

AllG/2 Meeting

13th -15th Sep 2022 Jeddah, Saudi Arabia

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AllG/2 Jeddah, Saudi Arabia 13-15 Sep 2022

Analysis & Guidance on USOAP CMA AIG Area

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Objective: determine States' capability for safety oversight

□ Verifying the status of the Member States' implementation of:

- Safety-related ICAO Standards and Recommended
- Practices (SARPs);
- Associated procedures; and
- Guidance material.

□ Assessing their effective implementation of the 8 Critical Elements (CE) in 8 audit areas:

LEG, ORG, PEL, OPS, AIR, AIG, ANS and AGA

Protocol Questions (PQ): new version in 2020

 790 PQs in the 2020 version (vs. 943 in the previous 2017 PQs version)





Priority PQs (PPQs):

Definition:

- "A subset of protocol questions"(PQ) that, if found not satisfactory, may indicate a lack of capability by a State to identify and/or resolve operational safety and fundamental accident investigation deficiencies effectively.
- PPQs findings can demonstrate a State's inability to conduct safety oversight, which can result in the elevated risk of significant safety concerns, or an inability to conduct a proper accident investigation."

2017 PQs in AIG	2020 PQs in AIG				
Total No.	Total No.	PPQ	On-Site	Off-Site	
104	84	24	46	38	



PQ No.	Protocol Question	Guidance for Review of Evidence	ICAO References	PPQ CE	
6.021	Does the State's primary legislation grant the accident investigation authority/investigator in charge (IIC) unhampered access to and control over the scene of the accident in order, for example, to protect the aircraft or wreckage as well as the accident site against access by unauthorized persons, pilfering or deterioration?	 Review primary legislation. Verify the particular situation in the State regarding judicial investigations, and the impact on the capacity of the State to comply with Annex 13. 	STD A13 3.2, 5.4 & 5.6 GM Doc 9756 Part I, 2.2.1, 5.1 & 5.3	Yes CE-1 Not a PP	Q
6.023	Does the State's primary legislation grant the accident investigation authority/IIC unhampered access to and control over all relevant material/evidence, including flight recorders and air traffic service (ATS) records?	 Review primary legislation. Verify the particular situation in the State regarding judicial investigations and the impact on the ability of the State to comply with Annex 13. 	STD A13 5.4 & 5.6	CE-1	

<u>PPQ</u>



Summary of Amendments – AIG PQs

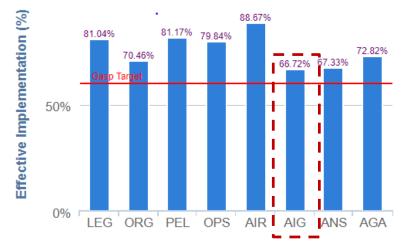
PQ No. (2017	PQ No. (2020	Type of Amendment					
version)	version)	New	Revised	Deleted	Merged	No change	Description of Amendments
6.005				\boxtimes			PQ has been deleted and merged with 6.003 in 2020 Edition.
6.107				\boxtimes			PQ has been deleted and merged with 6.105 in 2020 Edition.
6.115				\boxtimes			PQ has been deleted and merged with 6.113 in 2020 Edition.
6.120				\boxtimes			PQ has been deleted and merged with 6.119 in 2020 Edition.
6.122				\boxtimes			PQ has been deleted and merged with 6.121 in 2020 Edition.
6.127				\boxtimes			PQ has been deleted and merged with 6.125 in 2020 Edition.
6.131				\boxtimes			PQ has been deleted and merged with 6.123 in 2020 Edition.
6.203				\boxtimes			PQ has been deleted and merged with 6.201 in 2020 Edition.
6.207				\boxtimes			PQ has been deleted and merged with 6.201 in 2020 Edition.
6.301				\boxtimes			PQ has been deleted.
6.313				\boxtimes			PQ has been deleted and merged with 6.315 in 2020 Edition.
6.351				\boxtimes			PQ has been deleted and merged with 6.349 in 2020 Edition.
6.355				\boxtimes			PQ has been deleted and merged with 6.021 in 2020 Edition.
6.357				\boxtimes			PQ has been deleted and merged with 6.353 in 2020 Edition.
6.363				\boxtimes			PQ has been deleted and merged with 6.361 in 2020 Edition.
6.369				\boxtimes			PQ has been deleted and merged with 6.367 in 2020 Edition.
6.415				\boxtimes			PQ has been deleted and merged with 6.413 in 2020 Edition.
6.423				\boxtimes			PQ has been deleted and merged with 6.421 in 2020 Edition.
6.435				\boxtimes			PQ has been deleted and merged with 6.431 in 2020 Edition.
6.437				\boxtimes			PQ has been deleted.
6.509				\boxtimes			PQ has been deleted and merged with 6.507 in 2020 Edition.
6.001	6.001		\boxtimes				Question and guidance revised for clarity.
6.003	6.003				\boxtimes		Merged with 6.005 of 2017 PQs. Question, guidance and reference revised.
6.004	6.004						Question and guidance revised for clarity.

