



GOVERNMENT OF INDIA  
OFFICE OF DIRECTOR GENERAL OF CIVIL AVIATION

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## **AERODROME ADVISORY CIRCULAR**

**SUBJECT: Process for communicating with the DGCA on the planning, construction and commissioning of changes to airport infrastructure, and major maintenance programmes**

### **1. INTRODUCTION AND PURPOSE**

As part of the licensing arrangements a licensed airport is required by Rule 83(2) of Aircraft Rules, 1937 and as a condition of the license, to seek the prior approval of the safety regulator, i.e. the Director General of Civil Aviation (DGCA) for aerodrome projects that change/add facilities, structures, hereafter referred to collectively as infrastructure, that may affect the safety of aircraft operation.

This is in addition to the obligation on the licensee to ensure that the aerodrome and its operation comply with licensing requirements, as well as its own safety requirements, if and where they are more stringent.

The purpose of the Rule 83(2) obligation and license condition is for the DGCA, as the safety regulator, to be assured through documented evidence that the licensee has fully considered aircraft safety issues in the context of an infrastructure or major maintenance project and has:

- (a) Satisfied itself, through its internal change management and other relevant safety management processes, that the agreed safety performance criteria will not be compromised.
- (b) Reviewed exemptions to determine if the reason for the exemption can be corrected and when.
- (c) For the licensee to demonstrate to the DGCA that the project is compliant with national safety requirements and that the agreed safety performance criteria will not be compromised.
- (d) That rigorous and comprehensive project planning has taken place.

This document has been developed in response to the need to improve the notification, management and safety oversight of projects that significantly change the infrastructure of an airport's overall facility and have the potential to introduce new or changed safety risks to aircraft using airports in India. Therefore, it is designed to assist both the DGCA as the safety regulator and service providers in that aim.

It is worth emphasizing that the focus is on those aspects of development that relate, either directly or indirectly, to aircraft and not occupational safety or landside functions/processes, unless there is a link to aircraft safety. So, for example, passenger processing in a new terminal will not be part of DGCA operational safety oversight unless it is designed with aircraft safety in mind. So, security and immigration will generally be the remit of the specialist authorities, not DGCA, but the areas/activities that interface with airside operations, say aerobridge operation will be an area of DGCA interest, either aerodrome or flight operations, depending on which party or party's contractor at the airport is the operator of the air bridge (it may well be an area of joint responsibility/interest). It should not be forgotten that overall building design may raise aircraft safety issues, whether airside or landside – see item **1.a.** in the project context paragraph. Building integrity is usually a planning or building control/code issue.

This circular is issued with the aim to guide aerodrome operators to prepare the proposals for submission to DGCA in proper and standardize manner.

The DGCA, in partnership with industry, will review and amend this material in the light of usage and experience.

**2. DEFINITIONS AND ABBREVIATIONS.** When the following terms are used in this circular they have the following meanings:

**Compliance.** The meeting of CAR requirements, whether they are the equivalent to Standards mentioned therein.

**Hazard.** A condition or an object with the potential to cause injuries to personnel, damage to equipment or structures, loss of material, or reduction of ability to perform a prescribed function (ICAO 9859, Edition 2).

**Hot Spot.** A location on an aerodrome movement area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary.

**Infrastructure project.** A building or structure (defined as an arrangement of parts). This could be a new or upgrade of facilities, a replacement or refurbishment of an existing facility or a major maintenance project that will cause operational disruption over a significant period of time. Such projects will have different significance in different contexts. For example, in terms of obstacle limitation surfaces, height will be the significant element, whereas for wildlife management the significant element will be attractiveness to wildlife.

**Probability.** The likelihood of a specific outcome.

**Risk – specifically Safety Risk.** A measure of the seriousness of, or “put a number” on, the consequences of hazards, expressed in terms of predicted probability and severity, from the consequences of a hazard.

**Mitigation; more specifically safety risk mitigation.** The means by which risk levels may be reduced by safety interventions/mitigation measures, in order to reduce the probability (the more normal means), or reduce the consequence. They are determined by using in-house and external expertise from a relevant range of airport, risk management and aircraft related operational departments, pro-actively monitoring operations and performance, and analyzing data.

