend analysis with regard to whether identified hazards are occurring as expected (e.g. safety report once a month, investigation reports).*
		2	*The organisation carries out ongoing reviews of lessons learnt from occurrence reports and safety surveys to improve its hazard identification processes to ensure that the processes are effective.*
			In order to establish a track record, two reviews are required to meet the requirement of this question. At least one review per reference period is required. Therefore,

			one review during the current reference period and one in the preceding reference period. *In addition, the process must be formal in nature to justify Level D.* *Note: If there are a lot more hazards occurring than those predicted, his is an indication that some improvement in the hazard identification process/es is required.* *In addition to lessons learned from occurrence reports and safety surveys, other activities could include safety investigations, project reviews, safety reviews etc.* *Describe:* - *what is in place in your organisation;* - *when a review last took place;* - *whether hazards are experienced that were not predicted through the normal hazard identification process/es;* - *whether the process is appropriately applied, i.e. verified through activities such as safety audits and surveys (e.g. regular quality checks).*

		6.2 Assessed risks are mitigated or controlled. Risk controls are monitored for effectiveness, and remedial action is taken if controls are not working effectively.	
		Informal Arrangements	
		1	*There is limited understanding of the need to mitigate or control risk, even when risks are recognised.*
		2	*There is little understanding of what constitutes a risk control at either a system or local level.*
		Defined	
		1	*The organisation has developed processes to identify and control or mitigate existing operational risks.*
			This could be through the hazard identification and risk management process/es. *If your answer is "No", state when the processes are planned to be completed and in place.*
		2	*The organisation has established processes to document how appropriate controls and mitigations should be selected*
			Safety Cases should be used to assess and manage the risks that hazards pose to operations. *Describe how risk controls and mitigations are selected*
		3	*The organisation has proposed the level of risk that individual managers can approve.*
			Guidance for the Defined Level *The organisation is establishing processes to document how appropriate controls and mitigations should be selected, for example, through the hazard identification process. Controls are preventative mitigations and/or recovery mitigations.*

Managed	
1	*The organisation has formally implemented its risk control and mitigation processes.* *A control is a design feature or procedure that reduces the likelihood of the hazard occurring.* *A mitigation is a design feature or procedure which makes the impact of the hazard less bad once the hazard has occurred.* *Risk-control and mitigation processes should be documented and implemented as part of the SMS processes. These processes may be embedded in the wider processes of monitoring the behaviour and the management of changes of the organisation's functional system.* *Risk controls and mitigation processes need to be clearly identified and documented to allow a proper monitoring of their effectiveness.*
2	*The organisation is regularly monitoring the effectiveness of risk controls and mitigations. [SP]* *A control is a design feature or procedure that reduces the likelihood of the hazard occurring. A mitigation is a design feature or procedure which makes the impact of the hazard less bad once the hazard has occurred.* *Whether part of an overall quality assurance process, or specific reviews, "regular" is understood as a pre-determined, periodic exercise, which should be able to review all controls and mitigations within the organisation within one to three years, depending on the complexity of the organisation.* *Describe:* - *how risk controls and mitigations are monitored for effectiveness (this could be through various safety audits and surveys (e.g. regular quality checks), incident reports etc.);* - *when the last review held?;* - *how the output of the monitoring activity is reported (e.g. overviews of the performance and the in-service risks could be reported through a management review group).*
3	*The level of analysis, assessment, mitigation and control of risk being undertaken is proportionate to the risk. (Annex 19 2.2 & 3.1.1) [SP]* *Different risk levels require different mitigation measures and levels of authority.* *It is expected that a major risk is not assessed using a minor process. What is in place must be appropriate for the level of risk identified.* *Describe the levels of assessment implemented within your organisation. Indicate whether the level of activity required in the process mean that some risks are not assessed sufficiently as it is thought the level of work is not justified.*
4	*Staff and contractors where appropriate are educated and trained in risk and risk management.* *It is expected that training is carried out in accordance with a formal training plan.* *Briefly describe the training that is provided and to whom.* *E.g. safety management training provided to employees based on their role in the SMS (e.g. basic and refresher training; classroom, CBT, safety manager vs.*

			operational staff). *A variety of means could be used as competency methods to determine whether safety management training is required apart from the established general training requirements (e.g. role descriptions, job appraisals).*
		5	*The organisation has defined the level of operational risk it can tolerate. [SP]*
			The organisation should set the maximum rate of events it can tolerate (e.g. Sector over-delivery). *Describe where the level of operational risk that can be tolerated is defined.*
		6	The organisation documents and enforces the level of design risk its managers can accept. (Annex 19 1.2e)
			Different risk levels require different mitigation measures and levels of authority. *Usually, only the accountable manager [or delegate] can accept a Level B risk. Other managers may be able to accept level C and D risks depending on their seniority and safety accountabilities.* *Describe:* *- how your organisation enforces the level of design risk that managers can accept up; and* *- where this is documented.*
		7	*The organisation addresses identified risks as part of its process to improve safety performance. [SP]*
			Risk mitigation strategies could include: 1. *Design for Minimum Risk - Design the system (e.g., operation, procedure, human-to-system interface, equipment) to eliminate risks. If the identified risk cannot be eliminated, reduce it to an acceptable level by selecting alternatives.* 2. *Incorporate Safety Devices - If identified risks cannot be eliminated through alternative selection, reduce the risk by using fixed, automatic or other safety devices or features, and make provisions for periodic functional checks of safety devices.* 3. *Provide Warnings - When neither alternatives nor safety devices can effectively eliminate or adequately reduce risk, warning devices or procedures are used to detect the condition and to produce an adequate warning. The warning must be provided in time to avert the hazard's effect(s). Warnings and their application are designed to minimise the probability of inappropriate human reaction and response.* 4. *Develop Procedures and Training - Where it is impractical to eliminate risks through alternative selection, safety features and/or warning devices, procedures and training are used. However, management must concur when procedures and training are solely applied to reduce risks of catastrophic or hazardous severity.*
		8	*The organisation has proposed the level of risk that individual managers can approve.*
			Guidance for the Managed Level *This level of risk that can be approved when it is documented. When an individual or organisation accepts a risk, it does not mean that the risk is eliminated (i.e. some level of risk always remains, called residual risk). Rather, the individual or organisation accepts that the residual risk is sufficiently low. There is a less demanding process for analysis, assessment, mitigation and control when the resulting risk is minor.* *The organisation ensures that managers can only accept risk levels that have been determined and documented.*
		Resilient	
		1	*The organisation reviews its operational risk baseline at least once per reference period.*
			Most risk classification schemes are based on theoretical data. Mature organisations can use real performance data to review their risk criteria on the basis of their performance.

			Describe: - *the year in which the last assessment was conducted* - *what triggers a review;* - *how the operational risk baseline is measured;* - *where the output from these processes is documented ;* - *what is measured* - *whether actual operational performance data is used to review the organisation's risk criteria. To achieve this level, at least 5 years of performance data are required to be used in the review.*
		2	*The organisation has a process to assure that improvements in safety, which address identified key risks, are planned for and appropriately budgeted.*
			Provide relevant examples of what is included in your organisation's long-term (i.e. at least five years) business plan. Consider how safety is provided for within the business plan and how the allocation of resources to safety activities are achieved within the business plan. Consider also how the demands of non-safety activities are balanced with safety allocations both at the planning and budgetary levels.
		3	*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).*
			Guidance for the Resilient Level *The organisation uses actual operational performance data to review its risk criteria, meaning the level of risk that the organisation can accept. To achieve this level, at least 5 years of performance data are required to be used in the review. This level of risk is ensured to be in line with the risk-tolerance level defined for the safety board of the organisation.*
		4	*The organisation analyses human contribution to risk (positive and negative).*
			Humans are contributing both negatively to the risk (errors, slips, lapses) and positively (resilience, flexibility, adaptability). Usually, human error is analysed, but not the positive contribution (the success stories). For a YES answer, the latter must also be looked for in an organised, systematic way (this is part of the Safety II philosophy). *Describe what is in place within your organisation and provide examples of where both positive contribution has been made.*
		5	*The organisation is identifying performance deviations and deficiencies to establish a buffer from the level of operational risk it can accept. [SP]*
			Most organisations do not want to operate at the limit of their tolerable operational risk [as further occurrences will push their performance in to the unacceptable region] and therefore set a buffer or margin of error between the level of risk that is unacceptable and the level they are prepared to operate at. N.B. A framework could be a process. *Describe:* - *who is responsible for ensuring improvements to the risk control framework (this should be at a senior management level);* - *who is involved in the activity of identifying performance deviations;* - *what methods are used to identify performance deviations and deficiencies (e.g. reporting system);* - *how often the risk control framework (processes and procedures, risk baseline) is reviewed;*