DO No. (2017	PQ No. (2020	Type of Amendment						
PQ No. (2017 version)	version)	New	Revised	Deleted	Merged	No change	Description of Amendments	
	6.006						New PQ.	
6.007	6.007						Question and guidance revised for clarity.	
6.010	6.010						No change.	
6.011	6.011						Question and guidance revised for clarity.	
6.015	6.015						No change.	
6.017	6.017						No change.	
6.021	6.021				\boxtimes		Merged with 6.355 of 2017 PQs. Question, guidance and reference revised.	
6.023	6.023						Question and guidance revised for clarity.	
6.025	6.025		\boxtimes				Question and guidance revised for clarity.	
6.027	6.027						Question revised for clarity.	
6.029	6.029		\boxtimes				Question and guidance revised for clarity. Reference revised.	
6.031	6.031						Question and guidance revised for clarity. Reference revised.	
6.033	6.033		\boxtimes				Question and guidance revised for clarity.	
6.035	6.035						Question and guidance revised for clarity.	
6.101	6.101						No change.	
6.103	6.103						Question revised for clarity.	
6.105	6.105						Merged with 6.107 of 2017 PQs. Guidance and reference revised.	
6.111	6.111		\boxtimes				Question revised for clarity.	
6.113	6.113						Merged with 6.115 of 2017 PQs. Guidance and reference revised.	
6.117	6.117						No change.	
6.119	6.119						Merged with 6.120 of 2017 PQs. Question revised.	
6.121	6.121						Merged with 6.122 of 2017 PQs. Question, guidance and reference revised.	
6.123	6.123						Merged with 6.131 of 2017 PQs. Guidance revised.	
6.125	6.125						Merged with 6.127 of 2017 PQs. Question, guidance and reference revised.	
6.129	6.129						No change.	
6.133	6.133						No change.	
6.135	6.135						No change.	
6.201	6.201						Merged with 6.203 and 6.207 of 2017 PQs. Question, guidance and reference revised.	
6.202	6.202						No change.	

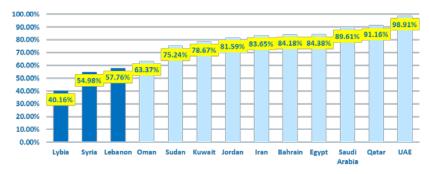


USOAP Review

USOAP Results by Area



Regional USOAP EI BY State

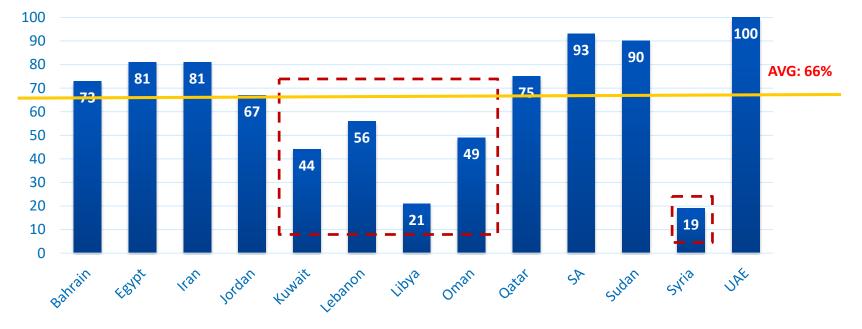


Effective Implementation (EI)



