

**LETTER OF OPERATIONAL AGREEMENT FOR RUNWAY
INCURSION PREVENTION**

BETWEEN TWR

AND THE

_____ **AIRPORT**

20XX

1. Objective

The objective of this Letter of Operational Agreement is to establish and standardize the coordination procedures between the Tower (TWR) and the airport operator for the prevention of runway incursions.

2. Scope

TWR, Operations Management, Safety Management, Security Management and the Rescue and Fire Fighting Services of the _____ airport.

3. Abbreviations

ACFT – Aircraft

AD – Aerodrome

ATCO – Air Traffic Controller

ATS – Air Traffic Service

ATC – Air Traffic Control

CLR – Clearance

ICAO – International Civil Aviation Organization

ANSP – Air Navigation Service Provider

SEI – Rescue and Fire Fighting Services

TWR – Aerodrome Control Tower

UHF – Ultra High Frequency

VMC – Visual Meteorological Conditions

4. References

Doc 9870 - *Manual on the Prevention of Runway Incursions*

LAR 153 – Aerodromes Operation

CA-AGA 153-010 – Runway Safety Teams (RST) Implementation

ICAO - Runway Safety Team Handbook

5. Definitions

Manoeuvres Area

Part of the aerodrome aimed for landing, unloading and aircraft taxiing, excluding platforms.

MANOEUVRES AREA

Part of the aerodrome aimed for landing and departure, aircraft taxiing, and is composed by the manoeuvres and patios areas.

PROTECTED ZONE

Is the area that includes the strip, the airport length, both runway sides area, the distance of the runway-holding positions, the Runway End Safety Area (RESA) and, if there is, the *clearway*.

RUNWAY INCURSION

Any consistent occurrence in an aerodrome with the incorrect presence of an aircraft, vehicle or person or a person in the protected zone of an area designated for an aircraft landing or departure.

6. Measures to maintain a runway free of obstacles

6.1 The airport Operation Management will ensure that the runway inspection is carried out in a daily basis by two persons, in the schedule established by the airport operator, and always when works and service maintenance are being carried out, also when unfavorable meteorological conditions may cause flooding, an aeronautical incident or accident, including the screening of strange objects or animals that could damage the aircraft.

6.2 With the purpose to prevent improper access of persons, vehicles, or animals, the airport Operations Management will ensure that the airport property counts with control access, protection bars, warning signs duly distributed in the restricted areas in all the airport property perimeter and also carry out inspections in the protection fence, as a routine during the works shifts, by the patio inspector.

6.3 Any abnormal situation related with an inadequate access of persons, vehicles, or animals that may incur in a risk for the operation should be immediately informed to TWR, via radio (Channel ___), or by telephone, in order the ATS office may adopt the necessary measures and make a warning to the aircraft in operation in the aerodrome. Also, the data should be sent by email or fax to the CAA, in order to support in the occurrence analysis.

6.4 In order to avoid incidents caused by animals in the maneuver area, TWR, at the moment to find or have knowledge of the presence of animals in the runway, will immediately inform the situation to the Operations Center in Channel ____, for the necessary measures. The occurrence shall be recorded in the TWR and airport operator Occurrence Registry Book. (LRS).

7. Manoeuvres zone access procedures

7.1 Any vehicle or person that does not have a radio to maintain bilateral communication with TWR and that needs to transit in the manoeuvres area, it may transit only if it is accompanied by other vehicle or person equipped with a radio in operation.

7.2 All vehicles or persons with the need to access the manoeuvres area shall maintain bilateral communication in Channel ____ from the airport operator UHF radio.

7.3 Before requesting authorization to access the manoeuvres area, the driver or pedestrian should verify that the radio equipment is normally working.

7.4 During the time in the manoeuvres area, the vehicle radio equipment and the drivers ' radio have to remain on and synchronized in Channel ____.