			- *whether a Corrective Action procedure is in place.*
			Guidance for the Resilient Level *When these risk controls are monitored periodically, the level 'Achieved' will enable the ANSP to claim the 'Assured' level. The organisation should be able to demonstrate the last time that the review occurred, and that it was in line with the stated periodicity.* *Deviations or deficiencies identified in the monitoring should be part of the risk-control process, and it should trigger changes to the risk controls. This means that the risk-control process should include a process to develop corrective actions, e.g. Further changes to the functional system. There is a formal responsible within the organisation to ensure improvements in the risk-control framework.* *There is a corrective-action procedure that monitors performance deviations and deficiencies from its operational risk baseline*

Appendix 2 4. Safety Assurance

		10.1 Internal and independent (external) SMS audits.	
		Informal Arrangements	
		1	*There is no plan to conduct systematic SMS audits.*
			Note: An SMS Audit is considered to be a formal review of the application of the organisation's safety processes as defined in its safety management manual. *Safety audits focus on the integrity/compliance of the entire SMS whereas safety surveys proactively concentrate on particular elements of the SMS or procedures of specific operations (e.g. problem areas, areas of confusion). The surveys are used to identify 'what goes right' and 'what needs to improve'.* *Safety surveys provide a systematic review to recommend improvements where needed, to provide assurance of the safety of current activities, and to confirm conformance with applicable parts of the SMS.*
		2	SMS audits and gap assessments are conducted on an ad hoc basis.
		Defined	
		1	*The organisation has developed a plan to formalise how SMS audits are conducted.*
			SMS Audits include the need to: - *Identify the scope of the audits (i.e., what will be audited)* - *Identify the target of audits and sample size (i.e., who will be audited)* - *Identify triggers for audits (planned, for cause, risk-based)* - *Develop audit material (i.e., checklists)* - *Identify who will conduct the audits* - *Estimate resource requirements* - *How people will be trained to conduct the audits* - *Develop an audit plan*
		Managed	
		1	*The organisation has implemented a formal process describing how to conduct SMS audits in a systematic way.*
			The formal process should include: - *Scope of audits (i.e., what will be audited - must be all whole SMS)* - *Target of audits and sample size (i.e., will include all departments/facilities that have SMS responsibilities and a recognised approach to sampling)* - *Triggers for audits (i.e., must at least include a planned cycle that assures all SMS elements are audited across all target areas within the cycle as well as a requirement for audit for cause)* - *Requirements for capturing and actioning findings, opportunities for improvement* - *Documented audit material (i.e., guidelines, checklists)* - *Documented training requirements for auditors (auditing techniques should be acquired formally and regularly refreshed/ retrained).*

		2	*The organisation conducts SMS audits in accordance with a documented plan that assures that they are resourced and completed on schedule.*
			It is expected that there is a documented plan that requires SMS Audits be conducted over the course of the audit cycle all SMS Elements are audited (NOTE: if a formal process for risk-based auditing has been implemented then select Yes as a response (see Question 10.1 D1) . The plan should be reviewed and revised as necessary annually and include: - *scope of audits planned for each year (all SMS processes, sub-set or processes, etc.)* - *which departments/facilities will be audited* - *how many personnel resources will be needed for both the audit team as well as the departments being audited* - *budget for other associated costs such as travel, consultants, etc.* - *timelines for the audits planned for that year* - *planned audit for the 2nd and 3rd years of the audit cycle.*
		3	*SMS audits result in corrective actions for findings and planned actions for improvements being identified, captured and tracked including the relevant areas of responsibility from across the organisation (e.g., SMS, operations, engineering, operational training, etc.). Annex 19 3.3.*
			To answer YES to this question, audit findings should result in actions on all relevant areas, including, but not limited to, safety processes and procedures, operational and/or SMS training, etc. *Provide details of some improvements made as a result of an SMS Audit.* *It is expected that:* - *Audit findings and opportunities for improvements can result in actions on all relevant areas in which SMS processes are applied including but not limited to safety, operations, operational training, engineering, etc.* - *Audit findings require a root cause analysis along with an action plan* - *Opportunities for improvement require a management response including, if appropriate, planned actions* - *All planned actions are assigned to responsible persons/areas and given due dates* - *All findings, opportunities for improvement and planned actions are captured and tracked until actions have been implemented and the finding/opportunity for improvement closed.*
		4	*The organisation has established a formal process to analyse trends arising from SMS audits.*
			It is expected that: - *at least annually, SMS audit findings are analysed to identify trends* - *trends are included in a formal document such as a management review, which includes any plans for addressing identified gaps* - *results as noted above are shared with the appropriate senior managers including at a minimum - accountable executive and the Safety Manager, as well as any executives or managers impacted by the plans for addressing the gaps.*
		5	*The organisation, where appropriate, conducts reassessments to confirm that any findings corrective actions and responses to observations arising from SMS audits have been successfully implemented.*
			It is expected that, - *The audit process clearly identifies when post implementation follow-up is required to confirm corrective actions (i.e., action plans) have successfully addressed the finding.*

			- *The audit process includes an approach for assessing the effectiveness of action plans, where appropriate.*
		6	*The organisation has a formal process in place to monitor the status of the SMS audit programme (e.g., completion of audit plan, status of findings, planned improvements etc.). [SP]*
			The individual(s) managing the audit programme should monitor and report out to relevant management parties on: *a) whether schedules are being met and audit programme objectives are being achieved;* *b) the ability of the audit teams to implement the audit plan;* *c) status of the findings and corrective action plans;* *c) the performance of the audit team members including the audit team leader and the technical experts;* *d) feedback from audit clients, auditees, auditors, technical experts and other relevant parties;* *e) sufficiency and adequacy of documented information in the whole audit process.*
		Resilient	
		1	*The organisation follows a risk-based approach to SMS audits.*
			A risk-based approach should be implemented for SMS audits. This approach includes: - *Assess risks: assess and rank risks to meeting the organisations safety objectives (i.e., safety risks ALARP, regulatory compliance, strong safety culture, etc.) considering the SMS processes and departments to be audited. For each area set a risk level considering factors such as the performance risks, compliance risks, or risks to the organisation's operations. Note that the SMS audit may result in findings, corrective actions and observations made on the wider organisation.* - *Compose an audit plan: areas with higher risks will be a priority with auditors paying more attention to it and audit them more frequently. Low-risk areas are not a priority. However, it doesn't mean that auditors will neglect them. Instead, auditors will only assess these areas less frequently.* - *Conduct audits as per plan: Audits will take longer for higher-risk areas as more time is needed to ensure that proper risk management exists in those areas. Auditors can then report their findings and present any recommendations for weaknesses identified.* - *Risk-based Follow-up: Track findings and corrective action plans to ensure that the management fixes any weaknesses. A risk level is assigned to each finding so that follow up on high-risk findings occur more frequently, as required.* - *Monitor Changes In Risk: regularly monitor any fluctuations in the risk levels in order to adjust audit plan as necessary.*
		2	*The organisation has a formal process to regularly (at least once per audit cycle) evaluate the effectiveness of the audit programme. [SP]*
			The SMS audit programme should be reviewed to assess whether its objectives have been achieved. Lessons learned from the audit programme review should be used as inputs for the improvement of the programme. *The individual(s) managing the audit programme should consider the following:* - *review of the overall implementation of the audit programme;* - *identification of areas and opportunities for improvement;* - *application of changes to the audit programme if necessary;* - *review of the continual professional development of auditors;* - *reporting of the results of the audit programme and review with relevant interested parties, as appropriate.* *The audit programme review should consider the following:* *a) results and trends from audit programme monitoring;* *b) conformity with audit programme processes and relevant documented information;* *c) evolving needs and expectations of relevant interested parties;* *d) audit programme records;*

			e) alternative or new auditing methods; *f) alternative or new methods to evaluate auditors;* *g) effectiveness of the actions to address the risks and opportunities, and internal and external issues associated with the audit programme;* *h) confidentiality and information security issues relating to the audit programme.*
		3	*The organisation commissions external SMS audits at least once every five years or once per reference period.*
			To justify a Yes response, at least 2 external reviews need to have taken place in the last ten years. One review per reference period is required and the date of each audit should be given. *It is expected that the SMS Audit plan includes an external audit by an independent body at the initiative of the ANSP at least once every five years (Examples of independent bodies include: Competent personnel from another ANSP, EUROCONTROL, SMS experts, similar stakeholders (e.g., airlines, railways, airports, etc.), dedicated audit entities). Note that if the ANSP requests an audit from the NSA in excess of the requirements of 2017/373, this is an acceptable response to the question. Audits conducted by the NSA at the request of the ANSP may be considered.* *The external audit reports should be contrasted with those conducted internally to understand the delta, if any.*
		4	*The organisation conducts joint safety audits that are planned and completed across units.*
			If your organisation only has one unit, please select Yes and explain this in the Justification *Joint safety audits should be conducted such that:* *- they are specifically captured in the safety audit plan* *- they are conducted across at least two separate units* *- they use the same the same approach (type, questions, checklists, etc.) at all units involved in the joint audits* *- they involve personnel from all units involved.*
		5	*The Safety Review Board / Safety Committee (or similar) oversees the status of the SMS audit programme (e.g., completion of audit plan, status of findings, planned improvements etc.). [SP]*
			The formal workplan for the Safety Review Board (Executive Management)/ Board of Directors Safety Committee should include a planned update on the SMS Audit Programme. The update should include: *- Completion of the audit plan;* *- Summary of the findings and opportunities for improvements;* *- Summary status of corrective action plans;* *- Results of trend analysis(ses);* *- Planned improvements to the audit programme.*