**Safety Assurance Report.** A structured argument, supported by a body of evidence that provides a compelling, understandable and valid case that change in a system/sub-system meets the service providers risk acceptability and change management criteria for a given application in a given operating environment. It is more than risk management, or even a safety assessment, as it includes in its scope the outcomes of activities and assurances required by the change management process, such as testing prior to entry-into- service. Depending on the nature of the application and operating environment, a safety case may meet the requirement for a safety assurance report.

**Safety Performance metrics/criteria - Indicators and targets.** Safety indicators are the parameters that characterize and/or typify the level of safety of a system; safety indicator value is the quantification of a safety indicator and safety targets are the concrete objectives of the level of safety,

### **3. APPLICABILITY**

The Accountable Executive at all the licensed aerodromes, as the person with overall accountability for safety management, or an appropriately delegated person, should identify projects that significantly change the infrastructure of an airport’s overall facility and have the potential to introduce new or changed safety risks to aircraft using airports in India. This circular has been developed to assist that person in submitting the proposal along with required documents to DGCA for approval.

#### **3.1 INFRASTRUCTURE PROJECT OR MAINTENANCE PROGRAMME THAT MAY AFFECT RISKS TO SAFETY**

That is a question for the licensee to consider and answer as part of the change management process of its Safety Management System (SMS), but as guidance the following are areas and examples of infrastructure change to meet changes in operational requirements that can generate significant changes with the potential to affect aircraft safety, usually as a change in infrastructure design, during construction or during the commissioning; even when the end result is intended to be positive. These negative effects can be greater where there is significant disruption to traffic and/or greater exposure to the change. For example, a protracted project timescale

- exposure time being a factor in probability of a hazard being realized. Such examples are those that should be brought to the notice of the DGCA.

- (a) Planned airport infrastructure change that introduces a new or upgraded facility/equipment:
  - (i) A new or significantly extended building, usually in airside or at the interface of airside and landside, such as terminals. However, in some cases buildings at some distance from the movement area may have the potential to affect aircraft safety. For example, due to the height infringing an obstacle clearance surface. Alternatively, or even in combination due to factors such as the shape, orientation, height, surface finish, lighting, location relative to the runway or navigation aid transmissions, there may be the potential to:
    - (aa) Generate wind-shear across a runway (building induced turbulence);
    - (ab) create anomalies in radiated signals from navigation or surveillance aids especially in Cat-II/III operations; or
    - (ac) create light distractions for pilots and Air Traffic Controllers.
  - (ii) New or upgraded runways, taxiways or aprons, particularly when such a project would change in or to:
    - (aa) the weather capability, for example Category I to Category II/III landing capability;
    - (ab) the existing traffic pattern;
    - (ac) the maneuvering area “Hot Spot” locations; or
    - (ad) existing or introduce new hazards.
  - (iii) Surface Movement Guidance Control System (SMGCS), including changes due to the introduction of night-time operations or Low Visibility Operations.
  - (iv) Air Traffic Visual Control Rooms/towers.
  - (v) Visual and electronic navigation aids or communications systems.

- (b) Planned changes to existing infrastructure that is not considered to be an upgrade (this distinction is a matter of licensee judgment):
  - (i) Reconfiguring existing taxiways or aprons unless part of a new runway or runway extension (when it would be considered to be part of new infrastructure, as in 1 above).
  - (ii) Re-designating taxiways or aircraft stands.
  - (iii) Re-declaring runway distances as a result of an obstruction outside the licensee's control. When this has to be done unplanned and in emergency, for example as the result of a crane being erected and infringing an approach surface, the licensee would not be expected to seek DGCA approval before taking the necessary operational and Notice to Airman (NOTAM) action.
  
- (c) Planned or unplanned major maintenance where there is no intention to change the characteristics of the facility. There will be significant maintenance projects that will cause significant disruption or extended periods of exposure to new risks, and they are subject to prior notice to the DGCA for approval without submission of Stage-1 documents i.e. Design and concept level referred in para 5 (a).

