



**REPORT ON THE EVOLUTION OF THE  
UNIVERSAL SAFETY OVERSIGHT AUDIT PROGRAMME (USOAP)  
CONTINUOUS MONITORING APPROACH (CMA)<sup>1</sup>**

**(INFORMATION RELATED TO A40-WP/11)**

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<sup>1</sup> This material is available in English only.



# RECOMMENDATIONS MADE BY THE GROUP OF EXPERTS FOR A UNIVERSAL SAFETY OVERSIGHT AUDIT PROGRAMME (USOAP) CONTINUOUS MONITORING APPROACH (CMA) STRUCTURED REVIEW (GEUSR)

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Title	Group A: 7 Recommendations regarding the structured revision of the protocol questions
Objectives:	<ol style="list-style-type: none"> <li>1. To ensure that the protocol questions (PQs), when taken as a whole, is a reflection of the safety oversight capabilities of States; and</li> <li>2. To reduce the administrative burden on both member States and ICAO.</li> </ol>
Rationales:	<p>The efficacy of the USOAP CMA to measure the safety oversight capability of a State relies on a set of protocol questions (PQs) that is focused, balanced, and comprehensive.</p> <p><b>PQs need to be related to safety oversight.</b> The PQs need to be focused, in that they should relate to safety oversight. In its review, the GEUSR found instances of PQs that were not related to safety oversight. The inclusion of PQs not related to safety oversight, including for example questions assessing implementation of non-safety-related Standards and Recommended Practices (SARPs) will result in the EI score of a State becoming a reflection of State capabilities other than safety oversight.</p> <p><b>Managing the number of PQs.</b> The PQs are comprehensive and cover relevant areas. However, there is a need to manage the total number of PQs in order not to create an ever-increasing demand and burden on both Member States and ICAO. There are currently no internal limits placed on the number of PQs that can be developed. The aim of the USOAP CMA programme is not to assess the level of SARP implementation by States (this is the role of the compliance checklist), but rather to assess the safety oversight capability of a State using the eight critical elements of a safety oversight system as a framework. As such it is not always necessary to develop new PQs when new SARPs are introduced. Ensuring that the number of PQs is capped will help to manage the resources needed for the USOAP CMA programme, and allow auditors to go into sufficient depth during an audit.</p> <p><b>Ensuring that the PQs are balanced across all audit areas.</b> It is also important for the spread of PQs across the various areas be balanced (e.g. an operational area: PEL, OPS, AIR, ANS, AGA). This is to ensure that no one area has a disproportionate weightage on the overall EI score. The GEUSR also noted that there are several topics where the number of PQs related to the topic could be adjusted to balance the spread of PQs (e.g. PQs on handling ICAO Annex amendments (8 PQs), notifying differences (8 PQs) and granting of exemptions (13 PQs).) Some of these questions are asked multiple times across various areas, or those whose meaning are already captured but are restated in slightly different words (often to a lower level of detail).</p> <p><b>PQs supported solely by Recommended Practices.</b> The GEUSR noted that some PQs are supported only by Recommended Practices or guidance material, and not by Standards. It is difficult for States to justify implementing</p>

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	<p>processes to address PQs that are not supported by ICAO Standards, as by definition Recommended Practices and guidance material are not mandatory. It is important that the USOAP CMA is not perceived as a way to ‘require’ the implementation of Recommended Practices. Nor should USOAP CMA be used as a proxy to cover perceived deficiencies in Standards, or measure compliance against Recommended Practices in order to make the case for their promotion to a Standard.</p>
Recommendations:	<p>The GEUSR recommends that ICAO:</p> <ol style="list-style-type: none"> <li>1. Conduct a one-off exercise to identify and remove questions from the USOAP CMA not directly related to safety oversight or accident investigation, for example PQs based on assistance to victims and families, pandemics and environmental aspects of aircraft certification.</li> <li>2. Establish a policy to exclude from the USOAP CMA PQs that reference only Annex 9 — <i>Facilitation</i>, Annex 16 — <i>Environmental Protection</i> or Annex 17 — <i>Security</i>.</li> <li>3. Identify PQs whose meaning is already captured in other existing PQs and combines them as necessary. Repetitive questions should be removed. For some questions (e.g. training), it may be necessary to assess implementation in each operational area. While one implementation PQ is asked for each of OPS, PEL, AIR, AGA and AIG, there may be up to 7 PQs for ANS – one for each ANS sub-area. In such cases, it is recommended that there should be only one implementation PQ for ANS which covers all ANS sub-areas.</li> <li>4. Ensure a balanced distribution/ratio across “establishment/implementation” PQs, audit areas and CEs, which should be maintained going forward for the overall EI score to remain as a useful measure of a State’s safety oversight capability.</li> <li>5. Identify and remove PQs whose requirements extend beyond ICAO Standards, including those based solely on guidance material or Recommended Practice. This also includes PQs whose wording takes them beyond the Standard they are referencing, despite any relevance to safety oversight.</li> <li>6. Aim to reduce the total number of PQs through the PQ rationalization exercise as described in Recommendations 1 to 5 by 10-20%.</li> <li>7. Aim to keep the number of PQs to not more than the number reached after completion of the PQ rationalization exercise recommended in Recommendations 1 to 6 above. This limit in the number of PQs should be maintained going forward.</li> </ol>