		10.2 Internal and independent (external) safety surveys.
		Informal Arrangements

		1	*There is no plan to conduct systematic safety surveys or safety surveys are conducted on an ad hoc basis.*
		Defined	
		1	*The organisation has developed a plan to formalise how safety surveys are conducted*
			A plan to formalise the conduct of safety surveys would need to: - *Identify the type(s) of safety surveys to be conducted* - *Establish the scope of the surveys* - *Identify the triggers for the surveys (as per plan, for cause critieria, linked to other activities, etc.)* - *Describe the approach(es) to be used for the surveys (use of checklists, questionnaires, confidential interviews, direct observation, etc.)* - *Establish a survey plan* - *Identify required training to conduct a survey* - *Estimate resource requirements* - *Identify responsibilities and establish timelines for the above activities.* - *Have completed at least one safety survey with accompanying conclusions and actions generated.*
		Managed	
		1	*The organisation has implemented a formal process describing how to conduct safety surveys in a systematic way.*
			The formal process should include: - *Trigger for survey (i.e. planned cycle, trend analysis, SMS audit, etc.);* - *Determination of scope of safety survey (i.e., what will be the focus of the survey - specific procedures, operations, etc.);* - *Identification of the target of surveys and population to be surveyed;* - *Identification of survey type to be used;* - *Requirements for capturing and actioning results of survey;* - *Documented survey material (i.e., guidelines, checklists);* - *Documented training requirements for those leading safety survey;* *Provide brief details on how this is achieved.*
		2	*The organisation has a documented plan to assure that safety surveys are resourced and completed on schedule.*
			There will be a documented plan that requires Safety Surveys be conducted at planned intervals. The plan will be reviewed and revised as necessary annually and includes: - *Scope of surveys planned for each year (which processes, procedures, etc.);* - *Which departments/facilities will be reviewed;* - *How many personnel resources will be needed for both the survey team as well as the departments being surveyed;* - *Budget for other associated costs such as travel, consultants, etc.;* - *Timelines for the surveys planned for that year;* - *Planned surveys for future years of the survey cycle.*
		3	*Safety surveys result in improvement plans with specific actions being identified, captured and tracked including the relevant areas / persons responsible from across the organisation (e.g., SMS, operations, engineering, operational training, etc.).*

			Expectations include: - *Safety surveys can result in the identification of improvements in all relevant areas in which safety processes are applied including but not limited to safety; operations, operational training, engineering, etc.;* - *Improvement plans are developed for identified gaps, weakness, deficiencies;* - *All planned actions are assigned to areas/persons responsible for managing the actions, and have due dates;* - *All planned actions are captured and tracked until actions have been implemented;* - *Provide feedback to those who are involved in the safety survey.*
		4	*The organisation has established a process to analyse trends arising from safety surveys.*
			Expectations include: - *at least annually, safety survey results are analysed to identify trends;* - *trends are included in a formal document such as a management review, which includes any plans for addressing identified gaps;* - *results as noted above are shared with the appropriate senior managers including at a minimum - accountable executive and the Safety Manager, as well as any impacted by the plans for addressing the gaps.*
		5	*The organisation has a formal process in place to monitor the status and closure of safety survey programme (e.g., completion of safety survey plan, status of findings, planned improvements etc.). [SP]*
			The individual(s) managing the safety survey programme should monitor and report out to relevant management parties on: *a) whether schedules are being met and survey programme objectives are being achieved;* *b) the ability of the survey teams to implement the survey plan;* *c) status of the findings and planned improvements;* *c) the performance of the survey team members including the survey team leader and the technical experts;* *d) feedback from staff being surveyed, surveyors, technical experts and other relevant parties;* *e) sufficiency and adequacy of documented information in the whole survey process.*
		6	*Where appropriate, the organisation conducts reassessments to confirm that any implemented recommendations arising from safety surveys have been successful. [SP]*
			Expectations include: - *Safety survey process clearly identifies when post implementation follow-up is required to confirm recommendations (i.e., action plans) have successfully addressed the finding;* - *Safety survey process includes an approach for assessing the effectiveness of action plans, where appropriate.*
		Resilient	
		1	*The organisation has a risk-based approach to safety surveys.*
			A risk-based approach to safety surveys should include the following: - *For each observational area (specific procedure, type of operation, etc.) and department, a risk level is set. There are several factors that surveyors examine during this process. They may consider the safety performance risks, compliance risks, or risks to the company's operations. Each risk area is ranked and assigned a score. Once all areas assessed, scores from the different risk areas are combined to create an overall risk score. This way, high-risk areas can be separated from*

			those that have lower risks; - *Higher risk areas will be surveyed more frequently. Low-risk areas will be surveyed less often. In either case, how often each area, service type and department will be surveyed is based on the risk assessment;* - *Document a schedule based on the risk assessment.*
		2	*The organisation commissions external surveys at least once every five years, meaning once per reference period.*
			To justify a Yes response, at least 2 reviews need to have taken place over the last ten years. Evidence of the date of these surveys should be provided. *The survey plan should include an external survey by an independent body at least once every five years (Examples of independent bodies include: Competent personnel from another ANSP, EUROCONTROL, SMS experts, similar stakeholders (e.g., airlines, railways, airports, etc.), dedicated survey entities) Note this is not an exhaustive list.*
		3	*The organisation has implemented observational techniques to measure safety performance (e.g., Normal Observation Safety Survey – NOSS or Day-to-Day).*
			It is expected that: - *the survey plan includes at least one type that involves the direct observation of front-line personnel working in operations, for example NOSS, Day2Day observations, workload monitoring (does not include regular proficiency checks of personnel) in order to identify threats, errors and/or positive working habits;* - *an observational survey-type must be completed at least once every two years.*
		4	*The organisation conducts joint safety survey activities that are planned and completed across units.*
			If your organisation only has one unit, please select Yes and explain this in the Justification *Joint safety surveys should be conducted such that:* - *they are specifically captured in the safety survey plan;* - *they are conducted across at least two separate units;* - *they use the same the same approach (type, questions, checklists, etc.) at all units involved in the joint survey;* - *they involve personnel from all units involved.*
			Guidance for the Resilient Level - *Safety audits focus on the integrity/compliance of the entire SMS whereas safety surveys proactively concentrate on particular elements of the SMS or procedures of specific operations (e.g. problem areas, areas of confusion). The surveys are used to identify 'what goes right' and 'what needs to improve';* - *Safety surveys provide a systematic review to recommend improvements where needed, to provide assurance of the safety of current activities, and to confirm conformance with applicable parts of the SMS;* - *During safety surveys, auditors examine procedures or processes related to a specific operation to identify weaknesses and/or areas for safety improvement within the aviation service provider's organisation;* - *Safety surveys are conducted on the basis of a safety survey plan;* - *The safety survey's results are documented in a survey report that also includes the actions to be taken;* - *Lessons learned from safety surveys are disseminated and the actions identified are carried out within the defined time frame. The follow-up is conducted in a systematic way; in addition, the organisation is aware to what extent the lessons learned drive changes into the SMS;* - *External surveys and SMS audits are carried out by an independent body (e.g. EUROCONTROL, SMS experts, and competent personnel from other ANSPs);* - *The topics for safety surveys and SMS audits may be identified by means of safety performance (e.g. indicators, trends) as well as through suggestions from*

			members of staff and occurrence notifications from different reporters/reporting entities (e.g. ATCOs, pilots, aerodrome personnel, operators). A risk-based approach can be applied if deemed necessary; - *Data gathered in the course of meetings (e.g. between ANSPs and operators, international best-practice exchange) may also be used to trigger a safety SMS audit. External data could also be gained from stakeholders' 'complaints'.*
		5	The Safety Review Board / Safety Committee (or similar) monitors the status and closure of safety survey programme (e.g., completion of safety survey plan, status of findings, planned improvements etc.). [SP]
			The formal workplan for the Safety Review Board (Executive Management)/ Board of Directors Safety Committee includes a planned update on the Safety Survey Programme. *The update includes at a minimum:* - *Completion of the survey plan* - *Summary of the results* - *Summary status of improvement plans* - *Results of trend analysis(ses)* - *Planned improvements to the safety survey programme*

		8.1 A continuing organisation wide process to report and investigate safety occurrences and risks, supported by JC and with measurable safety improvements.	
		Informal Arrangements	
		1	*There is an informal system in place for reporting safety occurrences, but reports are not reviewed systematically.*
		2	*The reporting system is not organisation-wide.*
		3	*Investigation is done on an ad hoc basis with little or no feedback.*
		Defined	
		1	*The organisation has developed an occurrence reporting and investigation system.*
			In many organisations, the occurrence reporting system and investigation system are the same. If this is not the case describe what is in place within your organisation.
		2	*The organisation investigates occurrence reports as appropriate but analyses all occurrences.*
			Only significant occurrences are required to be investigated, however all occurrences should be analysed to establish trends and how the threat may influence the ATM system of if the occurrence is safety related. *Describe what is in place within your organisation.*
		3	*The organisation provides informal feedback to staff on investigation findings*
			Note: This question is about general feedback to all relevant staff in the organisation.