Examples of major planned repairs for which DGCA approval needs to be obtained, because they involve major disruption, the need to coordinate with a number of parties/stakeholders and/or are to be undertaken over an extended timescale, possibly with very tight deadlines for being returned to service (and thus have the potential to negatively affect aircraft safety) are:

- (i) The re-surfacing or re-carpeting of a runway.
  - (ii) Replacing elements of a SMGCS.
  - (iii) Replacing power cables or drainage systems, requiring significant trenching work and/or plant being used close to the movement area.
  - (iv) Extensive repairs to the taxiway or apron systems.
- 
- (d) For short duration works that are required to be undertaken at short notice due to an emergency requirement or for repairs that were unplanned and need to be expeditiously undertaken this process would not apply. In such cases, examples of which follow, the licensee should advise the DGCA as soon as practicable after the completion of the works, with a summary of the situation and the steps taken to secure the safety of aircraft during the period of the works. Examples are:
    - (i) Works related to the recovery of a disabled aircraft.
    - (ii) Temporary emergency works to a runway surface or section of taxiway.
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- (e) Withdrawal of any facility for the purpose other than mentioned above for a prolonged period is considered degradation of aerodrome facility and should be intimated with reasons.

### 3.2 WORKS EXEMPTED FROM NOTIFICATION

Any other emergency or minor repair work for short duration should be undertaken by the aerodrome licensee either during the routine maintenance period or at the time of low or no traffic, such as the cleaning of runway lighting and minor repairs to the movement area surface, which does not impact safety of Aircraft operation. Such examples, should be evaluated for the impact on safety and handled by the aerodrome operator and need not to bring to the DGCA's attention.

### 4. SAFETY ASSESSMENT PROCESS:

The Aerodrome license holder shall ensure safety assessment process are implemented while planning, construction and commissioning of changes to the airport infrastructure and major maintenance programmes at the airport. The following steps should be followed while carrying out safety assessment:

(i) **Hazard identification.** The aerodrome license holder should develop and maintain an effective process to identify safety hazards affecting the operation. Hazard identification should be based on a combination of reactive (using safety data from an event that has happened), proactive (using safety data from a near miss report) and predictive (actively looking at normal day-to-day operations to see where potential problems could occur) methods of safety data collection.

(ii) **Safety risk assessment and mitigation.** The aerodrome license holder should develop and maintain an effective process that ensures analysis and assessment of the safety risks in aerodrome operations, and should implement any remedial action necessary to maintain risks at a level as low as reasonably practicable. Risk assessments should be reviewed regularly, and when changes occur that may affect the safety hazards or the associated risks.

(iii) **Safety Case Assessment and Reporting System (SCARS).** A sample SCARS form is placed at "Annexure-II" for adoption by aerodrome operators in order to identify the hazards, assess the related risks and evaluate the same as per the safety risk matrix suggested in the ICAO SMS manual (Doc 8659) and should be forwarded along with the form for "Communication with the DGCA for any change/project in an aerodrome "Annexure-I".

It is expected that the cases falling in the intolerable region of their SMS matrix are not considered for implementation by the operator and not forwarded to this office

### 5. THE PROCESS FOR EVALUATION AND COMMUNICATION OF CHANGES TO DGCA

The requirement is the same for all the categories of change listed above that require prior notification to the DGCA. A major difference will be the amount of time that the applicant or licensee needs to allow between notifying the DGCA and the intended date of entry into service of the change, new equipment or infrastructure project.

Rev 1, 19<sup>th</sup> December 2012

Time also needs to be allowed for the necessary promulgation process (AIRAC Cycle) when an operational facility like a runway or new apron arrangement is being contemplated.

The DGCA's, Directorate of Aerodrome Standards (DOAS) will expect the licensee to complete the fundamental steps in the following paragraphs that outline a generalized process.

The documentation submitted may be proportionate to the size of the project. Normally any change in infrastructure shall be in three stages i.e. firstly Design/ Concept secondly execution and thirdly commissioning. The documents are required to be submitted for each stage of the proposal. For smaller projects it is acceptable to submit Stage 1 and 2 together.

- (a) **Stage-I (Design/ Concept Level).** It is a requirement for licensees to notify the DGCA as required by Rule 83 (2) and license conditions. The documentation for this part shall include the duly filled application form attached as "**Annexure-I**" to this circular. The communication should contain, complete details of the proposed project, safety assessment on the proposed design/concept in consultation with all stakeholders as per their SMS and signed off by the appropriate level manager and the project manager responsible for the project/ maintenance programme DGCA may call for a meeting with or presentation from aerodrome operator on the proposed project.