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	<p><i>Note: While reducing the total number of USOAP CMA PQs during the envisaged PQ rationalization process to be implemented through this group of recommendations, the Secretariat will identify means to avoid the loss of pertinent information.</i></p>
Benefits and challenges:	<p><b>Benefits to States:</b></p> <p>The current USOAP CMA process presents a significant administrative load for States, in collecting evidence, quality-checking responses for consistency and uploading through the online framework (OLF). Any reduction in the number of protocol questions will provide a corresponding reduction in the effort involved in responding to these questions.</p> <p>Fewer but more focused PQs will translate to less administration in coordination and tracking questions. This is particularly relevant where States have multiple agencies providing inputs to USOAP CMA and where multiple PQs on closely related subjects require multiple copies of evidence to be loaded and tagged within the OLF and any updates to these documents to be coordinated across multiple PQs.</p> <p>Reducing the overall number of PQs will work in combination with other recommendations to lower the “burden of entry” to the USOAP CMA on the OLF, whether for States, or individuals that are new to specific roles. The rationalisation of the PQs will see more effort available to States to provide safety oversight and work on improving outcomes in the remaining PQs and CAPs.</p> <p>If States can divert some of the saved administrative effort into providing greater operational safety oversight, or making more substantive updates to their systems and their participation in the USOAP audit effort, then this will provide improvements in both safety levels and USOAP CMA results (EI).</p> <p><b>Challenges to States:</b></p> <p>The changes will affect current calculations of EI scores, with the new results being more reflective of safety oversight capability. The effect will vary with States. For States who have not met a number of these questions; their EI could rise, while for those with lower overall EI scores, who have passed a majority of these; there may be a decline.</p> <p>Once individual questions have been identified, ICAO should be able to model pre- and post-rationalisation scores for both individual States and a global average. ICAO should also be able to continue their historical analysis of USOAP CMA through PQ level data, given the large replication of a number of these questions, where they can apply the results of one new question against a number of historical questions. It is important to note that this recommendation would only affect a segment of the overall questions, thus leaving wider historical analysis intact.</p>

<b>Title</b>	<b>Group A: 7 Recommendations regarding the structured revision of the protocol questions</b>
	<p><b>Benefits to ICAO:</b>  For ICAO there are significant advantages to rationalisation of the PQs which is in line with ICAO's stated objective of reducing the number of PQs over time. Any effort saved at a State level is magnified 190 times in the Secretariat based on the number of State inputs and actions required against each PQ.</p> <ol style="list-style-type: none"> <li>1. Less administration of the questions themselves in terms of ongoing review, reporting and analysis on a question by question basis;</li> <li>2. Less checking across multiple audit areas for consistency of answers (to repeated questions) or version control of evidence (to related questions);</li> <li>3. Audits and ICVMs take less time to prepare for, conduct and administer;</li> <li>4. Reduced CAPs to administer and evaluate; and</li> <li>5. Reduced efforts in offsite validation, through fewer PQs and fewer CAPs.</li> </ol> <p>Achieving more active engagement of States in USOAP CMA will also provide benefits to ICAO. Increasing the frequency of State inputs to the OLF should make audits easier to prepare for and allow more offsite analysis by ICAO. The EI score will be more reflective of State oversight capability.</p>
Resource implications:	<p>The development and execution of a one-time project for the in-depth revision of legacy USOAP CMA PQs, which involves coordination with subject matter experts (SMEs) of the Safety and Air Navigation Oversight Audit Section (OAS), requires a thorough redrafting of the legacy PQs and the associated guidance to the auditors as well as coordination with other experts or expert groups within the Air Navigation Bureau, as necessary.</p> <p>This project may be managed and performed by SMEs within OAS, but would require redirecting resources from other OAS-related tasks in order for the SMEs to work on this project. Within the transition period, a reduction of the number of USOAP CMA activities may be necessary to compensate for the aforementioned project. Consultants may be needed to assist in this project.</p> <p>Communication with States needs to be well coordinated to inform them of the GEUSR recommendations and the rationale behind the PQ review as this may affect their EI scores.</p> <p>Review of possible required amendments to the MoU.</p>

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Title	Group B: 2 Recommendations regarding the priority protocol questions (PPQs)
Objectives:	<ol style="list-style-type: none"> <li>1. Provide States with information on PQs that have a higher correlation to operational safety risk so that they can focus their resources accordingly.</li> <li>2. Open up opportunities for USOAP CMA activities that can focus on aspects of safety-oversight that are more critical.</li> </ol>
Rationales:	<p>There are currently about 1,000 PQs. Although all the PQs contribute equally to the EI score, they do not all equally impact the operational safety risk. For example, those PQs relating to documentation, although important, have a less direct impact to operational safety risk. Some PQs, if found to be unsatisfactory, could have a significant impact on operational safety and could indicate an elevated risk of significant safety concerns (SSCs).</p> <p>Many States are finding it a challenge to address a significant proportion of the PQs. Given that these States face difficulty addressing all the PQs, it would be worthwhile to give them an indication of which PQs may require closer attention.</p> <p>It should be noted that the whole set of PQs continue to be essential to comprehensively assess the effective implementation of a safety oversight system by a State.</p>
Recommendations:	<p>The GEUSR recommends that ICAO:</p> <ol style="list-style-type: none"> <li>8. Identify a set of priority PQs that, when resulting in a low EI score, would indicate a lack of capability of the State to effectively identify and resolve safety deficiencies. This subset of PQs should be identified from the existing PQs using the following criteria: <ol style="list-style-type: none"> <li>a. include those PQs directly related to the identification of SSCs and the enablers for those SSC-related PQs;</li> <li>b. include PQs on aspects which, if not implemented, may leave safety issues unidentified or unresolved;</li> <li>c. constitute a self-sufficient set of PQs of approximately 20-25% of the total PQs, which would enable a focused audit (related to Recommendation 10B of Group C);</li> <li>d. reflect a balanced number across the audit areas and sub-areas;</li> <li>e. focus on PQs with implementation aspects (“implementation PQs”), but include relevant establishment PQs; and</li> <li>f. only include PQs applicable to the majority of States.</li> </ol> </li> <li>9. Take the necessary actions to inform States of the expectation to complete and update their self-assessments of the priority PQs. The level (quantitative and qualitative) of the PQ self-assessment should be added to the list of indicators used to prioritize USOAP CMA activities.</li> </ol>