			Describe: - *what methods are used to provide feedback to staff (e.g. intranet, posters, leaflets, safety bulletin, displays, meetings);* - *how often feedback is provided. In some ANSPs there may be a requirement for feedback to be provided in accordance with regulatory requirements.*
		4	*In addition to adapting rules and procedures following safety occurrences, the organisation analyses its risks more strategically.*
			Safety Interventions and Enablers *In addition to adapting rules and procedures following safety occurrences, the ANSP analyses its risks more strategically. Safety interventions, or safety mitigating actions, do not include systemic or structural solutions — instead, they just consider human actions or technical failures associated with specific occurrences.*
		Managed	
		1	*All reported ATM related occurrences follow a risk classification process (Annex 19 3.1.1)*
			Not all occurrences are equal. As competent resources are limited, ANSPs are constrained to focus their efforts primarily to the higher-risk occurrences. In order to do so, such occurrences must be systematically risk-classified. Algorithms/tools such as the EUROCONTROL RAT can be used. *Briefly describe the risk classification process that is in place in your organisation.*
		2	*The organisation has ~~a~~ formal Mandatory Occurrence Reporting (MOR) and Voluntary Occurrence Reporting (VOR) and investigation process(es).*
			Per requirements contained in EU 376/2014.
		3	*The organisation provides feedback directly to those who report occurrences or hazards and any corrective actions taken as a result of their report.*
			Note: This refers to direct, personalised feedback. *Note: Only feedback for significant occurrences need be provided.* *Describe:* - *how feedback is provided to reporters of occurrences or hazards with respect to what corrective actions have been or will be taken as a result of their report;* - *at what point this feedback is provided.*
		4	*The organisation checks to ensure that all required occurrences have been reported. [SP & CI]*
			Describe: - *what methods are used to carry out such checks. (A variety of means may be used to ensure that all required occurrences have been reported (e.g. safety audits and surveys, communication and exchange with stakeholders (airlines, airports, other ANSPs. During safety investigations, checks could be made to confirm that operators and specialists are knowledgeable of what needs to be reported and to confirm that they are reporting occurrences as required).* - *how often such checks take place;* - *what is done in the event of insufficient reporting being identified.* *In addition, that all required occurrences have been reported could be ensured through:* *1) Continuous monitoring of the reporting level (proportion of severity levels);*

			2) Continuous monitoring of the occurrence level (proportion of traffic vs total number of occurrences); *3) Trust and adherence of Just Culture principles.*
		5	*Human factors and just culture principles are used in safety investigations*
			To meet the requirement of this question a Human Factors method or taxonomy employing neutral language should be used to determine the underlying factors leading to incidents. A Human Factors taxonomy by definition takes a systems-based viewpoint, focusing on the conditions and contributory factors that led to certain human actions or inactions. From this standpoint, the actor involved (operator, engineer, other) cannot be blamed (unless there was evidence of reckless behaviour or malicious intent), and so the taxonomy itself should be blame-free and non-pejorative, as should be the investigation process itself - fact-finding, listening, and trying to understand why it happened, so that it can be avoided next time, whether by this individual or another. *Investigation can be a disturbing experience for those at the receiving end (e.g. operators, technicians, other support staff), particularly if the techniques used are judgmental rather than fact-finding. Undue focus on individual contributions will lead to a feeling of being blamed. Terms used during the interviews or in the reports can also be blaming. Neutral language, explanatory factors and narratives must be used, aimed not at the individuals, but the system.* *In line with the holistic, systemic approach to safety investigation, the process must also take due account of HF involved in an incident. Issues such as training, bias, team factors etc. must be considered alongside the technical aspects, for a fair and objective identification of all explanatory factors, which may then lead to remedial actions.* *Describe:* - *what HF method or taxonomy is used within your organisation. Examples are ETOKAI or HFACS* - *how you ensure that negative language is avoided during the investigation process and in the taxonomy.*
		6	*The organisation keeps formal records of all incident and accident and any other occurrence reports and related information.*
			Guidance for the Managed Level *The organisation has a formal reporting and investigation system that is compliant with the requirements of Regulation 376/2014 and Regulation 2018/1139. Key elements are both well established and exploited in the organisation's management system, for example covering such elements as:* - *mandatory and voluntary reporting,* - *there is a formal process in place to ensure that corrective and preventive actions are monitored and managed,* - *the occurrences and related investigation information is recorded and personal data are secured,* - *De-identified information can be disseminated within the organisation, as required;* - *Personal details are protected and only used to investigate occurrences with a view to enhancing safety.* *In addition, staff are allowed, and even encouraged, to provide solutions either during the initial reporting or during the incident interview, as appropriate. Finally, the occurrence-reporting system has formal ways to provide feedback to occurrence reporters, as a minimum, either with the result of investigations or corrective actions to be implemented.*
		Resilient	
		1	*The organisation provides regular formal feedback from safety investigations results to all relevant staff and feedback to legitimate interested parties [for instance airlines and airport operators].*

			Please describe what feedback is required, what is provided and how long after the investigation is feedback provided. *Note: JC principles must be respected, i.e. ensure those involved cannot be identified. This refers to any type of useful findings that are regularly fed back to all staff, so that everyone can benefit and learn the lessons. This should be done in a systematic, organised way.*
		2	*The ANSP works with other organisations in safety critical or safety related industries (such as airlines, other ANSPs or non-aviation organisations) to conduct external comparative analysis of its reporting and investigation process.*
			A number of performance indicators of the reporting system can be used for external comparative analysis, such as ratio of reports, distribution by severity/risk, etc. Testing one's own performance against other similar organisations can help identifying gaps and sharing valuable lessons.
		3	*The organisation allocates explanatory factors to all risk classified occurrences.*
			Investigated occurrences, particularly when they are risk-classified, must have a thorough list of explanatory factors (causal and mitigating). These are the only elements that allow interventions, as well as building a risk-weighed picture for the operation, thus giving the appropriate tools for safety improvements. Such safety improvements can be both ways: eliminating weaknesses and increasing resilient performance.
		4	*The organisation ensures the quality of its investigation process.*
			Describe: - *how long after an investigation is the quality and effectiveness assessed;* - *what methods are used to carry out such measurements (examples could include safety audits and surveys, reviews, meetings, through a SMS Continuous Assessment process, trend analysis);* - *what is the frequency and scope of the measurements;* - *what is done with this information;* - *whether you have any challenges in balancing efficiency and thoroughness. If so, describe what is being done to alleviate these problems;* - *How the consistency of investigations is assured.* *KPIs should include: investigation backlog, average time of investigation per type of occurrence (and risk category), ratio of accepted recommendations, average delay between reporting and investigation, ratio of risk-classified occurrences, consistency of using of explanatory factors.* *Examples of appropriate improvement measures should include:* - *continuous professional improvement of investigator skills;* - *Usefulness of investigation reports for external actors;* - *training / coaching;* - *periodic peer review of investigations and moderation of the review results.*
			Guidance for the Resilient Level *The organisation actively reminds staff and promotes the reporting of occurrences, either by safety-promotion campaigns, surveys and/or audits that emphasise the importance of occurrence reporting.* *The organisation measures the quality and effectiveness of its investigation process. This concerns more the quality of the process, and less to the effectiveness of the investigation output. In particular, the number of open occurrences that require investigation, thereby monitoring the time taken to close the investigation.*