- 7.5 The driver and the pedestrian in the manoeuvres area have to use standard phraseology for the communication with TWR.
- 7.6 The driver and the pedestrian in the manoeuvres area, when they wish to access the road, have to wait before the protected area limit and request authorization to TWR. While being in a taxiway, they have to wait for authorization before the holding position, when the driver is outside from the taxiway, the driver should wait before the protected area limit.
- 7.7 When an aircraft is taxiing, all vehicles and persons have to remain **at least 50 meters away** aside of the taxiway.
- 7.8 When a request is made to clear the runway, the driver or pedestrian have to inform “clear runway” only when he/she is out of the protected area. In the case in which a vehicle clears the runway by a taxiway, the report have to be made only after crossing the holding position.
- 7.9 If TWR needs to contact a vehicle or person in the manoeuvres area and is not able to do it, TWR will have to request the support of the Operations Center, by radio, in order to send a second vehicle that will help to reestablish the contact with the vehicle.
- 7.10 During departure and landing operation, the vehicles and persons in the manoeuvres area have to remain outside the runway protected area. The sketch with the protected area limits of the _____ airport runway(s) are in Fig 1 of this Operational Agreement Letter.
- 7.11 If a driver or pedestrian in the manoeuvres area does not receive or completely understands any message from TWR, he or she has to make a new call and request the repetition of the message. If the contact or message comprehension failure remains in the second attempt, he or she has to move away from the protected area to make new attempts.
- 7.12 If there is a situation in which more than one vehicle or person is in the manoeuvres area, it is necessary that all clear the protected area, TWR will be responsible of the command in order all clear the runway.
- 7.13 In case the vehicle or person in the manoeuvres area lose contact by radio with TWR, such vehicle or person will have to go away from the runway protected area and wait for other vehicle to come that will support with the bilateral contact with TWR.

8. Coordination Procedures in case of runway incursion

- 8.1.1. According to the current regulation (LAR 153), the runway incursion is all occurrence in an aerodrome that assumes the incorrect presence of an aircraft, vehicle, or person in the protected area of a designated surface for an aircraft landing or departure.
- 8.1.2. Therefore, the runway incursion only occurs in the protected area of a runway in use.
- 8.1.3. According to the ATS guide, “Procedures for the Prevention and Processing of Occurrences of Runway Incursions”, even though the presence of animals, birds, or objects does not represent a runway incursion, the ATS offices continue to register them with the aim of subsidizing organizations operating aerodromes in the implementation of corrective measures necessary to improve safety at aerodromes, as well as reporting to the Accident Investigation Center by filling out form XXXX, available on the website of each Centre.

8.1. TWR Duties

8.2.1. The Supervisor/Coordinator (responsible for the ATM service team) will inform Airport Operations Management (AOM) each time that is aware of the presence of vehicles or persons in the runways protected areas.

8.2.2. The ATC ATCO that is aware of the presence of animals on the runway must immediately communicate the person responsible for the Airport Operations Management (GOA), for the corresponding measures and prepare the report in the LRO of the ATC agency.

8.2.3. The ATCO will coordinate with the Patio Officer (OSCAR PAPA) the cleaning of the runway, when required, via radio, and in case is not possible, through a local telephone.

8.2.4. To collect the necessary information to complete the "Runway Incurrence Report" form (Annex I) and then submit it to the TWR chief and to the CAA.

8.2. Airport Operator Duties

8.3.1. Train and maintain competent drivers who transit through the maneuvering area, for the correct use of phraseology during communications with TWR, especially in the authorizations to enter a taxiway or the protected area of the runway.

8.3.2 Demand training in preventing incursions as a requirement for the driver to access the maneuvering area.

8.3.3. Train and maintain competent vehicle drivers while in the correct positions to cross or enter the taxiway, cross or enter the runway protected area, which can only go ahead with TWR authorization.

8.3.4. Warn drivers that vehicles not equipped with radio equipment for bilateral communication with TWR can only enter the maneuvering area accompanied by another vehicle with radio that allows maintaining communication with TWR.