Benefits and challenges:	<p>States would have better information on where to pay closer attention in order to reduce their risk of SSCs and other operational safety risks.</p> <p>Priority PQs open up the potential for focused, short duration audits that look into areas of higher risk (see Recommendation 10B in Group C).</p>
Resource implications:	<p>The development and execution of a project to apply the criteria to the legacy PQs and identify the priority PQs per technical area will require the contributions of the SMEs in OAS.</p> <p>This project may be managed and performed by SMEs within OAS, but this may result in delays to other OAS-related tasks due to shifting priorities for the SMEs involved in this project. Within the transition period, a reduced number of USOAP CMA missions may compensate for the abovementioned project. Consultants or secondees may be necessary to assist in this project.</p> <p>Review of possible required amendments to the MoU.</p>

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Title	<b>Group C: 4 Recommendations regarding the types and prioritization of USOAP CMA activities</b>
Objectives:	<ol style="list-style-type: none"> <li>1. To improve the currency of EI scores.</li> <li>2. To enhance the efficiency and prioritization of USOAP CMA activities.</li> </ol>
Rationales:	<p>The EI score is used by ICAO as well as States as a key indicator of the level of safety oversight in a State. It has wide-ranging implications not only on safety, but may have economic implications as well. Resources may be allocated to aviation based on the EI score.</p> <p>The USOAP CMA activities currently performed by ICAO are the following:</p> <ol style="list-style-type: none"> <li>1. audits (full-scope or limited scope);</li> <li>2. ICAO coordinated validation missions (ICVMs);</li> <li>3. off-site validation activities (including integrated validation activities);</li> <li>4. mandatory information requests (MIRs); and</li> <li>5. State safety programme (SSP) implementation (voluntary and confidential) assessments.</li> </ol> <p>The GEUSR noted that since the establishment of the USOAP programme, ICAO has audited a total of 185 of its 192 Member States. From 2013 to 2017, ICAO has performed 219 USOAP CMA activities, including 46 audits and 92 ICVMs. Of the 46 audits, 4 States were audited twice in this timeframe and 2 received their first audit. The 42 States that underwent an audit represent 23% of all previously audited Member States. 27 of these audits resulted in a reduction of the State's EI score. 17 audits resulted in an increase in EI score.</p> <p><b>New types of activities:</b></p> <p>It is important for the EI score not to become too out of date as it would then no longer be a good reflection of the level of safety oversight in the State. Therefore, there may be a need for more frequent but targeted assessment of States in order to keep the EI score more up-to-date. This can be addressed by introducing new types of activities.</p> <p>Adding new types of activities may also enhance the cost-effectiveness by selecting the most relevant activity depending on all available information. For example, ICVMs may be appropriate when assessing the implementation of corrective actions of a State after a recent activity. However, if the organizational and/or operational environment in a State has changed since the conduct of the most recent activity or if the most recent activity was conducted more than 6 years ago, a follow up audit or other USOAP CMA activity (addressing both the implementation of the CAPs and the non-satisfactory PQs) may be more appropriate.</p> <p>ICAO's resources are however limited. It is therefore necessary for ICAO to prioritize its USOAP CMA activities in order to focus on areas that require it most. The implementation of SSPs provide an opportunity for ICAO to adjust its assessment and prioritization methodologies; ICAO could leverage on States that have the capability to self-assess and self-monitor.</p>

<b>Title</b>	<b>Group C: 4 Recommendations regarding the types and prioritization of USOAP CMA activities</b>
	<p><b>Additional information for prioritization and scheduling of USOAP CMA activities:</b>  In order for ICAO to know where to focus its efforts, it relies on information from multiple sources that, when taken together, can be used to trigger the need for a more focused attention on a particular State, and to mount a USOAP CMA activity if necessary to re-assess the EI score. The same type of review of the other areas of specialization should consider the specific data available. Given the limited resources available, it would be beneficial to further enhance the use of indicators for prioritizing and scheduling of USOAP CMA activities.</p> <p><b>SSP implementation assessment:</b>  In order to manage its resources, ICAO would need to encourage more States to fully implement SSPs. Those States that do so can be assessed under a new SSP implementation assessment methodology that focuses on the State's capability for self-monitoring, self-assessment and self-improvement. States that have the capability to implement Annex 19 to a certain maturity level could be expected to provide ICAO with information on its safety oversight system by completing and updating its PQ self-assessments. By doing so, such States would be able to give ICAO a higher degree of confidence that a robust system is in place. They can then be monitored primarily through the review of the PQ self-assessments and occasionally through SSP implementation assessments, and less through legacy USOAP CMA activities.</p> <p><b>SSC resolution without capacity building:</b>  The GEUSR also noted that in some cases, where a State is informed of a potential SSC during a USOAP CMA activity, the State's response to mitigate the immediate safety risk is to remove the exposure altogether, for example by revoking the operational authorizations of affected service providers. While this mitigates the immediate safety risk and thus would not generate an SSC, longer-term capacity-building solutions are necessary to ensure that the immediate risk for safety is not re-introduced. Assistance to such States is important, as well as closer monitoring under the USOAP CMA.</p>
<b>Recommendations:</b>	<p>In order to keep the EI more up-to-date, the GEUSR recommends that ICAO:</p> <ol style="list-style-type: none"> <li>10. Introduce new types of audit activities to make the audit system more flexible: <ol style="list-style-type: none"> <li>a. ad-hoc, 1 or 2-day USOAP CMA on-site audit activities to assess a small subset of PQs that were found to be satisfactory during previous audits (e.g. during non-audit-related visits by ICAO HQ staff to the region);</li> <li>b. short-duration audits focused on assessing a subset of PQs (e.g. priority PQs). In order to maximise the use of resources, a single mission could comprise of 2 short-duration audits (5 working days on average) of neighbouring States; and</li> <li>c. follow-up audits focussing on re-auditing non-satisfactory PQs in addition to assessing the effective resolution of previously identified findings.</li> </ol> </li> </ol>