			Good practices include, for example, to apply a moderation process to ensure consistency of the investigations and that the data are recorded, stored, and are of adequate quality and available for future analysis. *Notifications on relevant ATM/ANS-related occurrences that have been reported by other organisations (e.g. operators/pilots) are included in the investigation process of the ATS provider. They may also be used for random testing that these occurrences are reported internally by its staff. Where available, automated safety data recording systems are applied, and information used in the identification and investigation of occurrences.* *The quality of the investigation process is reviewed in the course of internal audits, surveys and peer-review meetings (e.g. safety experts from adjacent ANSPs). The results from external oversight activities are used in order to improve not only the quality but also the effectiveness of the investigation process.* *Safety-promotion activities (e.g. briefings, safety days, leaflets in the OPS room) focusing on mandatory occurrences are conducted regularly.*
		5	*The organisation is adopting additional or different models and approaches to extend its investigation processes e.g. system thinking. Through these, they are actively looking to identify strengths, opportunities and what contributes to resilient barriers and successful outcomes, which helps to sustain safe and resilient system performance.*
			Safety is not only about failure and weaknesses that contribute too incidents and occurrences, but also about discovering how organisations sustaining service provision in the presence of uncertainty and performance variability. Discovering the positive characteristics of the ANSP & associated ATS in this way, can provide a different and alternative view that can lead to opportunities to make improvements in the effectiveness of service provision as well as discovering and learning the positive traits that can be further embedded in training.-This is one facet of, for example, a Safety II philosophy as well as an active approach to understanding resilient performance.
		6	*The organisation is seeking weak signals in operations.*
			Weak signals are seen as indicators of potential problems that can disrupt service provision and can lead to, or contribute to, safety risks and impact or influence safety performance. *Weak signals are, not immediately visible. Neither are they readily seen or found in regular reporting processes. For example, sector overloads may be seen as a safety issue, but can also be seen as indicators of systemic issues that are not obviously apparent and visible.* *There are various techniques available to seek and reveal such weak signals.* *As soon as a weak signal is identified, it ceases being a weak signal. Addressing this identified issue is a contribution to organisational learning which may be used within the organisation to make technical, operational or structural changes.* *Examples of weak signals could be a systematic use of a wrong procedure, repeated entries in the logs of the similar issues, people creating workarounds to something not working as designed, etc.* *<u>Resources</u>*

			From Safety-I to Safety-II: A White Paper 2437.pdf (skybrary.aero) *Addressing weak signals is part of Safety II and shows a proactive approach to resilient performance.* *Weak Signals in ANSP's Safety Performance (skybrary.aero)*

		8.2 An organisation-wide improvement process based on occurrence investigations, with measurable results.	
		Informal Arrangements	
		1	*Improvements from occurrences rarely happen, and not in a systematic way.*
		2	*Recommendations, when issued, are not followed or are systematically viewed as a nuisance.*
		Defined	
		1	*The organisation has a process to issue safety recommendations and monitor their implementation as corrective actions.*
			Occasionally some recommendations, considered critical, generate an improvement action and are followed. There is a plan to make issuing safety recommendations systematic.
		Managed	
		1	*Investigations of occurrences result, if necessary, in recommendations and corrective action.*
			Briefly describe: - *the process that is in place to ensure that corrective actions are managed effectively (it is expected that, following an investigation, appropriate corrective actions are developed, documented, and implemented in line with established investigation processes);* - *how effective the investigation and remedial action process is (the implementation of the corrective actions could monitored through an established system (e.g. continuous improvement system));* - *give some examples of corrective actions taken.* *Investigations should include a formal process by which findings are shared with relevant internal stakeholders (training, procedures, technology, etc.) and the necessary actions to address safety deficiencies identified and tracked.* - *If examples are not available, then the response to this question should be "No" with some relevant justification provided.*
		2	*The organisation has implemented quantitative indicators (e.g., Number of sector over-delivery events, system technical errors/ failures, response time etc.).*
			Describe what indicators are used within your organisation.

		3	*Staff reporting safety occurrences are encouraged to suggest ways to solve problems identified in the occurrence investigation.*
			Briefly describe what mechanisms are in place that enable staff to suggest ways to solve problems identified in the occurrence investigation (a variety of means may be used to collect feedback from staff reporting safety occurrences (e.g. investigation interview, review and comment on the draft investigation report). *Give some examples of suggestions that have been put forward by staff who have reported a safety occurrence.*
			Guidance for the Managed Level *Examples of safety-related information are:* - *supplementary instructions;* - *temporary operating instructions;* *safety notices.*
		Resilient	
		1	*The organisation measures the effectiveness of its safety improvement plans. [SP]*
			This should include, as a minimum, e.g. ratio and number of repeat recommendations, delays in implementing recommendations, ratio between accepted and rejected recommendations, focus on human-centric improvement actions vs. systemic changes.
		2	*The organisation routinely coordinates improvements with relevant external stakeholders.*
			Relevant external stakeholders can be: the local airlines, airports, suppliers, external partners (e.g. MET provider, if applicable), etc. *Note: This question deals with improvements rather than corrective action plans.*
		3	*The organisation works with stakeholders to conduct external comparative analysis of its safety improvement investigation process as appropriate with a view to performance improvement. [SP & CI]*
			Note this question is an extension of the safety investigation process that may be required for unusual occurrences. *Describe:* - *What form of organisational learning your organisation is seeking to achieve from the comparative analysis. For example airspace re-design or increased levels of automation that may have been instigated in response to occurrence investigations;* - *with which external stakeholders comparative analysis is conducted;* - *what type of comparative activity is carried out. An example may be to compare the way occurrences are recorded, investigated and analysed;* - *Indicate the frequency and rationale for which external comparative analysis is carried out.*

		11.1 Documentation and reporting mechanisms are in place to ensure that internal and external stakeholders understand how safety risks introduced during and/or following implementation of change are managed and mitigated.	
		Informal Arrangements	
		1	*There are no change management processes in place even though the organisation recognises that impacts of change must be managed*
		Defined	
		1	*The organisation has developed change management processes to assess and quantify the risks of change.*
			Change management processes are being developed to address how the impact of change can be assessed from a risk perspective, how to involve stakeholders, how to document and quantify the impacts, and who will determine whether a change is authorised or not.
		2	*The organisation recognises that change impacts and can influence human performance. Consequently, considerations of human performance during system or organisational changes should be undertaken in change processes to enable discovery of such impacts and changes on human performance.*
			Change can often impact human performance in ways that not so easy to predict, and so should be considered explicitly in the change process. *Describe how the process ensures:* - *to what extent end users should be consulted about the change; and* - *how they should be given the opportunity to provide their feedback.*
			Guidance for the Defined Level *The organisation does inform other organisations and, where feasible, stakeholders affected by the planned change. Furthermore, the organisation and these other organisations, in coordination, shall determine: (1) the dependencies with each other and, where feasible, with the affected stakeholders; and (2) the assumptions and risk mitigations that relate to more than one organisation or stakeholder.*
		Managed	
		3	*The change management processes are tailored for importance and the resources needed for the change. [SP]*
			Describe how your organisation's methodology allows for the scaling of changes. E.g. there could be a 'light approach' in place that is used for minor changes or for changes where there is no safety relevance. *It is expected that:* - *an initial assessment is held to determine the safety impact and benefits, which then guides the amount of work and resources devoted to justifying that the change is safe to implement;* - *the safety planning process allows the change manager to vary the approach to safety assurance (for instance to follow a 'light approach' for a minor change) provided the approach proposed is approved and endorsed in the resultant project Safety Plan;* - *staff involved in change management are trained to ensure that the content and depth of the assessment (e.g. light approach / minor change, routine change, full*

			assessment) are appropriately applied; - *there is a regular exchange (e.g. through meetings) is used to ensure a systematic approach throughout the organisation.*
		4	*When designing new procedures, airspace or equipment, the organisation has formal processes for addressing failures that have been identified through occurrences, investigations or safety surveys. [SP]*
			Achieving a safe design is part of the change management and risk management processes. *Describe:* - *what mechanisms are in place to detect problems or failures in the system;* - *what formal processes exist that feed information identified from occurrences, investigations or safety surveys into design solutions.*
		5	*The organisation's change management processes involve all relevant internal stakeholders.*
			Describe to what extent each type of user is involved in the change management process/es. Particularly, state whether front-line operators are involved in assessing the safety impact and suggesting corrective actions, or whether this is done by managerial roles. *Provide an example of the internal stakeholders who were involved in a recent change. These can be the safety manager, safety experts, subject matter experts, adjacent units/departments affected by the change, ATCOs etc.*
		6	*The organisation's change management processes involve all relevant external stakeholders (including the regulator).*
			Describe to what extent external stakeholders are involved in the change management process/es. *Provide an example of the external stakeholders who were involved in a recent change. These can be the airport, airlines, military, adjacent ANSPs, engineering companies, the regulator, etc.*
		7	*Lessons learnt on human performance are fed back into design activities to reduce the likelihood of reoccurrence.*
			Describe how, - *when beginning the change management process, related incident information is searched to identify key safety learning points relevant to the change;* - *to what extent have trained HP specialists contributed to the assessment of the change;* - *what methods to obtain knowledge of changes are defined.*
		8	*Operational trade-offs in decision making, especially those that involve the allocation or redistribution of resources across KPAs, are evaluated for effects and consequences on operational and organisational risk.*
			Describe what techniques and protocols are used to assess the effects on safety when introducing new processes and procedures that improve efficiency and / or reduce costs. *Provide evidence that:* - *Demonstrates the use of these techniques and protocols;* - *Provide evidence of interventions to maintain safety that manage the effects of change; and* - *Show that they are the subject of post-implementation reviews that contribute to learning;* - *Prior to choosing an option, analysis should include the safety risk assessment of each option being considered.*