The safety/risk assessment on design/concept level should generally include: -

- (i) A system description, including the operational objective.
- (ii) A statement of compliance, conforming that the facility or system shall be in full compliance to DGCA CAR and operator's safety requirements.
- (iii) All efforts should be made to ensure that the new or refurbished facility is fully conforming to the specifications mentioned in the DGCA CAR. If for any unavoidable reasons (To be demonstrated to DGCA by the aerodrome operator), there is any non-compliance, an application for exemption to the non-compliance along with relevant documents as mentioned in the DGCA CAR Section 4, Series B, Part-IV are required to be enclosed with the proposal.
- (iv) Minutes of the meeting with all stakeholders with attendance sheet. The details of the objection/comments by the members and the action taken on the said objections/comments.
- (v) A system description and a gap analysis to comprehensively identify hazards due changes in design or introduction of the facility, and where there are insufficient defenses against risks to safety, to develop and implement adequate defenses before entry into service.
- (vi) A statement that the new, upgraded, replaced/refurbished facility or system will not compromise the Licensee's safety performance targets agreed with the DGCA.

On the assessment of the above said documents, this office shall issue 'In Principle' approval for the proposed project. On getting the 'In Principle' approval, the aerodrome may promulgate the information on the project in AIRAC through AAI for dissemination of the information on the intended work and facility and secondly, the plan for execution of the work may be prepared by the aerodrome operator in coordination with the stakeholders.

- (b) Stage-II (Execution Level).** This stage shall consist of the execution part of the project i.e. work in progress. The aerodrome operator shall prepare the work execution plan with time lines and submit the same to DGCA along with the duly filled application form attached as Annexure-I to this circular, with comprehensive safety/ risk assessment report in consultation with the stakeholders and signed off by the responsible persons at appropriate level before commencement of the work on the project.

The safety/risk assessment on work execution level should generally include: -

- (i) The details of the area closed for the work including the duration.
- (ii) The details of the mitigation methods employed to mark the closed area during day and night.
- (iii) The details of the training/ familiarization given to the contractors/workers/drivers etc.
- (iv) Minutes of the meeting with all stakeholders with attendance sheet. The details of the objection/comments by the members and the action taken on the said objections/comments.

DGCA shall process the request for commencement of the work on assessment of the above said documents and accord permission for commencement of the work on the project with or without additional conditions.

The aerodrome operator shall strictly adhere to the time lines and conditions and submit periodic progress report on the work.

**Note:** *The Part-I & Part-II as mentioned above may also be submitted together. In case both parts are submitted together, risk identified shall be separate for Design/ concept level and execution level.*

- (c) Stage-III (Commissioning Level).** This stage shall be a final document submission to DGCA before the new, upgraded or replaced/refurbished facility or system is commissioned into service. This document includes duly filled application form attached as Annexure-I to this circular, a Safety/ Risk assessment report and CAR Compliance check list must include:

- (i) A system description and a gap analysis to comprehensively identify hazards during and after transition to service, and where there are insufficient defenses against risks to safety, to develop and implement adequate defenses before entry into service.
- (ii) A statement of compliance, confirming that the facility or system is in full compliance with DGCA CAR and company safety requirements.

For any non-compliance that has been the subject of an exemption application there shall be a separate statement confirming that:

- (aa) all agreed mitigations measures are in place;
- (ab) that other permitted non-compliances have been reviewed and corrected/removed where possible.
- (iii) A statement that all verification activities, including any operational trials have demonstrated that the work has met the technical specifications and will meet the operational objectives and requirements.
- (iv) A document certifying and demonstrating that the users/operators of the new, upgraded or replaced/refurbished facility have been adequately trained and competent to operate the facility.
- (v) That the new, upgraded, replaced/refurbished facility or system will not compromise the Licensee's safety performance targets agreed with the DGCA.
- (vi) That the appropriate notifications for data and facility promulgation have been initiated for applicability on (a specified) date, and that the new, upgraded, replaced/refurbished facility or system will be complete, fully operational and ready for entry into service on that date.
- (vii) That there is a plan to monitor safety performance and immediate corrective action, should that be necessary.
- (viii) That evidence for all the above is the subject of documented record and is available for inspection, should that be required.

In the event of additional evaluation/ clarification required by the DGCA, same shall be sought from the aerodrome operator. DGCA may or may not carry out an inspection of the new facility before approval for commissioning of the same.

This Safety Assurance Report will be signed off by the Accountable Executive and where a project is being phased separate, Safety Assurance Reports will be required for each phase. Additional guidance on operational requirements is provided at **Appendix-I** and a template of the Safety Case Assessment and Review System (SCARS) form at **Appendix-II** to this circular for the aerodrome operators.