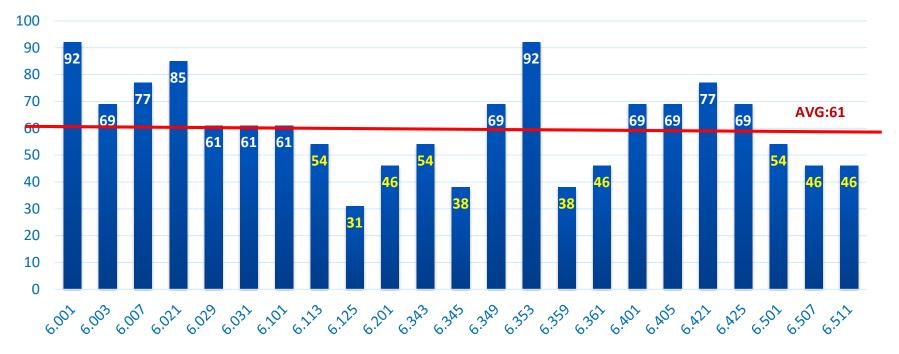
Regional Priorities

EI %_RASG-MID States-AIG

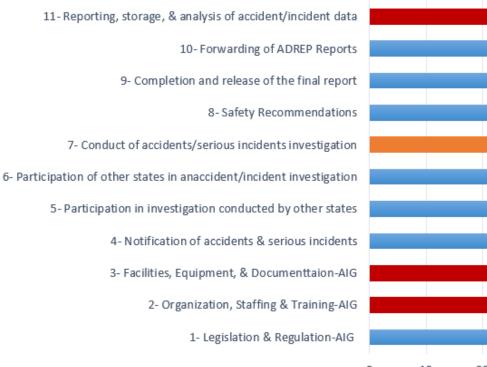


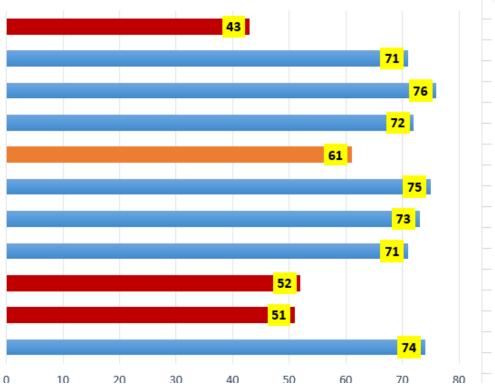


PPQs-MID States



El by audit sub-Group- MID States







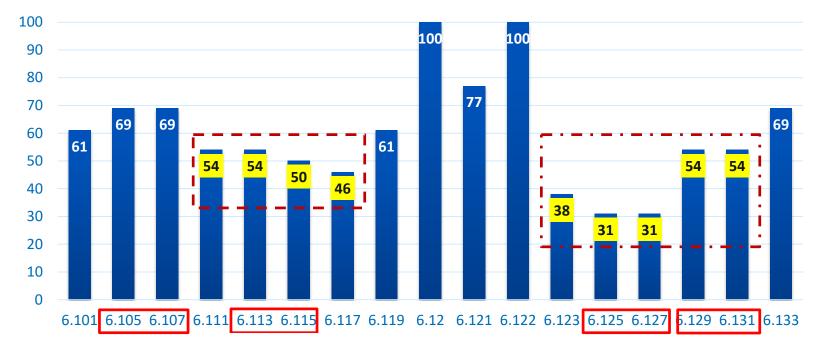




Organization, staffing and training – AIG



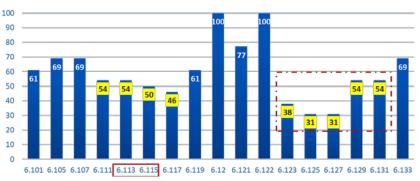
Organization, staffing and training – AIG





6.111: Does the State have its own appropriately qualified personnel identified and charged with aircraft accident and serious incident investigation duties?