		Resilient	
		1	*The organisation measures the effectiveness of the change management process.*
			In order to establish a track record, two reviews are required to meet the requirement of this question. *Alternatively, there should be a continuous monitoring process in place.* *Describe how the effectiveness of the change management process/es is measured.* *Provide some examples of gaps that have been identified and remedial actions put in place to improve the effectiveness of the change management process.* *Specifically, state:* - *when was the last time the change management process/es was measured;* - *whether this assessment indicated changes were required to the change management process;* - *how often the change management process is assessed to determine its effectiveness.* *Note:* *1) This process can be embedded into an overall review process;* *2) When describing the review process consider the results of the last review and the subsequent actions taken;* *3) This question should cover operational, technical and organisational change.*
		2	*There is a function or role in place that manages and monitors the potential impact of multiple changes (from a programme view) on human performance.*
			Many organisations today have multiple change projects ongoing that overlap in time. Each project may have assessed its own impacts on safety and human performance, but it can be harder to see and predict the cumulative impact of several changes coming to fruition in the same timeframe. Additionally, even in terms of pre-deployment and deployment, there may be a need for different change projects to call upon the same resource pools at the same time, e.g. safety experts for safety cases, or operators for testing and validation new kit etc. *Describe:* - *whether there a role or function within your organisation wherein the collective impact of multiple projects is evaluated to avoid problems (e.g. resource conflicts);* - *the means used to assess the combined impact of multiple changes to operational systems on safety as well as operator performance include factors such as workload, situation awareness and fatigue;* - *Whether one change can interfere with a controller's or engineer's operational model and the potential for mode confusion.*
		3	*The organisation's long-term investment planning includes strategic provision of safety activities.*
			Provide relevant examples of what is included in your organisation's long-term investment programme. *It is expected that an organisation has an approved Safety Strategy spanning the next five years at least.*
		4	*The organisation engages in cross-comparison and sharing of change management processes with other ANSPs/industries.*

			To achieve a Yes response, what is in place needs to be formal in nature rather than carried out on an ad hoc basis. *Describe:* - *which ANSPs/industries are engaged with regard to cross-comparison of change management processes;* - *when the last cross-comparison exercise took place.*
			Guidance for the Resilient Level *A total system approach to the management of change is employed. The ATM system is considered as a whole rather than focusing on the human element.* *There is a strong relationship between in-service monitoring and design. Change assessments employ a common set of operational hazards and they are monitored in service to confirm the effectiveness of the risk controls and mitigations. Besides, monitoring criteria tailored to the change implemented are part of the change management processes. These criteria are specific to each change and hence ensure that the change will remain acceptably safe for as long as it is in operation.* *Transitional risks are risks linked to the transition from the current functional system to the changed functional system. These might be mitigated, e.g., by training depending on the nature of the change and the transitional risk associated to it.*
		5	*Emerging or changing trends in human performance are identified.*
			As change occurs, there may be longer-term unintended impacts on human performance, e.g. loss of certain skills as new automation is put in place, changes in how teams work together, etc. *Describe:* - *how trends and shifts in human performance are identified and tracked, e.g. via workshops with operators (both more experienced and newer operators) run post-change (e.g. 6 months to a year later) to identify such shifts and mitigate any potential safety impacts;* - *what trends have been identified.*

		9.1 Contingency plans or emergency response procedures that document the orderly and efficient transition from normal to emergency operations and the return to normal operations	
		Informal Arrangements	
		1	*The organisation has limited emergency response procedures for the most likely abnormal and unexpected situations.*
		Defined	
		1	*The organisation has developed emergency response procedures for each unit.*
		Managed	
		1	*Emergency response procedures have been fully implemented and distributed to the appropriate staff. Annex 19 1.4*
		2	*The organisation has a formal schedule for exercising types of emergency and responses.*
		3	*The organisation rehearses desktop emergency response procedures in accordance with the formal schedule (and involves frontline operators).*

		4	*The organisation's emergency response procedures have been rehearsed through live or simulated operational exercises in accordance with the emergency plan schedule.*
		5	*The organisation's emergency response plan has been properly coordinated with the emergency response plans of other organisations that it must interface with during the provision of services. Annex 19 1.4*
			Guidance for the Managed Level *The organisation ensures that emergency response procedures are updated at least once per year, e.g. contact information.* *To achieve the managed process, organisations should have a defined and documented process that has been shown to work.* *Emergencies include sudden system failures or other abnormal or unexpected situations, such as:* - *the loss of major ~~air traffic~~ systems, ~~(e.g. radar display picture, electronic flight progress strip system, standby and emergency communications on multiple frequencies due to external interference);~~* - *the loss or failure in support facilities (e.g. power, air conditioning, building integrity);* - *~~aircraft emergencies (e.g. emergency descent, hijack, air defence security);~~* - *disruption of air traffic flows (e.g due to disruption of air traffic services, closure of air traffic centres, aerodromes closure leading to mass diversion);* *The 'plan' should encompass what is to be done, including the interactions with other organisations ~~(e.g. police, emergency services)~~ and the 'procedure' should describe how it is to be done.* *~~See requirement ATS.OR.200(1)(iv).~~* *For example, Letters of Agreement or any other form of service agreement are in place with organisations and support the emergency response plan.*
			Resilient
		1	*The plan is regularly reviewed using the results from the simulations and/or live practice as part of safety performance monitoring. [SP]*
		2	*The organisation carries out comparative analysis on the effectiveness of the emergency response plans against other organisations. [SP & CI]*
			The organisation uses performance indicators to assess the effectiveness of its emergency response procedures, as tested during the regular exercises and rehearsals. [SP]
			Guidance for the Resilient Level *To reach the 'Resilient' level, the organisation should be able to measure the output by running a simulation assessed by a combination of qualitative and quantitative indicators. The simulated exercise may include, for example, aircraft accident, hijacking events, environmental disaster, access to the OPS room, bomb threat, etc.*

Appendix 2 5. Safety Promotion

		12.1 Staff are competent to conduct their obligations under the SMS	
		Guidance for all levels *This is applicable only to staff with SMS obligations.*	
		Informal Arrangements	
		1	*There are no formal competency methods that incorporate safety management principles (including proficiency, licensing and training).*
		Defined	
		1	*The organisation has developed methods to ensure that staff are competent to conduct their obligations under the SMS.*
			Competency Methods' refers to a system where the core professional competence of staff is checked and assessed at a defined intervals confirming that they have a sufficient standard of knowledge and ability to carry out their job safely; competency checks and assessment records must be kept for each staff member together with a gap analysis showing where staff may need additional training. *This Study Area seeks to ensure that there are professional competency checks in place for staff with safety accountabilities/responsibilities, so that they understand how these should be discharged.*
		Managed	
		1	*Competency methods have been designed and implemented to ensure that staff and contractors who directly support air traffic management are trained and assessed as competent to perform the specific duties required of them by the organisation's SMS.*
			It is expected that organisations have an annual or multiannual plan in place for training staff required to undertake safety management competency checks. *Describe:* - *what is in place within your organisation - list the different types of staff who undergo competency checks in safety management;* - *whether there is a scheme for examiners, i.e. to evaluate their competency;* - *who has the responsibility to design safety management principles into the competency methods;* - *how often competency checks (for each professional specialisation) are held. The period between checks may be required by regulation or can be established by the ANSP where there is no regulatory requirement.*
		2	*Records of competence training are kept and maintained.*
			Training records should be kept at least in line with regulatory requirements. *Describe:* - *who is responsible for maintaining records of competence;* - *where records are kept (e.g. database including all training records, Learning Management System, etc.*
		3	*Additional training is delivered to address gaps in competence*
			It is expected that, if gaps in safety management competence are identified, additional training is provided – This can be achieved through a variety of means (e.g. additional training sessions, briefing, coaching, meetings, safety-related communication).