## 6. EVALUATION OF THE PROPOSAL FOR GRANT OF PERMISSION

The documentation prepared and submitted after undergoing the above process shall be helpful in examination and processing of the same in DGCA. The assessment would primarily be carried out by DGCA officials on above lines.

Sd/  
(J.S. Rawat)  
Joint Director General

**Appendix-I**

**Additional Guidance**

From the operational objectives the components of the operational requirements need to be identified. Most elements of the requirements can be grouped into the following component areas

1. Facilities
2. Systems
3. Personnel
4. Documentation

For each of these components there will be different functionality and safety requirements, which will inform the technical specification documentation. System integration, compatibility with existing systems and interface working, including Human Factor principles (Software, Hardware, Environment, Liveware – SHELL, model) will all need to be considered.

As part of project management, there will be an expectation of planned scheduling of time and its management, including that necessary for operational readiness and the transition to service.

Basic questions to be answered in relation to operational readiness, i.e. before entry into service, irrespective of any DGCA approval given or sought, are:

1. Does the new, upgraded or replaced/refurbished facility, system or sub-system, including its documentation and trained operative/staffing levels meet the technical specification?
2. Does the new, upgraded or replaced/refurbished facility, system or sub-system meet the operational objectives and requirements? This includes the verification of full compliance with the DGCA Regulations, as well as company safety requirements? To fully answer these question operational trials may be necessary depending on the nature, scope and complexity of the project or programme.
3. Is there a robust and comprehensive transition plan for entry into service, including the necessary level and scope of monitoring and corrective action, should that be necessary?

The following **Table-I** gives some, not exhaustive questions to test operational readiness; there are more for the licensee to formulate and ask of themselves.

**Table-I Operational Readiness Considerations**

|                 |                                                                                                                                                               |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Facilities      | Is the facility or equipment installed and operationally commissioned?                                                                                        |
|                 | Is the facility or equipment available for use?                                                                                                               |
|                 | Does the facility or equipment meet functional requirements?                                                                                                  |
|                 | Does the facility or equipment meet the supplier's technical specifications?                                                                                  |
|                 | Is there a minimum equipment/spare parts list and if so are all items available or held in store?                                                             |
|                 | Does equipment require to be calibrated?                                                                                                                      |
|                 | Does the facility or equipment require to be approved by the DGCA and any other appropriate authorities?                                                      |
| Systems         | Are the system and its hardware installed and operationally commissioned?                                                                                     |
|                 | Is the system available for use?                                                                                                                              |
|                 | Does the system meet functional requirements?                                                                                                                 |
|                 | Does the system meet technical specifications including system integration and calibration?                                                                   |
|                 | Is there a minimum equipment/spare parts list and if so are all items available or held in store?                                                             |
|                 | Does the system require to be approved by the DGCA and any other appropriate authorities?                                                                     |
| Human Resources | Are there enough staff members or operatives to operate the system to meet operational requirements?                                                          |
|                 | Are there sufficient staff members or operatives to maintain the facility, system or equipment?                                                               |
|                 | What is the lead-time required for recruitment and training?                                                                                                  |
|                 | What qualifications/ licenses are required to operate or maintain the facility, equipment or system?                                                          |
|                 | Are the staff members and other operatives appropriately qualified?                                                                                           |
|                 | Are the staff trained and familiarized on the facility, equipment or system to be operated and maintained?                                                    |
|                 | Are on-going competency checks or training required and if so has this schedule been established?                                                             |
| Documentation   | Are changes required to the operational manuals and do they require prior approval from the DGCA and any other appropriate authorities before implementation? |
|                 | Are standard operating, operational contingency, and O &M procedures available?                                                                               |
|                 | Has appropriate information been disseminated to all relevant parties?                                                                                        |
|                 | Are changes required to be notified to the AIS and if so by when?                                                                                             |
|                 | Is training documentation and material available?                                                                                                             |
|                 | Are other regulatory approvals and permits necessary?                                                                                                         |

**FORM FOR COMMUNICATING WITH DGCA FOR  
ANY CHANGE PROJECT IN AN AERODROME**

**SECTION 1: AERODROME DETAILS**

Aerodrome Name: .....