Title	Group C: 4 Recommendations regarding the types and prioritization of USOAP CMA activities
	<p>11. Introduce additional criteria in the <i>Universal Safety Oversight Audit Programme Continuous Monitoring Manual</i> (Doc 9735) to help determine the most appropriate USOAP CMA activities, and in particular for cases where a follow-up audit would be more appropriate than an ICVM.</p> <p>12. Establish and implements a plan for assessing and measuring the effective implementation of SSP by States. To this end, the GEUSR recommends the following:</p> <ul style="list-style-type: none"> <li>a. The outcome of the SSP-related USOAP CMA activities should not impact the USOAP CMA EI scores. EI scores should continue to be linked only to the outcome of the legacy USOAP CMA activities.</li> <li>b. These activities should result in observations and recommendations rather than findings. As a consequence, States need not be expected to come up with “corrective actions”, but rather inform ICAO of any actions they are taking with respect to the recommendations.</li> <li>c. ICAO should develop a methodology to assess the maturity of a State’s SSP. The Secretariat may engage the expertise of relevant groups of experts (for example the Safety Management Panel) in the development of the maturity model. ICAO should direct the expert groups on which aspects of the maturity model would require their involvement.</li> <li>d. ICAO should start with an initial phase of qualitative assessments while the maturity model is being developed in order to gain experience on SSP implementation assessments. When the maturity model is fully developed, ICAO could move into a second phase of quantitative measurements.</li> <li>e. In order to manage ICAO’s USOAP CMA activities, States that demonstrate the capability to implement Annex 19 to a certain maturity level and keep their PQ self-assessments up to date, may be monitored by ICAO primarily through the review of the PQ self-assessments and occasionally through SSP implementation assessments, and less through legacy USOAP CMA activities.</li> </ul> <p>13. Use the following additional viable data and information to support the prioritization and scheduling of USOAP CMA activities:</p> <ul style="list-style-type: none"> <li>a. State’s self-assessments (quantitative and qualitative);</li> <li>b. political stability;</li> <li>c. organizational stability;</li> <li>d. changes in operational environment;</li> <li>e. RSOO audits of its States; and</li> <li>f. information from the ICAO Regional Offices on States that resolved an SSC without capacity building.</li> </ul>
Benefits and challenges:	With the additional USOAP CMA activities providing more opportunities to update the EI score, the EI score of States can be more current and can thus provide a better reflection of the safety oversight capabilities of the State.

Title	<b>Group C: 4 Recommendations regarding the types and prioritization of USOAP CMA activities</b>
	<p>Focusing on SSP assessment and self-assessment monitoring for States that have implemented a robust SSP frees up ICAO resources to focus legacy USOAP CMA activities on areas where it is needed most.</p> <p>Enhancing the use of indicators will help ICAO react faster to situations that may stress a State's safety oversight system. With this information, ICAO could engage the State early and coordinate assistance if necessary.</p>
Resource implications:	<p>The projects deriving from these recommendations may be managed and performed by SMEs within OAS, but this may result in delays to other OAS-related tasks due to the shifting in priorities for the SMEs involved in these projects. Within the transition period, a reduced number of USOAP CMA missions may compensate for the abovementioned projects. Consultants or secondees may be necessary to assist in these projects, such as:</p> <ol style="list-style-type: none"> <li>1. Development and execution of the methodology for the new USOAP CMA activities, including the SSP implementation assessment (introductory phase, matrix for maturity levels, guidance to the auditors, etc.), and their related OLF tools and enhancements;</li> <li>2. Development and delivery of introductory, refresher and standardization training for ANB staff that are not part of the OAS audit team to be able to perform relevant USOAP CMA activities while on mission; and</li> <li>3. Development and execution of a one-time project to research, analyze and set-up a system to select and integrate additional sources of data and information for the prioritization and scheduling of USOAP CMA activities.</li> </ol> <p>A dedicated Standards and Procedures Office (SPO) State safety programme (SSP) position within the OAS audit team to lead SSP implementation assessments, manage the SSP assessment system, coordinate with the relevant expert groups and other related work.</p>

