

A practical way to evaluate SMS efficiency for the purpose of RBO



DSAC

Direction générale de l'Aviation civile

Ministère de l'Écologie, du Développement durable, et de l'Énergie

Background

- 3 aspects of Risk Based Oversight
 - Adapt the volume of oversight depending on the safety performance
 - Focus the oversight actions
 - Develop a dialogue with the operators based on risk management

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How to judge the efficiency of an SMS?

- First step : **compliance**
- But a compliant SMS is not always as efficient as it should be
- Why?
 - Depend on people (safety culture, knowledge, decision making...)
 - Depend on the complexity of the organisational structure of the operator
 - Depend on the organisation of the SMS processes
- There is no objective indicator for these factors

A possible way forward

- **Idea** : all inspectors have their own opinion on the performance of the operators they oversee
- Collect **subjective evaluations** from inspectors having a good knowledge of the operator through their oversight activities
- Survey system
- The question then changes to : how to make these evaluations as objective as possible?

Step 1 : have common and standardized criteria

1. Safety culture of the management and personnel of the operator (including application of an adequate just culture)
2. Ability to become compliant efficiently
3. Efficient feedback and ability to analyse in depth the appropriate events which occurred during operations
4. Ability to identify safety issues and prioritize risks (based on internal and external data)

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4	<ul style="list-style-type: none"> - One or more flight safety priorities are clearly defined - These priorities are known to the managers and to all operator's personnel - They are regularly updated - These priorities are justifiable based on the information available to the operator - They appear to be judicious with respect to the type of operation carried out - They serve as the basis for the decisions made in the framework of the SMS <p>Summary: risks appearing to be <u>pertinent</u> are identified on the basis of <u>comprehensive</u> and <u>reliable</u> data. They are <u>classified</u>, <u>known</u> to the majority of operator's personnel, and <u>used</u> for making decisions.</p>
3	<ul style="list-style-type: none"> - Several flight safety priorities are clearly defined - These priorities are not necessarily known to all operator's personnel, but the main persons involved in flight safety have a good knowledge of them <p>Summary: risks appearing to be <u>pertinent</u> are identified but are not necessarily based on comprehensive and reliable data. They are <u>prioritized</u> and <u>used</u> in making decisions, but only known by the SMS managers.</p>
2	<ul style="list-style-type: none"> - A certain number of risks are identified, but they are all placed at the same level of importance, without ranked classification - Risk mapping exists, but there are serious doubts about its actual use in making safety decisions. - The identified risks appear to be quite injudicious considering the operator's operations <p>Summary: risk portfolio exists and is sometimes used for making decisions, but it is fairly inappropriate or fairly unsuited to use (e.g., through lack of risk classification, for example).</p>
1	<ul style="list-style-type: none"> - There is no identification of risks or there is no ranked classification of risks - The main risks identified are based on incomplete data and are quite injudicious. For example: an operator operating Airbus aircraft and with mainly event reports concerning ground assistance (due to still immature feedback) may be led to identify only the risks linked to ground operations, whereas State Safety Programme identifies many other domains, such as the use of automation, manual piloting, etc.; the fact that the latter are not priorities is not therefore the result of risk management but the result of an absence of data, and therefore of a failure to take these risks into account. - Failure to take external data into account for the identification and prioritisation of risks. <p>Summary: there is no risk mapping or, if risk mapping exists, it is not relevant, not classified according to priority, it is unknown or unused in practice.</p>

Common and standardized criteria

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Ability to analyse in depth the
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Issues and prioritize risks (based
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Step 1 : have common and standardized criteria

5. Ability to determine and implement corrective measures and check their efficiency
6. Ability to identify sufficiently early the changes requiring a risk study, and to genuinely put in place these changes by pursuing a risk management approach
7. Ability to manage its interfaces (aerodromes, ATC, subcontractors, etc.): circulation of information, SMS coordination, risks identification, implementation of solutions
8. Ability to get a good appropriation of its operation manual

Step 2 : collect multiple evaluations

- 1 evaluation is subjective by definition whereas the mean of many evaluations is more objective
- Diversity of point of views necessary :
 - Management
 - Inspector in charge
 - External inspectors
 - Flight Operations Inspectors
 - ...

Step 2 : collect multiple evaluations : survey system

CRITERE	EVALUATION	AIDE
Culture de sécurité des dirigeants et personnels de la compagnie (dont application d'une culture juste adéquate)	- <input type="text"/>	
Capacité à se mettre en conformité de façon efficace	- <input type="text"/>	
Efficacité du retour d'expérience et capacité à analyser en profondeur les événements d'exploitation pertinents	- <input type="text"/>	
Capacité à identifier ses problématiques de sécurité et prioriser ses risques (à partir des données internes et externes)	- <input type="text"/>	
Capacité à décider, mettre en œuvre des mesures correctives et à vérifier leur efficacité	- <input type="text"/>	
Capacité à identifier suffisamment tôt les changements nécessitant une étude de risques et à véritablement mettre en place ces changements en suivant une approche de gestion des risques	- <input type="text"/>	
Capacité à gérer ses interfaces (aéroports, ATC, sous-traitants...) : circulation de l'information, coordination des SGS, identification des risques, mise en œuvre de solutions	- <input type="text"/>	
Capacité à s'approprier sa documentation	- <input type="text"/>	

4 levels of evaluation :

- 1) Not confident
- 2) Rather confident
- 3) Confident
- 4) Very confident



Results analysis

- Scale based on 4 levels : not enough, French people tend not to use extreme values
- Rather large standard deviation : due to differences between categories of personnel
- The ranking of results is always the same between all categories
- => Taken independently, each result does not have enough validity
- => However, the ranking of results is valid

Conclusion

- SMS evaluations will be used as one of the inputs to adapt the oversight cycle of each operator
- Other types of inputs :
 - Risk profile
 - Compliance indicators (Level 1 findings, corrective actions implementation time...)
 - ...