			Provide some examples of where gaps in competence were found and what was done to address these. Also state who is responsible for ensuring safety management gaps in competency schema are addressed.
		4	*Relevant staff and contractors are aware that their actions affect the safety of the wider operation.*
		5	*Relevant staff and contractors are aware that the actions of others could affect safety.*
			The aim of the questions is to ensure that the organisation does not operate in silos and the impact of actions on safety is understood across the organisation. The responsibility rests with management rather than with the staff and contractors.
	Resilient		
		1	*The means by which competency standards are determined are subject to review and improvement.*
			It is expected that safety management training requirements are outlined in the safety management manual or related SMS documentation. *Briefly describe:* - *how competency standards are assessed to determine whether they need to be improved. Examples could be through audits or reviews;* - *what would trigger an audit or review. Examples are through internal audits or surveys or if deemed necessary, by safety relevant personnel (e.g. safety manager) on an ad-hoc basis.*
		2	*Relevant staff and contractors throughout the organisation have responsibility for promoting and improving safety.*
		3	*The organisation reviews and assesses documented safety management responsibilities at least once every five years.*
		Guidance for the Resilient Level	*The assessment should occur at least once per reference period and should be documented in a log that has been verified by the NSA.* *An evaluation of the effectiveness of the SMS training is not necessarily linked to the competence in a licensed role (e.g. ATCO, ATSEPs).*

	13.1 Staff are informed about the safety lessons, safety critical information and safety management policies and standards relevant to their positions.		
	Informal Arrangements		
		1	*Staff have limited knowledge of SMS processes and procedures.*
		2	*Safety-relevant information is not routinely shared.*
	Defined		
		1	*The organisation issues internal staff communications that focus on safety and safety management.*
			Briefly describe what type of methods are used. *A variety of means may be used for communication in regards to safety management (e.g. training, meetings, intranet, posters, leaflets, safety bulletin).*

		2	Relevant staff are informed when safety actions or new safety management procedures are introduced.
		Managed ©	
		1	*Safety is a key focus of internal communications.*
			Describe how your organisation ensures that safety remains a key focus of internal communications. Activities could include: - *internal safety letters and communications;* - *safety days for staff;* - *publication of safety bulletin on a regular basis;* - *fixed location for safety communication on the intranet, established meeting schedule in regards to safety relevant topics.* *State;* - *whose responsibility it is to ensure that safety is a key focus;* - *what type of communication activities are in place for safety.*
		2	*The organisation has a formal process for systematically sharing operational safety lessons learned including human performance aspects. (Annex 19 4.2.c)*
			It is essential that lessons from incident investigation are fed back to the operational workforce, so that people can learn from others' mistakes and also others' ways of solving problems and avoiding safety-related events. *Briefly describe:* - *what methods are used to systematically share operational safety and human performance lessons learned;* - *whether lessons are regularly fed back to operational staff (e.g. controllers etc);* - *whether such feedback includes reference to human performance issues (e.g. issues of situation awareness such as with 'blindspots') where these have been identified;* - *how effective the process is;* - *whether the process is embedded in SMS-related documentation (e.g. investigation process).*
		3	*The organisation tailors its safety communications to meet the recipients' needs. (Annex 19 4.1.2.a & 4.2.d)*
			Not all recipients need safety communication to be at the same level of detail. It should be developed so that it is relevant and appropriate. *Describe:* - *Whether safety communications are adapted to relevant staff's roles within the organisation as well as the SMS;* - *how you know that the safety communications meet the recipients' needs.*
		4	*The organisation disseminates safety critical information to all appropriate staff. (Annex 19 4.2.b)*
			Briefly describe how safety-critical information is disseminated to all appropriate staff. - *How effective is this process?* *Note: Safety-critical information is deemed to be critical action required in the safety operation; e.g. temporary operating instructions, safety notices.*

		5	*Staff are informed when procedures have changed*
		6	*The organisation involves frontline relevant staff in the development of safety-related communication.*
			To meet the requirement of this question, what is in place must be formal in nature and carried out on a regular basis. *Please provide some examples of what type of staff have been involved and in what type of safety-related communication.*
		7	*Staff are informed when procedures have changed.*
	Resilient		
		1	*The organisation qualitatively and/or quantitively measures the effectiveness of its communication on a regular basis and address any deficiencies.*
			Whether part of an overall quality assurance process, or specific reviews, "regular" is understood as a pre-determined, periodic exercise, which should be able to cover the whole communication process within one to three years, depending on the complexity of the ANSP. *Briefly describe the process of how the assessment takes place and the corresponding reporting/correction process, including the date of the last review of the effectiveness of safety communication including the effectiveness of the distribution process.* *With regard to safety management, various means are used to measure the effectiveness of communication (e.g. meetings, internal audits and surveys, investigation system).* *Describe what type of deficiencies have had to be addressed (if any).*
		2	*Staff are given the appropriate means to react on the communications process and to alert the organisation of any perceived problems.*
			This is to be considered as outside of the regular occurrence reporting system. *This question deals with the communication process itself and seeks to identify whether:* - *staff are getting the communication they should get;* - *they receive it in a timely manner;* - *the communication is in the right format for them;* - *what is done to encourage staff to raise safety issues with their managers in the framework of an open discussion.* *It is expected that staff are able to flag up issues associated with whether they receive safety-related communications on time, that it is relevant for them etc.* *Describe how staff are able to react on communications within your organisation. Examples could be: directly or by email to the issuer of the communication; to their manager or safety representative; to the safety manager; during meetings/briefings etc.* *Please provide one or two examples of when staff have alerted the organisation of a communication problem.*
		3	*The organisation carries out external comparative analysis with other ANSPs or industries to assess the effectiveness of its safety communication activity.*

			Briefing describe: - *with which organisations you compare your safety communication activity;* - *how often this carried out;* - *whether these discussions resulted in improvements being made in your organisation.*

		13.2 Appropriate safety information and knowledge is shared with industry stakeholders. Information disclosure complies with agreed publication and confidentiality policies/agreements.	
		Guidance for all levels *Information disclosure should be consistent with the requirements of Regulation (EU) No 376/2014.*	
		Informal Arrangements	
		1	*Safety data and information are treated as confidential.*
		2	*There are no plans to disseminate it to any industry stakeholders.*
		Defined	
		1	*The organisation shares safety information issues / lessons (if relevant) externally.*
			Describe: *- what information is shared, for instance SMI and RI trend analysis;* *- which external organisations you share safety data and information with;* *- what methods are used (e.g. meetings, bilateral communication on expert level etc.);* *Note this question does not relate to sharing radar or other system data.*
		Managed	
		1	*The organisation shares safety information issues / lessons nationally on request (e.g., with airlines, airports and other service providers.*
			That is, by national regulation or by the performance scheme. Note this may require a confidentiality agreement with external bodies.
		2	*The organisation shares safety data and information with international bodies*
			When required by regulation, the organisation shares safety data and information with international bodies.
		Resilient	
		1	*The organisation monitors the effectiveness of communications with industry stakeholders. [SP]*
			Describe how this is done and what indicators are used to monitor the effectiveness of communication.
		2	*The organisation actively shares safety information with international bodies to drive safety improvement beyond the scope of regulation.*

			Describe: *- with which international bodies safety information is shared;* *- whether this is done on an ad hoc basis or whether it is done on a more proactive basis;* *- what methods are used to share safety information. e.g. participation in regular expert group meetings.*
		3	*The organisation has established a formal process to receive and act on safety information exchanged with external stakeholders.*
			Briefly describe: *- whether formal interfaces have been established on a national level to gather safety information (e.g. regular meetings involving all relevant stakeholders (operators, airports, military);* *- whether SMS documentation contains a description of how to act upon receiving safety information (systematically as well as on an ad-hoc basis) in general terms.*

		13.3 A general public knowledgeable of the ANSP's performance through routine publication of achieved safety levels and trends. (Information disclosure complies with the requirements ICAO Annex 13, Attachment E)	
		Guidance for all levels *Information disclosure should be consistent with the requirements of Regulation (EU) No 376/2014.*	
		Informal Arrangements	
		1	*Safety-related performance information is not made available to the public under any circumstances.*
		Defined	
		1	*The organisation makes safety-related performance information available to selected authorities.*
			Examples could be through the Annual Report; on the intranet; through Safety Days open to the public.
		Managed	
		1	*The organisation makes high-level safety-related performance information publicly available according to regulatory requirements.*
			Describe: *- what type of information is made available to the general public;* *- what methods are used (examples could be through the Annual Report; on the intranet; through Safety Days open to the public).*
		Resilient	

		1	*The organisation monitors the effectiveness of communications with the general public. [SP]*
			Describe: *- how effectiveness is measured – for instance web-analysis;* *- what indicators are used to measure the effectiveness;* *- how often measurements are conducted.*
		2	*The organisation makes safety performance information available to the general public beyond what is required by regulation. [SP]*
			Describe: *- what type of safety information is made available to the general public (This may vary from publishing a summary of ANSP performance);* *- how is this information made available. E.g. through the annual business report, internet webpage, through regular meeting with various stakeholders (e.g.ANSPs, air operators, airport operators, military, general aviation).*