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<b>Title</b>	<b>Group D: 4 Recommendations regarding the presentation of State indicators</b>
Objectives:	To provide better visibility of the State's safety oversight system to key decision makers in the State.
Rationales:	<p>The 'overall EI' score is the key USOAP CMA indicator communicated to key State officials and is often used as the measure of a State's safety oversight system. However, the overall EI score alone may not be representative of a State's ability to implement its safety oversight processes. As the overall EI score is the average of all applicable PQs, even significant gaps in the State's safety oversight system may be averaged out in the overall EI score.</p> <p>It is therefore useful to provide key State officials at the Ministerial or Director-General level with metrics that give a clearer picture of where the strengths and weaknesses are within the States' safety oversight system; in order to facilitate the allocation of resources on areas that require it most. Such information may go beyond the EI score, and include the level of response and engagement with USOAP CMA processes in order to increase the visibility of the sustainable engagement to the relevant State authorities.</p>
Recommendations:	<p>The GEUSR recommends that ICAO:</p> <ol style="list-style-type: none"> <li>14. Adopt the following metrics, which when taken together would be a better representation of State's safety oversight capability, as part of the standard communication to key State officials: <ol style="list-style-type: none"> <li>a. overall EI: the overall EI is retained as States are familiar with this indicator and it is an indication of how the State fared against all the PQs;</li> <li>b. priority PQ EI: the priority PQ EI represents the level of implementation of the PPQs. A low Priority PQ EI score needs to be addressed on an urgent basis; and</li> <li>c. implementation EI: the 'implementation' Critical Elements ("CEs") (CEs 6 to 8) are more closely correlated to operational safety than the 'establishment' CE (CEs 1 to 5), and provides an indication of the State's ability to actually carry out its safety oversight activities.</li> </ol> </li> <li>15. Amend and shortens the current SAAQ to request only essential information, and for this SAAQ to be expected to be updated on a yearly basis.</li> <li>16. Set up a mechanism, such as a dashboard or periodic updates, so that key officials in States can be kept up-to-date on the status of their State's level of safety oversight as assessed by the USOAP CMA, as well as the State's level of engagement with the USOAP CMA processes. The information should be presented in an easy-to-interpret manner; for example in case of a dashboard, a simple 'traffic light' set of indicators could be used.</li> <li>17. Convey the following information (in addition to information already available) in the dashboards and/or briefings related to USOAP CMA activities and results with areas requiring the State's attention to be highlighted:</li> </ol>

Title	Group D: 4 Recommendations regarding the presentation of State indicators
	<p data-bbox="642 282 1885 345">a. Information on the provision and update of the SAAQ, CAPs, and State self-assessment (to reflect the State's level of provision of some essential information to the USOAP CMA).</p> <p data-bbox="688 383 1890 513">The information provided with regard to the self-assessment should include the date of the last self-assessment and its subsequent updates. Notes should accompany the information to highlight any potential misinterpretation of the data as provided by the State. Further guidance on the topic would be necessary for Doc 9735.</p> <p data-bbox="642 552 1780 615">b. EI related to the establishment of a safety oversight system (CEs 1 to 5), and EI related to the implementation of a safety oversight system (CEs 6 to 8).</p> <p data-bbox="688 652 1894 716">EI score pertaining to CEs 6, 7 and 8 correlate more closely to operational outcomes as they are related to how well the State has implemented the regulations and processes that it has established.</p> <p data-bbox="642 753 1430 784">c. Priority PQ EI (i.e. EI when considering only the Priority PQs).</p> <p data-bbox="688 821 1822 885">The Priority PQ EI reflects the State's implementation of PQs that have been identified to be of a higher priority.</p> <p data-bbox="642 922 1860 953">d. EI changes over time correlated with the USOAP CMA activity that contributed to the change in EI.</p> <p data-bbox="688 990 1906 1185">The EI score is a snapshot of the State at a point in time. Given the dynamic nature of aviation and safety oversight, it would be useful for the Director-General to know how current the State's EI score is, and which USOAP CMA activity (i.e. audit, ICVM or off-site validation) contributed to the current EI score. Such knowledge can help the Director-General refocus attention, for example, on areas that have not been assessed in a while. The information displayed should also reflect the changes of EI as a result of PQ revisions.</p> <p data-bbox="642 1222 1873 1286">e. EI against State's level of risk exposure (e.g. concept of safety margin as proposed for the 2020-2022 edition of the GASP).</p> <p data-bbox="688 1323 1898 1419">The State safety briefing currently shows the EI score of a State against the GASP target. This provides context for what the State should aim for. However, different States are exposed to different levels of risk, depending for example on the volume of traffic or the number of air operators in the State.</p>

Title	Group D: 4 Recommendations regarding the presentation of State indicators
	Displaying the EI within the context of a State's level of risk exposure moves away from the one-size-fits all GASP target and provides a closer link between the required safety oversight capabilities and the level of operational safety needed for that State.
Benefits and challenges:	To provide a better picture to the State, and in particular to the DG, of the level of safety oversight in the State.
Resource implications:	<p>The projects derived from these recommendations may be managed and performed by the officers within OAS, Oversight Support Unit (OSU) and ANB staff, but would require redirecting resources from other OAS/OSU/ANB-related tasks in order for the officers to work on these projects. Within the transition period, a reduction of the number of USOAP CMA activities may be necessary to compensate for the aforementioned projects. Consultants or secondees may be needed to assist in these projects.</p> <p>Review of possible required amendments to the MoU.</p>