Aerodrome Address: ..... Pin Code: .....

Accountable Manager: Name: .....

Tele/Mob/Fax: .....Email: .....

Project Manager: Name: .....

Tele/Mob/Fax:.....Email: .....

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**SECTION 2: PROJECT DETAILS**

Title of Project: .....

Reason for  
Change:.....

Brief Description:  
Planned Commencement of Works: .....

Planned Duration of Works: .....

Estimated Completion Date: .....

Aerodrome Closed during Work in Progress? YES/ NO:..... (if NO, please specify Hours of  
Work, below)

Hours of Work: .....

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**SECTION 3: SAFETY/ RISK ASSESSMENT DETAILS**

Stage of the Project: .....  
(Design /Concept / Execution / Commissioning level)

Overall Outcome of the Safety Assessment: .....  
(Minor/ Moderate/ Major etc.)

The details of the documents enclosed with the safety assessment (appropriate to the safety outcome)  
as required by Aerodrome Safety Management Service.

1. ....
2. ....
3. ....
4. ....
5. ....
6. ....

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**SECTION 4: (FOR DESIGN/ CONCEPT LEVEL ASSESSMENT AND 'IN PRINCIPLE APPROVAL ONLY)**

Is any non-compliance with the CAR specification (Yes/No).....

If yes above, please give the details and reason of non-compliances and enclose exemption application with required documents as per the CAR on the subject.

Total Number of Risks Identified: .....

Number of New Mitigation Methods Recommended in Risk Assessment: .....  
(Enclose documentary evidence to prove the implementation of the above mitigation methods)

Whether the issue of AIP Supplement (AIRAC) required: Yes/ No: .....

If Yes above, Attach a draft AIP Supplement for approval.

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**SECTION 5: (FOR EXECUTION/ COMMENCEMENT OF WORK ONLY)**

'In Principle' approval reference number granted by DGCA: .....

Total Number of Risks Identified: .....

Number of New Mitigation Methods Recommended in Risk Assessment: .....  
(Enclose documentary evidence to prove the implementation of the above mitigation methods)

Details and duration of the area closed in the movement/ Airside area:

.....  
.....

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**SECTION 6: (FOR COMMISSIONING OF THE FACILITY AFTER COMPLETION OF THE WORK)**

'In Principle' approval reference number granted by DGCA: .....

'Work Execution' approval reference number granted by DGCA: .....

Proposed date of Commissioning: .....

Details of the Promulgation of the information on the facility (AIP Supp/AIRAC/NOTAM): .....

Total Number of Risks Identified: .....

Number of New Mitigation Methods Recommended in Risk Assessment: .....  
Enclose documentary evidence to prove the implementation of the above mitigation methods)

Details of the Non Compliances with DGCA CAR, if any: .....

Status of the approval for the above Non-Compliances: .....  
(Give details of the application and approval reference if already granted).

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(Signature of Accountable Executive)

Name: \_\_\_\_\_

Designation: \_\_\_\_\_

Dated:

**Safety Case Assessment and Reporting System (SCARS)**

The SCARS form must be used for changes to service levels, procedures or equipment, which will affect the performance, functional or technical specification of a system, facility or service and for organisational changes affecting safety accountabilities.

This form must be completed by a person or persons, with specialist knowledge about the proposed change along with other Group members, and then be reviewed and approved by the appropriate Manager.

**Introduction:** This form must be used to determine the safety magnitude of a project/change and the type of safety report required to be produced and the associated requirements for sign-off acceptance.

|                     |  |             |  |
|---------------------|--|-------------|--|
| Project Number      |  | File Number |  |
| Project Title       |  |             |  |
| Location:           |  | Unit:       |  |
| Project Description |  |             |  |

## Step 1: Assess the SIZE OF THE CHANGE

Complete the following questions to determine the size of the change. For each question, choose a rating from 1 (Low) to 7 (High) and provide justification.