- Establish the minimum qualifications and experience requirements for the staff of the AIA
- Ensure that the qualifications include sufficient practical experience, and not only theoretical knowledge acquired in courses/trainings or seminars.
- Develop job descriptions for the personnel in charge of investigation-related duties that include tasks like:
 - Notification of accidents and serious incidents
 - Participation in investigations conducted by other State
 - Conduct of accident and serious incident investigations Forwarding of ADREP reports
 - Reporting, storage and analysis of accident/incident data
 - Training
 - Development of regulations, procedures and other guidance material

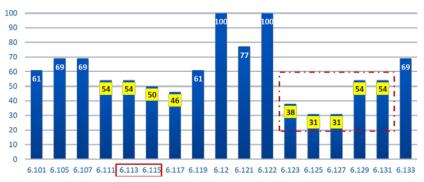




6.111: Does the State have its own appropriately qualified personnel identified and charged with aircraft accident and serious incident investigation duties?

Ensure that the AIA has its own appropriately personnel with at least a skeleton staff of 1 to 3 investigators, in addition to the Head of the AIA, and that:

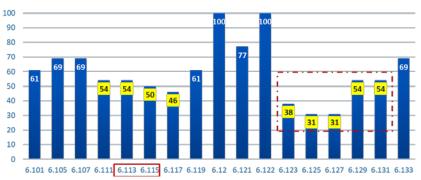
- their qualifications and experience match the minimum qualifications and experience requirements,
- their qualifications are in line with the assigned duties and responsibilities listed in the job descriptions.





6.113: Has the State implemented a mechanism to ensure that the accident investigation authority has sufficient personnel to meet its national and international obligations related to aircraft accident investigations?

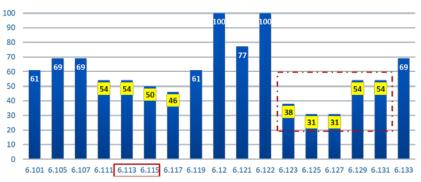
- Establish a mechanism or methodology to be able to compute the "ideal" number of staff for the actual number of investigations conducted and for the various investigation activities, including:
 - Notifications
 - First actions after an accident or serious incidents
 - Organization and conduct of the investigation, taking into account the types of investigations that are usually performed by the national AIA
 - Report development



ICAO UNITING AVIATION

6.113: Has the State implemented a mechanism to ensure that the accident investigation authority has sufficient personnel to meet its national and international obligations related to aircraft accident investigations?

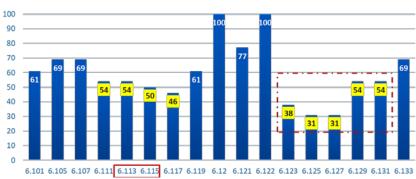
- Include in the methodology the ability to accomplish not only investigation related tasks, but also:
 - Development of regulations, procedures and guidance material
 - Training
 - Use and update of an accident and incident database
 - ADREP reporting
 - Reporting and analyses of safety deficiencies
- Establish a process to define and fill the required posts initially and on an ongoing basis





6.117: Have job descriptions been developed for the personnel in charge of investigation-related duties?

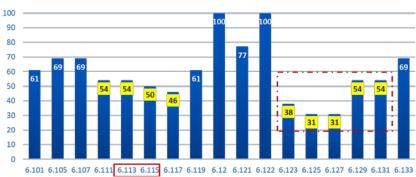
 Develop job descriptions for all personnel in charge of investigation-related duties



ICAO UNITING AVIATION Organization, staffing and training – AIG

6.123: Has the State/investigation authority developed a formal training Programme detailing the type of training to be provided to its investigators?