Appendix 2 6. Interdependency

		18.1 Mature ANSPs sustain the safe provision of services through managing the organisation in a way that recognises that system safety is at risk from cost, capacity and environmental targets. Such organisations embed safety in organisational processes. The ANSP assigns and distributes resources, both in terms of finances and personnel, to support safe provision of services through safety promotion, safety improvement, safety assurance and safety risk management.	
		Guidance for all levels *The financial and personnel resources that are needed to support safe production* through safety promotion, safety improvement, safety assurance and safety risk management are reviewed annually. Business plans are adjusted annually to ensure that these needs are met.* *The financial calculations should include capital expenditure and staff costs that is budgeted for, allocated, and spent on:* *- The safety functions the organisation needs to meet its compliance activities.* *- Safety activities beyond the needs of formal compliance, e.g. forward-thinking safety-promotion and improvement activities*	
		Informal Arrangements	
		1	*Organisational business planning and strategy makes no formal allowance for safe provision of service.*
		2	*The regulatory, commercial, operational and organisation pressures that can be exerted on safe production, and achieving safety benefit, are not well understood and therefore are not systematically included in long-term investment decisions.*
			Although making provision for safety in long term business decisions may occur on an ad hoc basis, it is not indicative of coherent integrated planning nor is it in the service of structural influences on safety performance. – mark as guidance
		3	*Safety benefits are not systematically included in changes to the functional system (including airspace design changes) other than on an ad-hoc basis.*
		4	*The emphasis in business planning is on cost efficient service provision.*
		Defined	
		1	*Organisational business planning and strategy formally takes account of all safety regulatory requirements.*
		2	*The pressures of implementing business strategies can emphasise efficiency at the expense of safety resilience. To diminish this risk, the organisation has developed a process to ensure that safety levels are not diminished.*
		3	*Safety is managed as an independent part of the wider organisation.*

	4	*It is acknowledged that business decisions can influence safe provision of services.*
		Guidance Material *It is recognised that managing Safety critical organisations involves making business decisions that can lead to conditions that can have adverse effects upon safety directly or indirectly, by introducing changes which alters the way that operational functions work or which change existing relationships and dependencies. Thereby making resources unavailable that enable the organisation to adapt.* *Examples of such situations are provided below:* • *redistributing resources away from safe production, such as the number of operators rostered for duty at any one time through prioritising commercial and business goals.* • *the availability of engineering support to maintain the engineered system as well as updating current systems through updated software versions that require testing capacity that is a limited resource in the time available.* • *Contracting out services for commercial gain and losing operational control over the service availability.* *Practical considerations* *In practical terms ANSPs will be mindful of the influence of regulatory and business decisions that are taken in the normal course of organisational activity and have introduced business risk processes in organisational management systems that take into consideration such risks.* *At differing levels of maturity, these processes will include provisions for mitigations and consideration of business risks as a component of organisational governance.* *In advanced organisations, ways by which business risk management, management of change as well as safety management adopt an integrated approach will have evolved. A consequence of this is that departments in organisations work less in silos but collaborate and draw upon different organisational functions.* *In terms of Safety and HF departments, both have a contribution to make and will be recognised as such within these organisations. Where these contributions are recognised, they are used to form or contribute to arguments that influence business decisions in the context of safe production.* *It is implicit at the mature level, safety first is not seen as the principal argument, this being reserved for external communications. Internally, safe production is seen as always relevant but relative to organisational goals. Choices will be made that give preference to business aims but never compromising safety.*
	Managed	
	1	*The financial and personnel resources that are needed to support safe production through safety promotion, safety improvement, safety assurance and safety risk management are reviewed annually.*
	2	*Resource allocation is assessed as adequate for safe provision of services during corporate business planning for all operational and selected non-operational departments.*

			Provide evidence that appropriate resources are allocated as part of corporate business planning and identify the rationale for the selection of non-operational areas included in the assessment.
		3	*Business plans are adjusted annually to ensure that resources are made available.*
			Organisations review and reappraise business plans so that continuity in safety interventions that mitigate risks identified through safety management are maintained. Monitoring of the plans established and implemented are reviewed and the resource required is secured and programmed into staff planning so that operational staff are released.
			Provide evidence that the implementation of the plan is monitored during the reporting period.
		4	*Trade-offs and prioritisations in operational decision making involve managing finite resources within the operation. Describe how your organisation manages the response to unanticipated demands in the operation to ensure safe production.*
			Provide evidence which shows how the resources have been allocated accordingly.
		5	*Financial and personnel resources are provided to enable the release of staff for safety activities, such as training.*
			Provide training plans and roster schedules to demonstrate that staff are released as planned for training.
	Resilient		
		1	*The organisation incorporates safety seamlessly into its business planning, ensuring the provision of safe production in a transparent manner that is subject to organisational governance.*
		2	*Safety activities, such as training and improvement are incorporated into business planning processes and included in regular business reporting.*
			Decisions around the impact of taking people away from service provision are considered, but the plans and resource are adequately protected as a normal business activity. This may result in delay but the organisation consciously accepts this outcome. Staff are given the opportunity to experience scenarios that help to improve their adaptive capacity to abnormal situations.
		3	*Long term investment planning embeds the provision of safety activities as a strategic corporate activity, as well as the means to achieve the safety benefits that can develop from these activities over the long term and improve the organisations resilient performance.*

			The Organisations long term investment planning will be informed by the potential safety performance benefits and costs of investment proposals by applying a systems view of organisational activities. These will be influenced by HF considerations as well as safety to deliver the operational strategy using emerging technologies. This enables continuous change to be delivered coherently and resourced to sustain safe production.
		4	*The organisation assesses its business models and/or strategies for their impact on its ability to ensure safe production. This involves considering their effects and consequences on organisational and operational capacity.*
			Operational trade-offs are one part of this. There is flexibility in the system that is utilised in operational trade-offs used in decision-making. The flexibility comes from the margins and buffers – slack – that is within the resources available e.g. contingency in number of staff rostered, or through operators unanticipated variability in air traffic flows. *New or changing organisational business models and/or strategies can influence the organisation's capability to adapt. Assessing the changes, effects and consequences on the organisation and its ability to adapt to changing circumstances becomes a characteristic of organisation at the Resilient Level.*
		5	*The organisation discovers and manages the known characteristics of organisational capability that degrade resilient performance.*
			Resilient performance describes sustaining safe production not solely at the operational level but at the organisational level too. *Inherent in this view is how organisations perform. It is not just about being safe. Safety in this sense is an investment in the organisation's capability to manage and cope in various conditions – including disturbances, challenges and opportunities. Describe your organisation's ability to adapt and exploit what is discovered so that resilient performance can be developed through experience that can lead to improvements.* *See further Guidance Material below*
			Guidance Material *The organisation discovers and manages characteristics of organisational capability that degrades resilient performance.* *Resilient performance is grounded in the view that 'resilience' is not what an organisation has, but what it does' (Hollnagel & Nemeth, 2022). In this sense, resilient performance can be discovered and can be 'measured'.* *Behind these statements there are several assumptions. One of which is about the nature of complex systems and the degree to which they can be understood, in in reality anyone can claim to understand the level of complexity. The nature of such systems is that they are characterised by interactions between systems functions that cannot easily be predicted. Such systems are also characterised by uncertainty. Therefore, the idea that we can understand such systems is misleading. However, we can start to make discoveries about such systems.* *Resilient performance shares some Safety-II principles and ideas. In essence, resilient performance is concerned with how organisations sustain safe production. This is how, in the face of challenges and performance variability it manages to sustain its operations. In discovering what the organisation does that achieves this, it is possible to learn what makes resilient performance possible. With this knowledge, coming from what is discovered, the characteristics of resilient performance can be identified, learning taken, and changes made to improve resilient performance or make changes to maintain the capability to adapt. How organisations adapt to changing circumstances and performance variability, which complex organisations just do as a part of safe production, is considered the fundamental means to sustaining safe production.*

			In this sense, safety is seen differently. Safety is seen as an investment in sustaining the organisation in safe production, its goals and objectives. Organisational learning is used to adapt the organisation structurally not solely for conventional safety objectives but to exploit the opportunities that occur and are experienced in everyday operation. *In verifying an organisation's resilient performance, several of the study item 18.1 indicators have relevance. Several of these explore an organisation's ability to adapt and the capacity that there is to adapt. Business decisions and strategies adopted by organisations therefore influence the entities' ability to adapt. These then are opportunities, as well as weaknesses, which characterises resilient performance from which organisations can draw from and institute change.* *Sources of verification can be discovered by looking at how organisations learn from the adaptive nature of their complex operational lives and what do they do with it.*