8.3.5. Provide training to authorized personnel to move around the maneuvering area, whenever significant changes occur at the airport (deviations due to works, modifications in the area, etc.).

8.3. Airport SEI Duties

8.4.1. Use standard phraseology to request authorization from the TWR and enter the runway protected area or taxiway only after obtaining the authorization and making the appropriate action.

8.4.2. In case of emergency, make sure with TWR which aircraft is in this situation and in what position is found, as well as not entering the runway before said traffic has landed and TWR has authorized the entry.

8.4.3. Proceed to remove animals located on the runway or nearby, when activated by TWR or GOA, as well as carry out the removal to clear the runway.

8.4. TWR Head Duties

8.5.1. Submit to the airport operator the aerodrome runway incursion occurrence data, shortly after becoming aware of this event, transmitting the same information contained in Annex I of this agreement;

8.5.2. Analyze the runway incursions related to the provision of Air Transit Services at the airport, implementing mitigation measures whenever the contribution of the ATS agency is identified.

8.5.3. Keep the procedures up to date to prevent a runway incursion at the airport.

8.5.4. Maintain a communication channel with the airport operator for the transmission between the agencies providing Air Transit Services and the sector responsible for the Airport Operations Management, in order to allow the adoption of immediate palliative measures aimed at correcting and preventing the real situation or a potential runway incursion.

8.5.5. Send to the airport operator SMS chief, on a monthly basis, a copy of the technical data-sheet on runway incursion and the technical data-sheets on the presence of animals, birds and objects on the runways of the airport, whenever they occur.

9. Procedures to record runway incursions cases

9.1 According to the ICAO definition and set forth in this agreement in the "Definitions" chapter, the runway incursion is an undesirable and high-risk event that occurs in the area defined as the runway protected area. Figure 1 shows the sketch of the protected zone(s) of the runway(s) of the airport.



Figure 1 – Runway Protected Area

(Replace the previous figure with the protected zone(s) of the airport runway(s), which can be worked with the Google Earth image)

9.2 During the IMC conditions, in which ILS is used, the ILS critical areas are part of the protected area.

9.3 The limits of the protected areas of the airport runways are demarcated in the areas covered by grass on both sides and at the end by references. In some places by white stakes, and in others, by the drainage ditch.

9.4 From the definition of runway incursion it is clear that this event is characterized by the incorrect presence of aircraft, vehicles or persons on the runway protected area during the landing or departure operations. Therefore, during the runway operations, if there is an aircraft, vehicle or person inside the protected area, this characterizes the runway incursion, which must be reported.

9.5 It is the responsibility of each agent, whether an employee of the airport operator or an air traffic controller, to inform of the occurrence of a runway incursion of the airport.

9.6 The airport operational services team, at the time of witnessing a runway incursion, will request the Supervisor or ATC Operator, via radio (Channel __), or via telephone, the complementary information to complete the form included in Annex I, and provide information on their data to the TWR Supervisor (responsible for the ATM service team) to record in the available calculation data-sheet, for the submission to the ATM Chief.

9.7 Drivers of vehicles and persons with access to the maneuvering area must be aware that if they remain inside the runway protected area during the landing or departure operations, they will be committing a runway incursion, even if they have authorization to be at such location.

9.8 It will correspond to the air controller, in service, to record the occurrence of a runway incursion, which was witnessed, in the Occurrences Registry Book, being the TWR (or the responsible person designated in the ATS) responsible for filling the technical data-sheet of Runway Incursion.

9.9 Once the occurrence is confirmed, when carried out by the air controller, it must be communicated to the aerodrome operator, as established in the regulations. Likewise, when the complaint is made by an airport operator employee, the occurrence must be informed to the TWR, for the appropriate measures.

9.10 When informing on the runway incursion event, the agent will provide as much information as possible to allow the calculation of the severity of the incursion, which will be carried out by the Operational Safety Management staff through the software "Runway Incursion Severity Calculator (RISC).