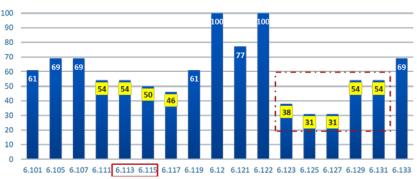
- Establish a training Programme, as one element of the training system :
 - Training policy
 - Training programme
 - Training plans
 - Trainings records
- Describe in the training Programme, the training required to acquire and maintain for the different AIA staff (based on the policy). Include initial, OJT, recurrent and specialized training, including timetables, and periodicities for recurrent training, as applicable.





6.123: Has the State/investigation authority developed a formal training Programme detailing the type of training to be provided to its investigators?

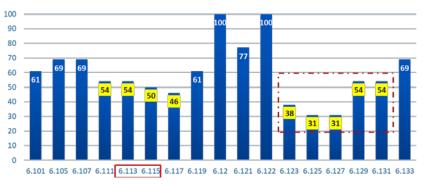
- ICAO Circular 298 Training Guidelines for Aircraft Accident Investigators; contains detailed information regarding the training of investigators in four phases:
 - 1. Initial training.
 - 2. On-the-job training.
 - 3. Basic accident investigation courses.
 - 4. Advanced accident investigation courses and additional training.





6.125: Does the investigation authority develop a periodic training plan detailing and prioritizing the type of training to be provided during the established period?

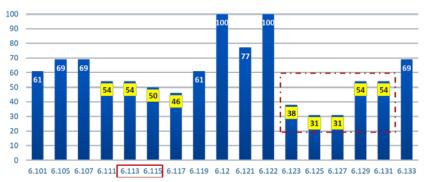
- Establish periodic training plans (every 1, 2 or 3 years), as one element of the training system :
 - 1. Training policy
 - 2. Training programme
 - 3. Training plans
 - 4. Trainings records
- Describe the trainings to be followed by all staff during the specified timeframe (based on the training Programme):
 - Specify training for each staff individually;
 - Identify priorities for the AIA
 - Indicate deadlines for recurrent training, and initial trainings
 - Indicate the available reference of each training (organization, location, dates or period, cost);
 - Include OJTs





6.125: Does the investigation authority develop a periodic training plan detailing and prioritizing the type of training to be provided during the established period?

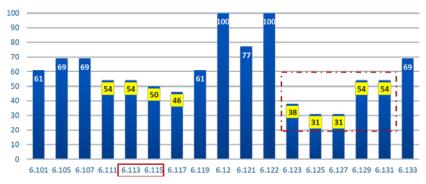
- Provide evidence of the implementation of the established training system:
 - Training policy
 - Training programme
 - Training plans
 - Trainings records
- Ensure the adequacy between the type and frequency of training provided (initial, OJT, recurrent and specialized) and the required level of knowledge, skills, and qualifications for the assigned duties and responsibilities.
- Provide evidence that the training Programme is in line with the training policy.
- Provide evidence that the periodic training plans implement the training Programme.
- Provide training records, including OJT, to show the effective implementation of the training plans.





6.129: Has investigation authority established and implemented a system for the maintenance of training records for its technical personnel, including records on the OJT received?

- Establish instruction, procedure and/or requirement for the establishment and maintenance of training records.
- Keep records of the training actually performed, which should be in accordance with the training plans.
- Ensure that training records are systematically retained and comprise not only certificates of attendance but also information on the course content.
- Ensure that the training records on the OJT provided include details on the training activities performed (e.g. participation as an observer or performance of tasks under supervision) and their outcome.