NOTE: These questions are not definitive and are aimed at providing a generalized framework for the initial assessment of the overall safety magnitude of the change.

| No.                          | Description                                                                                                                                                                                                                                                                                                                | Ratings              |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 1                            | <p><b>Assess the significance (scope/scale) of the project/change <i>within</i> organization.</b><br/> <i>Consider the number of work areas affected: Airport Airside Operations, ARFS, etc. Also consider disciplines, systems, locations, business processes and organization structures.</i></p>                        | <p>1 2 3 4 5 6 7</p> |
| <p><b>Justification:</b></p> |                                                                                                                                                                                                                                                                                                                            |                      |
| 2                            | <p><b>Assess the significance of the project/change <i>outside</i> organization.</b><br/> <i>Consider the number of services users and/or stakeholders affected, including the interfaces between these parties, e.g. government departments, customers and other ANSPs.</i></p>                                           | <p>1 2 3 4 5 6 7</p> |
| <p><b>Justification:</b></p> |                                                                                                                                                                                                                                                                                                                            |                      |
| 3                            | <p><b>Assess the level of <i>new functionality</i> introduced, or removed, by the proposed project/change, as opposed to the existing system, facility or service.</b> <i>Does the new system enhance/reduce existing functionality or provide different functionality? Consider new technology.</i></p>                   | <p>1 2 3 4 5 6 7</p> |
| <p><b>Justification:</b></p> |                                                                                                                                                                                                                                                                                                                            |                      |
| 4                            | <p><b>Assess the safety significance of the systems, facilities or services affected by the project/change?</b><br/> <i>Consider for example radar systems, communication systems, data systems, AFTN, Runways, Taxiways and any organization systems such as safety reporting etc. (People/Procedures/Technology)</i></p> | <p>1 2 3 4 5 6 7</p> |
| <p><b>Justification:</b></p> |                                                                                                                                                                                                                                                                                                                            |                      |

|  |
|--|
|  |
|--|

|                       |                                                                                                                                                                                                                                                              |                      |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 5                     | <b>Assess the <i>training component</i> associated with implementing the project/change?</b><br><i>Consider type of training required, classroom or simulation, time lines, resources, recency requirements, etc.</i>                                        | <b>1 2 3 4 5 6 7</b> |
| <b>Justification:</b> |                                                                                                                                                                                                                                                              |                      |
| 6                     | <b>Assess the complexity of the <i>transition</i> from the existing system, facility or service?</b><br><i>Consider resources available, documentation, time lines, approvals, contingency arrangements, organizational changes, multiple locations etc.</i> | <b>1 2 3 4 5 6 7</b> |
| <b>Justification:</b> |                                                                                                                                                                                                                                                              |                      |
| 7                     | <b>Size of Project/Change Rating.</b> Total the scores from questions 1 to 6 and compare to the values below.                                                                                                                                                | <b>TOTAL</b>         |
|                       | Select the resultant size.                                                                                                                                                                                                                                   |                      |
|                       | Small = 1 to 18                                                                                                                                                                                                                                              | Medium = 19 to 30    |
|                       |                                                                                                                                                                                                                                                              | Large = 31 to 42     |

**Step 2: Assess the SAFETY OUTCOME OF THE CHANGE**

To assess the safety outcome of the project/change, conduct a preliminary hazard analysis to determine the likely hazards that may result from the project/change and complete the table below. Giving consideration to the number and severity of the likely hazards, estimate the Safety Outcome as Minimal, Reasonable or Substantial and enter this below.

| LIST THE /SYSTEM, FACILITY OR SERVICE BEING CONSIDERED (e.g. TWR, ILS, etc.): |                   |                     |                             |        |   |   |   |   |        |   |
|-------------------------------------------------------------------------------|-------------------|---------------------|-----------------------------|--------|---|---|---|---|--------|---|
| Hazard Description                                                            | Existing Controls | Effect on           |                             | Rating |   |   |   |   |        |   |
|                                                                               |                   | ATS/Operations/ARFS | Aircraft/Aircrew/Passengers | 1      | 2 | 3 | 4 | 5 | 6      | 7 |
| Hazard 1                                                                      |                   |                     |                             |        |   |   |   |   |        |   |
| Hazard 2                                                                      |                   |                     |                             |        |   |   |   |   |        |   |
| Hazard 3                                                                      |                   |                     |                             |        |   |   |   |   |        |   |
| Hazard 4                                                                      |                   |                     |                             |        |   |   |   |   |        |   |
| Hazard 5                                                                      |                   |                     |                             |        |   |   |   |   |        |   |
|                                                                               |                   |                     |                             |        |   |   |   |   | TOTAL: |   |

List all persons assisting in the analysis process:

\*Must include representatives from all significant Stakeholder Groups (e.g.