9.11 The minimum information required for the calculation of the severity is:

- Proximity among aircraft and aircraft or vehicles or aircraft and persons;
- Geometry of the approach directions between aircraft or aircraft and vehicle;
- Corrective or evasive action;
- Weather conditions:
 - ✓ Day/night;
 - ✓ CMV or IMC;
 - ✓ Visibility and ceiling.
- Runway conditions:
 - ✓ Dry or wet.

9.12 In the event of reports by an aerodrome operator employee, TWR will provide additional information on weather and operating conditions.

10. Training

10.1. Only duly trained personnel and familiar with the airport operation handling area can access the handling area and maintain radio communication with TWR and GOA.

10.2. The airport operator will provide training on the content of this agreement to all drivers and pedestrians who will have access to the maneuvering area.

10.3. Part of the training can be provided by a TWR air traffic controller for a better understanding by the Operations Management staff of the ATS operational needs and the training of the driver in standard phraseology.

11. Final Provisions

11.1 Compliance with this operational agreement is subjected to compliance by the air traffic controllers, supervisors, Outdoor Officers, Maintenance, Operations, Environment and TWR officers, employees of contracted (outsourced) companies, as well as all persons who need to circulate in the maneuvering areas or have to be near them, whenever, administratively authorized.

11.2 In addition to the situations foreseen in this agreement, the provisions established by the ATS body must be followed.

11.3 This operating agreement enters into force on xx xxxxxx of 20xx and repeals all contrary provisions.

12. Annex

Annex I – Runway Incursion Record Form

Place and date.

ATS Chief

Airport Chief

ANNEX I
RUNWAY INCURSION OCCURRENCE REGISTRY FORM

FORMULÁRIO PARA REGISTRO DE OCORRÊNCIA DE INCURSÃO EM PISTA	
A. Data/Hora/Local da ocorrência	
Data: _____	Hora: _____ Local: _____
B. Descrição da ocorrência	
_____ _____ _____ _____	
Classificação prévia da severidade <input style="width: 50px; height: 15px;" type="text"/>	
C. Menor distância entre os envolvidos (no momento final do conflito)	
Vertical (m) _____ Horizontal (m) _____	
D. Condições da pista	
Molhada: <input type="checkbox"/> Seca: <input type="checkbox"/>	
E. Aeronave, veículo ou pessoa envolvida na incursão em pista (indicar todos aqueles envolvidos na ocorrência)	
Aeronave 1: _____ Aeronave 2: _____ Aeronave 3: _____ Veículo: _____ Pessoa: _____	
F. Condições meteorológicas	
IMC: <input type="checkbox"/> VMC: <input type="checkbox"/> Teto (pés): _____ Visibilidade (m): _____	
G. Ação evasiva para evitar acidente – Aeronave 1	
Não <input type="checkbox"/> Sim <input type="checkbox"/>	
Selecione da lista abaixo como apropriado:	
Autorização de decolagem cancelada <input type="checkbox"/> Decolagem abortada <input type="checkbox"/> Rotação antecipada <input type="checkbox"/> Rotação atrasada <input type="checkbox"/> Parada abrupta <input type="checkbox"/> Desviou <input type="checkbox"/> Arremetida <input type="checkbox"/> Outros <input type="checkbox"/>	Dist. Percorrida _____ Dist. da cabeceira _____
Outros: _____ _____	

H. Ação evasiva para evitar acidente – Aeronave 2Não Sim

Selecione da lista abaixo como apropriado:

Autorização de decolagem cancelada Decolagem abortada: Rotação antecipada: Rotação atrasada: Parada abrupta: Desviou: Arremetida Outros:

Dist. Percorrida _____

Dist. da cabeceira _____

Outros: _____
_____**I. Ação evasiva – Veículo**Não Sim

Selecione da lista abaixo como apropriado:

Parada abrupta Desviou? Outros

Onde parou? _____

Outros: _____
_____**J. Responsável pela notificação (opcional)**

Nome: _____

Cargo: _____

Nº telefone: _____

Gerência: _____