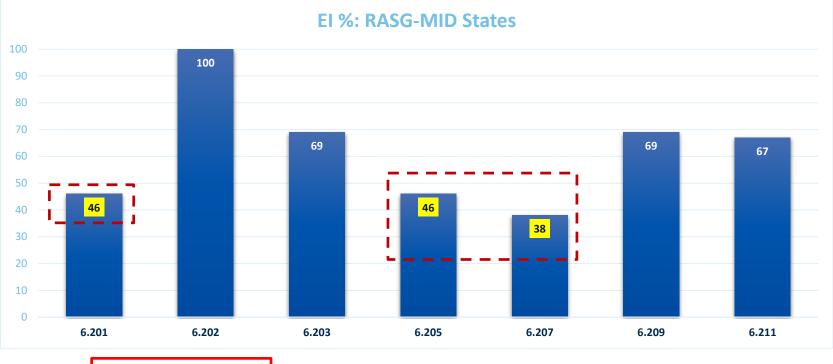




Facilities, equipment and documentation



Facilities, equipment and documentation

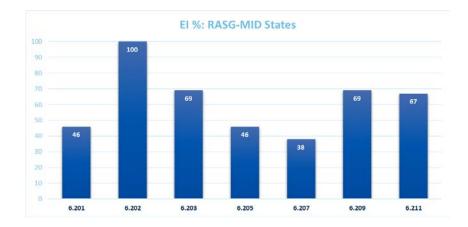


201, 203 & 207 merged in 2020 PQs



6.201: Does the State provide its investigators with all necessary investigation and protective equipment as well as all the necessary means of communications and transportation to enable the conduct of investigations?

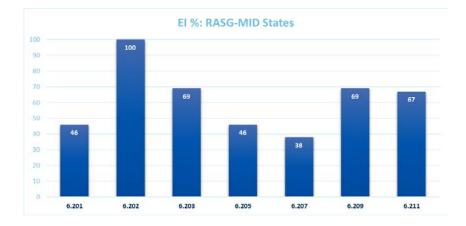
- investigators' equipment available (e.g. tools, survey equipment, marking equipment, protective equipment, etc.) and guidance material/procedures issued.
- Ensure that the equipment is available in sufficient quantity for all personnel who may need to access the accident site.
- Ensure that the protective equipment is adapted to the local conditions in the State.
- Ensure the investigation authority keeps a list of the collective and individual equipment available and keeps this list up-to-date.
- the relevant personnel is aware of and has ready access to the equipment
- Ensure means of communications and transportation available.





6.205: Does the State provide its investigators with all necessary protective equipment to address biological hazards and other hazards at accident sites?

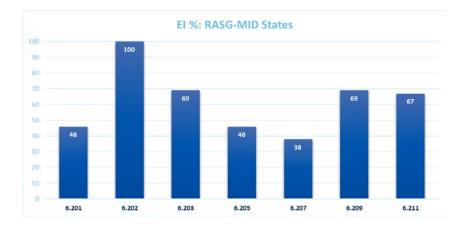
- Ensure protective equipment is available. Consider the list provided in the Appendix 1 to Chapter 2 of ICAO Doc9756, Part I.
- Develop guidance material/procedures and keep an upto-date list of the collective and individual equipment available.
- Establish and implement measures to ensure that the relevant personnel is aware of and has ready access to the equipment.
- Ensure that the protective equipment is available in sufficient quantity for all personnel who may need to access the accident site, including for part-time investigators who might be based in regions outside of the AIA main office.
- Establish and implement medical fitness / inoculation requirements for investigators.
- Ensure that the protective equipment is adapted to the local conditions.





6.209: Has the investigation authority established and implemented means to ensure that its investigators are provided with the necessary, up-to-date documentation to effectively accomplish their functions and responsibilities?

- Ensure availability and access to up-to-date ICAO documentation (Annex 13, Doc 9756...), applicable legislation in the State, Investigation Manual and the applicable procedures and checklists.
- Ensure access to the up-to-date advanced arrangements and MoUs with judicial authorities.
- Ensure availability and accessibility to the up-to-date templates for notifications, Final Reports...
- Ensure accessibility to Accident Investigation Authorities Addresses from other States: https://www.icao.int/safety/AIA/Pages/default.aspx
- Ensure availability and accessibility to documentation from regional office(s), if any.
- Ensure access to manufacturers' and operators' documentation