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Title	<b>Group E: 12 Recommendations regarding training and guidance</b>
Objectives:	<ol style="list-style-type: none"> <li>1. Support the national continuous monitoring coordinator (NMC) and NMC team in fulfilling their roles through additional guidance, training and tools; and</li> <li>2. Support the stability in NMC appointments.</li> </ol>
Rationales:	<p>The NMCs are the key points of contact between the USOAP CMA and States. It is important to ensure that the NMCs are provided with sufficient guidance and are adequately trained to support their State in meeting its USOAP CMA obligations. In some States, the NMC is not supported by a team and this individual is tasked to carry out many functions related to USOAP CMA without the necessary support. Experience has shown that States which have introduced NMC “teams” (comprised of relevant officers from the concerned State authorities) have been more effective in fulfilling their responsibilities under the USOAP CMA.</p> <p>For example, the existing CAP tutorial and training on the OLF and the CAP section, on the USOAP CMA workshop, give guidance mostly on how to use OLF functionalities, fields, and how to submit and update CAPs. In addition to functionality, the training and guidance could also focus on helping States better understand how to analyse its findings and how to develop an acceptable CAP that addresses the findings. (With reference to Recommendation 10C in Group C on the introduction of follow-up audits, the way to resolve identified findings may have to be amended accordingly, and the process for CAP submissions and assessments may change. This should be kept in mind when supporting the NMCs and States with their additional training and information on the resolutions of these findings.)</p> <p>NMCs can also stand to benefit from additional tools to help them in their roles. Some States have found it useful to provide forums for NMCs in the region to communicate with, learn from, and support each other. The current primary line of communication is between an NMC and ICAO. There may be benefits to create a network of NMCs, in addition to improving the communication links between the NMCs and ICAO.</p> <p>It is important for the nominated NMC to be empowered by the appropriate level of the State. The NMC needs to be sufficiently empowered to deal with other entities within the State to coordinate the State’s interactions with the USOAP CMA. However, an NMC that is too high within the hierarchy may not have the time to deal with such day-to-day interactions. In addition, it is important for there to be stability in the NMC appointments as the effectiveness of an NMC increases over time with training and experience.</p>
Recommendations:	<p>The GEUSR recommends that ICAO:</p> <p><b>Support NMCs with additional training by:</b></p> <ol style="list-style-type: none"> <li>18. Encouraging stability in the appointment of NMC and NMC team members. In order to do so, complimentary USOAP CMA CBT training may be extended to the NMC and NMC team, to a maximum</li> </ol>



Title	Group E: 12 Recommendations regarding training and guidance
	<p>of 9 members (NCCM + one member per audit area).</p> <ol style="list-style-type: none"> <li>a. For phase 1 of the CBT training, each (new) NCCM team member should be provided a one-time complimentary training, unless there is a significant update to the CBT training.</li> <li>b. For phase 2 of the CBT training, one designated team member per audit area should be provided with a complimentary training for the module relevant to that team member's audit area. Complimentary training of phase 2 should be limited to one module per audit area every two years per State. This complimentary training will only be offered if the designated NCCM team member has not yet taken this training or if significant changes to the module have been introduced by ICAO.</li> </ol> <p>19. Enhancing the training on the OLF tools, particularly with regard to the following:</p> <ol style="list-style-type: none"> <li>a. Develop training content for the OLF-CAP tutorial and USOAP CMA workshop CAP section on: <ol style="list-style-type: none"> <li>i. how to manage a USOAP CMA activity (during and post-activity);</li> <li>ii. how to analyse non-satisfactory PQs, identify areas of deficiencies based on CEs, PQs, and how to review evidence and references;</li> <li>iii. how to develop and prepare an effective and acceptable initial CAP (timeliness, ensuring a clear understanding of the finding, resource management, typical steps, scenarios and examples, mitigating and preventive measures that are acceptable for each CE);</li> <li>iv. monitoring progress of corrective actions (different levels of implementation, how to document and attach relevant evidence of implementation); and</li> <li>v. CAP updates and ICAO's evaluation process.</li> </ol> </li> <li>b. Develop training content for the State's self-assessment, including: <ol style="list-style-type: none"> <li>i. self-assessment criteria and methodology;</li> <li>ii. benefits of having a good self-assessment;</li> <li>iii. dos and don'ts;</li> <li>iv. quality assurance/control; and</li> <li>v. examples and best practices.</li> </ol> </li> </ol> <p>20. Increasing the number of regional workshops from two to three a year for a triennial coverage of all ICAO regions.</p> <p><b>Support States with additional guidance by:</b></p> <p>21. Enhancing the current tutorials on the OLF (i.e. CAPs, self-assessments) and providing the workshop material (as mentioned in Recommendations 19 and 20) online in tutorial format, given that not all NCCMs may be able to attend the OLF workshops.</p>

Title	Group E: 12 Recommendations regarding training and guidance
	<p>22. Developing additional and performance-based guidance on the empowerment expected for the NCMC team and the individual NCMCs by the State, as well as the functions and responsibilities, knowledge, skills, and training recommended for the role(s). The guidance should reflect ICAO's expectations with respect to the NCMC and NCMC teams (i.e. roles, functions, training, competencies, stability, and succession planning).</p> <p>23. Finding opportunities to improve State senior-level management's understanding of the USOAP CMA in relation to the role of the NCMC and NCMC team. Topics that may be covered include:</p> <ul style="list-style-type: none"> <li>a. role and importance of the NCMC and NCMC team;</li> <li>b. empowerment of the NCMC and NCMC team;</li> <li>c. stability and succession/transition planning of the NCMC and NCMC team; and</li> <li>d. minimum knowledge profile for the NCMC and NCMC team (CMA process, CBT, ICAO annexes, etc.).</li> </ul> <p><b>Enhance communication and information exchange by:</b></p> <p>24. Improving the communication between ICAO and States on the order of priorities of ICAO's assessment of State's CAPs and updates.</p> <p>25. Facilitating regional or sub-regional meetings of NCMCs, for example in conjunction with regional meetings or workshops, for NCMCs and NCMC teams to exchange information and their experiences regarding the USOAP CMA.</p> <p>26. Creating an online user forum for NCMCs to communicate with each other and with ICAO. Consideration should be given to having a user-friendly platform by making use of, for example, popular social media platforms that most users would already be familiar with.</p> <p>27. Providing a platform within the OLF to contact ICAO, and collect the problems or frequently asked questions from States and share the analysis of the problem or answers in an FAQ.</p> <p>28. Including a short presentation of all available OLF training and a short description of all trainings, seminars and workshops to maintain awareness of the OLF-related trainings available.</p> <p>29. Collecting State feedback and queries on individual protocol questions, as well as ICAO SPO responses to those queries, in an internal database. Queries and responses that may be of global interest and which have been properly de-identified could be used for standardisation training for USOAP CMA auditors.</p>