**Equation for Percentage:**

$$\frac{\text{Total score}}{7 \times \text{No. of Hazards}} \times 100 = \text{xxx}\%$$

Safety Outcome Result:  
 Substantial: 73% or more  
 Reasonable: 45%-72%  
 Minimal: Up to 44%

ATM/CNS, Operations, Safety)

|       |           |       |
|-------|-----------|-------|
| Name: | Position: | Date: |

|                                                          |                |
|----------------------------------------------------------|----------------|
| <b>Enter the estimated Safety Outcome of the change.</b> | <b>Result:</b> |
|----------------------------------------------------------|----------------|

**Step 3: Assess the OVERALL SAFETY MAGNITUDE OF THE CHANGE**

The Overall Safety Magnitude of the Change is a combination of the size of the change and the safety outcome of the change. Apply the results obtained from Step 1 and 2 to the matrix below and tick the appropriate box to determine the Overall Safety Magnitude of the Change.

| Overall Safety Magnitude of the Change |                                   |                                   |                                   |
|----------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Overall Change Magnitude               | Safety Outcome of the Change      |                                   |                                   |
|                                        | Substantial                       | Reasonable                        | Minimal                           |
| Large                                  | Major <input type="checkbox"/>    | Major <input type="checkbox"/>    | Moderate <input type="checkbox"/> |
| Medium                                 | Major <input type="checkbox"/>    | Moderate <input type="checkbox"/> | Minor <input type="checkbox"/>    |
| Small                                  | Moderate <input type="checkbox"/> | Minor <input type="checkbox"/>    | Minor <input type="checkbox"/>    |

**Step 4: Safety Reporting Determination**

Tick the box in the table below to indicate the type of safety report to be prepared for the change.

| Overall Safety Magnitude of the Project/Change | To be reported as.....             |
|------------------------------------------------|------------------------------------|
| Major <input type="checkbox"/>                 | Safety Case + Safety Plan + HAZLOG |
| Moderate <input type="checkbox"/>              | Safety Statement + HAZLOG          |
| Minor <input type="checkbox"/>                 | Safety Statement                   |

**Step 5: Safety Statement (For Minor or Moderate Change)**

|                                                                                                                                                                                                                                                                                                                                              |           |       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------|
| Name:                                                                                                                                                                                                                                                                                                                                        | Position: | Date: |
| Statement:                                                                                                                                                                                                                                                                                                                                   |           |       |
| <p>I confirm that using the processes described above that I am satisfied that the proposed project/change is of a minor or a moderate safety magnitude. I am satisfied that the safety implications of the proposed change will be identified and adequately addressed via station safety management and project management procedures.</p> |           |       |
| (Signature)                                                                                                                                                                                                                                                                                                                                  |           |       |

NOTE: For moderate safety magnitude/changes, please attach HAZLOG report.

**Step 6: HAZLOG Register (For Moderate or Major Change)**

|                        |  |
|------------------------|--|
| HAZLOG Register Title: |  |
| Dated                  |  |
| Location:              |  |
| Unit:                  |  |

**Step 7: Safety Case (For Major Change)**

Required  
(Tick box)

Preparation of Safety Case assigned to:

|       |           |                 |
|-------|-----------|-----------------|
| Name: | Position: | Signature/Date: |
|-------|-----------|-----------------|

**Step 8: Sponsor**

To be completed by the person, or Project Manager, who initiated the change.

|       |           |                 |
|-------|-----------|-----------------|
| Name: | Position: | Signature/Date: |
|-------|-----------|-----------------|

**Step 9: Certification**

To be completed by the person who facilitated the Safety Assessment.

I certify that the safety assessment was conducted, fulfilling the requirements of the SMS.

|       |           |                 |
|-------|-----------|-----------------|
| Name: | Position: | Signature/Date: |
|-------|-----------|-----------------|

**Step 10: Approvals**

Relevant service delivery unit manager – GM (Aerodromes/ATM/CNS/Ops and ASM) or APD

Approve the change and accept the Safety Assessment.

|       |           |                 |
|-------|-----------|-----------------|
| Name: | Position: | Signature/Date: |
|-------|-----------|-----------------|

**Step 11: Review**

Reviewed and agreed by CHQ (if deemed necessary):

|       |           |                 |
|-------|-----------|-----------------|
| Name: | Position: | Signature/Date: |
|-------|-----------|-----------------|