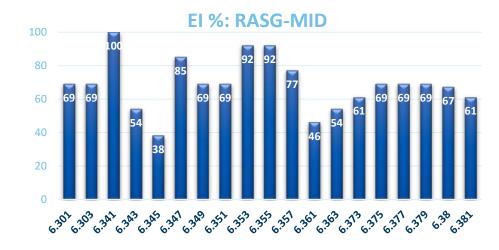






6. 343: Has the State established and implemented policies, procedures and guidelines to help determine the extent of an accident investigation (including the scope of the investigation and whether or not investigators will be deployed on site), depending on the circumstances of the accident and the safety lessons that it expects to draw from the investigation?

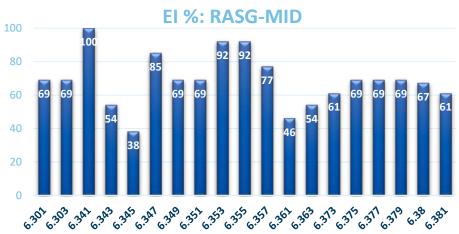
- Establish policies, procedures and guidance material established.
- Ensure that the policies, procedures and guidance material established are sufficiently detailed and are customized to the system in place.
- Evidence to confirm effective implementation.





6.345: Has the State established and implemented: a) a process for investigating serious incidents, as well as; b) guidance material to help determine which types of incidents will be investigated by the investigation authority, in conformance with Annex 13 ?

- Establish a list of relevant incidents that need to be reported to the Accident Investigation Authority by the service providers of the State and by the CAA.
- Establish a mechanism to ensure that service providers of the State and the CAA report all reportable incidents to the Accident Investigation Authority.
- Establish a mechanism to make the list of reportable incidents available to the service providers of the State and to the CAA.
- Ensure that all serious incidents are investigated, but the extent of the investigation may depend on the safety lessons expected to be drawn.

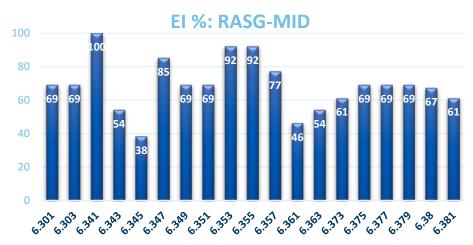




6.345: Has the State established and implemented: a) a process for investigating serious incidents, as well as; b) guidance material to help determine which types of incidents will be investigated by the investigation authority, in conformance with Annex 13 ?

Develop guidelines in an Investigation Manual detailing the process for investigating serious incidents. The process should cover the following aspects:

- What incidents are considered serious incidents and/or worth to be investigated because of the lessons expected to be drawn from the investigation for the improvement of safety. Attachment C of Annex 13 contains typical examples of incidents that are likely to be serious incidents.
- A risk-based approach can also be envisaged to determine which incidents are worth being investigated.
- Who within the AIA investigates serious incidents
- How to investigate serious incidents

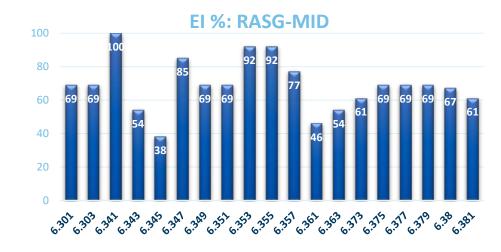




6.361: Has the State established and implemented procedures to ensure the timely recovery and read-out of the flight recorders?

Establish and implement procedures covering the following aspects:

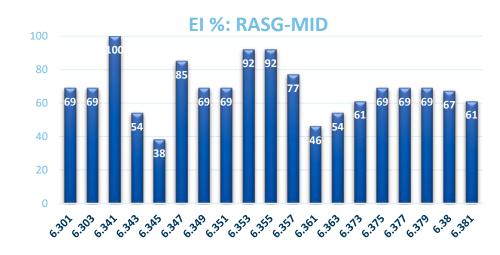
- How to and who recovers flight recorder from accident sites
- Chain of custody, in particular in relation with the judicial authorities
- Handling of flight recorders during recovery and transport to ensure the optimal preservation of data
- Detailed technical procedures for the read-out of flight recorders, if this is performed by the Accident Investigation Authority: what hardware to use (chassis, cable, power setting), what software to use, what options to select in the interface, data acquisition steps to follow in accordance with manufacturer instructions
- Where to store the data
- Clear plan for initiating, funding, and overseeing underwater recovery and how these aspects will be conducted
- Financial resources and pre-arranged agreements that are to be used, in particular in case of underwater recovery