Benefits and challenges:	<p><b>Support NCMCs with additional training:</b></p> <ol style="list-style-type: none"> <li>1. Improved understanding of PQ findings and steps required to develop an effective corrective action which will improve the quality of the initial submitted CAP and will minimize CAP updates.</li> <li>2. Improved quality of the PQ self-assessment.</li> <li>3. Improved CAP validation and monitoring process for States and ICAO (less time and human resources to develop and validate).</li> <li>4. Improved communication between ICAO and States.</li> <li>5. Greater dissemination of knowledge through workshops.</li> </ol> <p><b>Support States with additional guidance:</b></p> <ol style="list-style-type: none"> <li>1. Improved understanding of all the activities associated to NCMC responsibilities and USOAP CMA management.</li> <li>2. Enhanced effective monitoring of OLF activities, and continuously provide updates on the effective implementation.</li> <li>3. Consistency in USOAP CMA management activities when there is a change of NCMC.</li> <li>4. Sharing of problems and solutions within the OLF so more people can benefit from it.</li> </ol> <p><b>Enhance communication and information exchange:</b></p> <ol style="list-style-type: none"> <li>1. Improve communication between ICAO and States on CAP validation process.</li> <li>2. Improve NCMC CAP management process including updating the content and implementation progress of CAPs on the OLF.</li> <li>3. States with limited capacity can better organize and plan CAP updates that will be validated by the ICAO/Regional Office in less time, which in turn will allow the beginning of implementation of CAPs.</li> <li>4. Improve the allocation of resources required for OLF activities and safety oversight activities (States with limited capacity).</li> <li>5. Enable States (NCMCs and NCMC teams) to learn from their peers and share best practices.</li> </ol>
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Resource implications:	<p data-bbox="531 201 1921 240">Additional cost of increasing the number of regional workshops from two to three per year.</p> <p data-bbox="531 272 1921 435">The projects derived from these recommendations may be managed and performed by officers within OAS and OSU, but will require redirecting resources from other OAS- and OSU-related tasks in order for the officers to work on this project. Within the transition period, a reduction of the number of USOAP CMA activities may be necessary to compensate for the aforementioned project. Consultants or secondees may be needed to assist in these projects, such as:</p> <ol data-bbox="583 475 1921 764" style="list-style-type: none"><li data-bbox="583 475 1921 540">1. Updating of current USOAP CMA workshop training material to include the new types of USOAP CMA activities;</li><li data-bbox="583 540 1921 605">2. Development of additional USOAP CMA training content and guidance for NCMCs which includes the activities associated with NCMC responsibilities and USOAP CMA management;</li><li data-bbox="583 605 1921 638">3. Updating of OLF-CAP tutorial, training tools and material;</li><li data-bbox="583 638 1921 703">4. Enhanced monitoring of OLF activities, and continuously providing updates on the effective implementation; and</li><li data-bbox="583 703 1921 764">5. Developing a platform for NCMCs to securely communicate with ICAO and other NCMCs on all USOAP CMA related activities. Collection and processing of State feedback and queries on individual PQs.</li></ol>
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Title	<b>Group F: 8 Recommendations regarding tools enhancements on the USOAP online framework (OLF)</b>
Objectives:	1. To enhance the USOAP CMA tools in order to encourage States to use them fully.
Rationales:	<p>States have had many years of experience using the USOAP CMA online tools. Some recommendations for enhancements to the OLF tools are made in this recommendation.</p> <p>The lack of availability of a permanent internet connection limits the ability of some States to provide periodic updates to ICAO. Providing effective off-line means keeping the self-assessment and CAP up-to-date which is an important element of keeping such States engaged in the USOAP CMA.</p> <p>As States become more sophisticated in monitoring their level of implementation of PQs and compliance with SARPs, they may develop internal systems that assist them with such monitoring. These systems could include functionality that are not found in the USOAP CMA tools. Data exchange between States and ICAO is beneficial so that States do not have to duplicate their data entry efforts for ICAO.</p>
Recommendations:	<p>The GEUSR recommends that ICAO:</p> <ul style="list-style-type: none"> <li>30. Provide a tool for States to complete their self-assessments and CAPs offline, taking into consideration the need for States to also be able to attach evidence to these self-assessments and CAPs.</li> <li>31. Provide data exchange capability to enable States with their own systems to collect, process and transmit data to the OLF, avoiding duplication, and allowing States to use the data as input to their different processes in their diverse technology platforms.</li> <li>32. Improve the feedback function, for example by creating a form on the OLF to replace the feedback button so that the system does not call up the user's default mail application. (This is because many States do not use the default mail application.)</li> <li>33. Enhance ICAO's responses to State feedback, bug reports and enquiries by creating a Service Desk to the OLF applications. The Service Desk should have access to industry-standard tools for managing user reports and feedback, including the ability to open, track, close and analyse support tickets.</li> <li>34. Implement the following improvements to the OLF-CAP module: <ul style="list-style-type: none"> <li>a. include attachment of evidence directly on OLF-CAP module (not only through the self-assessment module);</li> <li>b. improve CAP layout when editing each corrective action;</li> </ul> </li> </ul>