6.373: Has the investigation authority established and implemented procedures and guidance material for the protection of investigators against biological hazards and other hazards at the accident site?

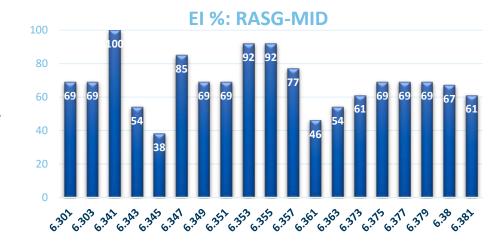
- Establish procedures and guidance material.
- Ensure that the guidance material has been customized as needed to reflect the local conditions and the safety equipment available.
- evidence to confirm effective implementation.





6.381: Has the investigation authority established and implemented procedures to ensure that relevant and timely information on the progress of the investigation will be provided to the families and accident survivors?

- Establish procedures and guidance material.
- evidence to confirm effective implementation.





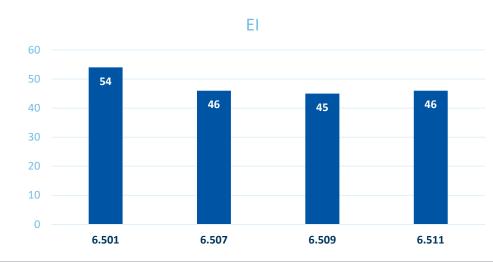






6.501: Has the State established and implemented (through the necessary legislation, procedures and guidance to the industry) a mandatory incident reporting system to facilitate the collection of information on actual or potential safety deficiencies?

- Ensure the establishment of legislation, regulations, procedures and mechanism established.
- There is a mechanism in place to ensure the collection, processing and analysis of safety data
- Ensure the establishment of a mandatory incident reporting system
- The information contained in accident and incident investigation reports should be analyzed to determine any preventive actions required
- Ensure State authorities responsible for the implementation of the State safety programme (SSP) have access to this database to support their safety responsibilities and fulfil their duties



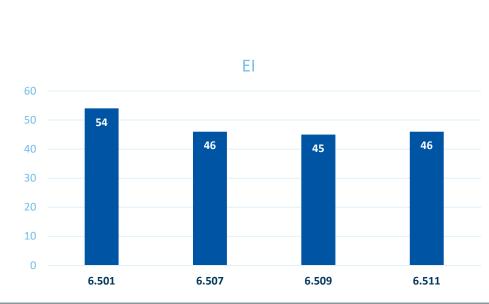


UNITING AVIATION

Reporting, storage and analysis of accident/incident data

6.507: Has the State established an accident and incident database to facilitate the effective analysis of information on actual or potential safety deficiencies and to determine any preventive actions required?

- Establish an accident and incident database, using software allowing thorough analysis of the data, including statistical analysis. Consider the sharing of database content with the CAA (occurrence reports, incident and accidents for the State in the same database).
- Adopting the European Coordination Centre for Aviation Incident Reporting System (ECCAIRS) may be considered.
- Ensure the database system is administrated and maintained by adequately trained IT specialists.
- Ensure that the identification of actual or potential safety deficiencies is performed by adequate trained data analysts.
- Publish Annual Safety Reports summarizing identified safety deficiencies and the status of any preventive actions taken or envisaged.





6.511: Does the State analyze the information contained in its accident/incident reports and database to determine any required preventive action?

- access of applicable State authorities.
- information contained in accident and incident investigation reports be analyzed to determine any preventive actions required