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	<ul style="list-style-type: none"> <li>c. improve the display flow when selecting different PQs in the CAP module to minimize user scrolling;</li> <li>d. include in each field of the OLF-CAP module, label notes that appear when hovering the mouse over the field to explain what information is needed;</li> <li>e. add a function to export a report of all CAPs that allow States to better visualize and manage their CAP progress;</li> <li>f. include a direct link from the OLF-CAP module to the CAP tutorial section;</li> <li>g. add a function to allow the user to search for, display and manage attachments that have been previously uploaded. This is to reduce the likelihood of different users in the State uploading multiple copies or different versions of the same document or evidence into the system. The system should allow the user to easily link previously uploaded evidence to any new PQ that the user is self-assessing; and</li> <li>h. add functions for the State to manage its own CAP deadlines, for example automatic reminders and colour-coding of impending or lapsed deadlines.</li> </ul> <p>35. Implement the following improvements to the self-assessment module:</p> <ul style="list-style-type: none"> <li>a. Add a function to allow the user to search for, display and manage attachments that have been previously uploaded. This is to reduce the likelihood of different users in the State uploading multiple copies or different versions of the same document or evidence into the system. The system should allow the user to easily link previously uploaded evidence to any new PQ that the user is self-assessing.</li> </ul> <p>36. Implement the following improvements to the EFOD/CC module:</p> <ul style="list-style-type: none"> <li>a. ICAO should include the figures, tables and attachments into the EFOD system. Users find it difficult to submit differences in the EFOD system without all the elements, such as figures, tables and attachments contained in some of the Annexes (e.g. Annex 10). The absence of complete information is still a barrier to abandoning the old process of reporting differences on paper.</li> <li>b. When exporting the CC, it should be to an Excel worksheet with each row referencing an individual SARP. The following information should be in different columns: <ul style="list-style-type: none"> <li>i. SARP text;</li> <li>ii. SARP relationship with the State regulatory framework (no difference, not applicable, more exacting or exceeds, different in character or other means of compliance, less protective or partially implemented or not implemented);</li> <li>iii. State reference;</li> <li>iv. details of the difference (clear and concise description of the difference); and</li> <li>v. remarks (reasons for the difference and intentions including any planned date for implementation).</li> </ul> </li> </ul>

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	<p>This recommendation will make it easier for States to carry out their own analysis. In addition, it is suggested to use Excel instead of Word, because as the number of SARPs is very large it is better to use a tool that privileges the data control (use of filters and other functions).</p> <p>c. When the Annexes are amended, SARPs are renumbered which causes difficulty in locating and controlling them. Having a constant identifier for each SARP will facilitate the control of the SARPs by the States when filling in the EFOD. ICAO should make available to States the constant identifier for the provisions contained in the CC/EFOD system.</p> <p>37. Replicate all abovementioned improvements for one module in other modules where appropriate.</p>
Benefits and challenges:	<p><b>Benefits:</b> Enhancements to the tools that support USOAP CMA, including the OLF and its applications (CAP, self-assessment, EFOD/CC) may:</p> <ol style="list-style-type: none"> <li>1. Identify recognized data sets that can be used and refreshed periodically to aid in determining which States should receive a CMA audit or other related activity.</li> <li>2. Improve understanding of PQs findings and steps required to develop an effective corrective action which will improve the quality of initial CAP submitted and will minimize CAP updates.</li> <li>3. Improve CAP validation and monitoring process for States and ICAO (less time and human resources to develop and validate).</li> <li>4. Improve communication between ICAO and States.</li> <li>5. Increase the level of updating of CAPs and self-assessments in States and regions with limited access to the internet.</li> <li>6. Facilitate the editing and create a task in the CAP module on the OLF to make it easier and effective.</li> <li>7. Reduce duplication of the same document and make it easier to update evidence related to other PQs</li> <li>8. Introduce missing elements of the Annexes into the CC/EFOD which will complement the system.</li> <li>9. Additional information that will assist the States in controlling the updating of SARPs; it is expected that CC/EFOD tool will be more used instead of the paper-based process.</li> <li>10. Increase functionality of CC/EFOD allowing States to use the tool.</li> </ol> <p><b>Challenges:</b> The availability of reliable internet connection for States.</p>

Title	<b>Group F: 8 Recommendations regarding tools enhancements on the USOAP online framework (OLF)</b>
Resource implications:	<p data-bbox="537 251 1833 280">Considerable IT and human resource implication for ICAO to implement these groupings of recommendations.</p> <p data-bbox="537 318 1902 446">The projects deriving from these recommendations may be managed and performed by officers within OAS and OSU, but will require redirecting resources from other OAS- and OSU-related tasks in order for the officials to work on this project. Within the transition period, a reduction of the number of USOAP CMA activities may be necessary to compensate for the aforementioned project. Consultants or secondees may be needed to assist in projects such as:</p> <ol data-bbox="583 483 1902 581" style="list-style-type: none"><li data-bbox="583 483 1818 513">1. Reviewing of various sources of data available from the public, industry, ICAO and air operators; and</li><li data-bbox="583 516 1902 581">2. Development of training content, updating the USOAP CMA workshop training material, changing the OLF-CAP tutorial and improving the OLF-CAP module.</li></ol>