



SAFETY DIRECTIVE NO. 03

TO : AIRPORT MANAGERS
: AIRPORT OFFICERS-IN-CHARGE
: CHIEF, AERODROME DEVELOPMENT AND MANAGEMENT SERVICE
: CHIEF, AIR NAVIGATION SERVICE (ANS/CNS)

SUBJECT : IMPLEMENTATION OF RUNWAY STRIP RELEVANT STANDARDS
TO MINIMIZE THE POTENTIAL RISK DUE TO RUNWAY EXCURSION

DATE : JULY 29, 2015

I. GENERAL

Runway safety is a significant challenge and a top priority for airport operations. Prevention of incidents/accidents involving runway excursion, incursion and confusion is a collaborative task for the regulators, aerodrome operators, aircraft operators, air traffic and air navigation services and all other stakeholders in the aviation industry. While mitigation is being undertaken to prevent runway accidents/incidents, statistics show that runway excursion is more prevalent than any other causes combined. When excursion occurs, investigations lead to the unlikely presence of obstructions such as protruding runway light pedestals, uneven runway shoulders, open canals, etc. as the major if not contributory factors that caused severe damage to the aircraft and to passenger injuries/deaths.

It is imperative that airport safety should not focus mainly in the design of aircraft maneuvering area but also consider occurrence of runway excursion in the planning and design of the entire runway strip areas. Successful prevention of the potential risk would require a proactive management approach by all airport managers and OIC's of the Philippine Airports and the collaboration of the Aerodrome Engineers and Air Navigation Specialists in the maintenance and design development of all aerodrome facilities within the runway strip.

II. PURPOSE AND SCOPE

This safety directive aims to provide airport operators, the Aerodrome Development and Management Service (ADMS) and the Air Navigation Service (ANS/CNS) actionable strategies/methods for the implementation of safety standards for runway strips covering facilities to be installed or located within the runway strip and physical characteristics/condition of runway strips with a view of enhancing post-accident survivability during runway excursion incidents.

"The Future is in the Skies"

III. POLICY STATEMENT

In compliance with the provisions of the Civil Aviation Regulations for Aerodromes, Manual of Standards for Aerodromes, in adherence to ICAO SARPs Annex 14 (Aerodromes), Annex 19 (Safety Management), Doc 9157 (Aerodrome Design Manual) and Doc 9859 (Safety Management Manual), all airport managers and the officers-in-charge of Aerodrome Development and Management Service and Air Navigation Service are hereby directed to strictly adhere with the relevant standards and requirements and recommended practices relating to runway safety particularly the runway strip area.

IV. SAFETY REQUIREMENTS FOR RUNWAY STRIPS

1. Facilities/Objects within Runway Strip

- A runway strip must be clear of fixed objects other than frangible visual and navigational aids necessary to be located on the strip for the guidance of aircraft or vehicles.
- Fixed objects permitted on the runway strip must be of low mass and frangibly mounted in accordance with standards. This frangibility is achieved by use of lightweight materials and/or introduction of break-away or failure mechanisms that enable the object to break, distort or yield under impact.

Note: Guidance on Frangibility is available in ICAO Document 9157 Aerodrome Design Manual Part 6

2. Runway Strip must have following physical condition/characteristics:

- Provision of runway end safety area for airports with jet operations or with code 3 and above aircraft operations;
- Grading of:
 - area around the runway and stopway (if provided)
 - RESA if provided

Areas to be graded:

- The area beyond the end of the runway and stopway (if provided) extending for at least :
 - a) 30 m for non-instrument code 1 runway; or
 - b) 60 m in any other case.
- The portion of a strip of an instrument runway within a distance of at least:
 - a) 75 m where the code number is 3 or 4; and
 - b) 40 m where the code number is 1 or 2;from the centerline of the runway and its extended center line.
- The portion of a strip of a non-instrument runway within a distance of at least:
 - a) 75 m where the code number is 3 or 4;
 - b) 40 m where the code number is 2; and
 - c) 30 m where the code number is 1,from the center line of a runway and its extended center line.

- In the case of precision approach runways code 3 & 4 which provide a full runway strip width of 300m, a graded area of 75 m from the centerline is required. When it is not practicable to provide the full runway strip width, it is recommended that an additional width of graded runway strip be provided as shown in the figure below:

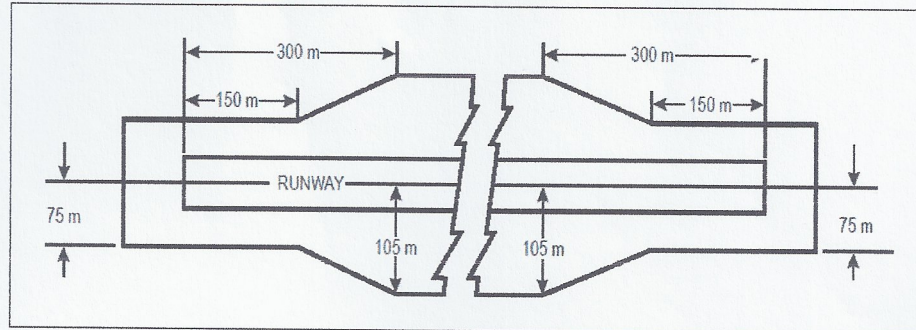


Figure A-3. Graded portion of a strip including a precision approach runway where the code number is 3 or 4

Slopes on graded area:

- Longitudinal slope along the portion of a strip to be graded should not exceed:
 - a) 1.5 % where the code number is 4 ;
 - b) 1.75% where the code number is 3;
 - c) 2 % where the code number is 1 or 2.
 - Transverse slopes on the portion of the runway to be graded should be adequate to prevent the accumulation of water on the surface but not exceed:
 - a) 75 m where the code is 3 or 4;and
 - b) 40m where the code number is 1 or 2;
 from the center line of the runway including its extended center line.
- Preparation/Construction of the surface of a runway strip (or graded portion if provided) shall be in accordance with *ICAO Doc 9157 Aerodrome Design Manual Part 1*
 - Flushing of the surface of a runway strip with the runway including runway shoulder or stopway; and
 - Provision of effective drainage in the graded area to avoid water ponding. Open drains must not be constructed in the graded portion of a runway strip.

V. GUIDELINES FOR ACTION PLANS

In conjunction with the required actions stipulated in the policy statement, all Airport Managers or Officers-in-Charge of ADMS and ANS shall develop and implement action plans and programs to address the issue on non-standard runway strips to minimize potential risk due to runway excursion to include, among others, the following:

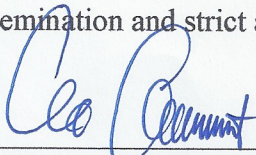
1. Airport Management headed by the Airport Manager or OIC to conduct safety assessment (Hazard Identification, Risk Assessment and Risk Management) to identify deficiencies in the runway strip area.
2. Airport Operator/Manager to collaborate with ADMS and ANS in the development of mitigation measures and development of designs that would prevent severe damage to aircraft and injuries to passengers during occurrence of runway excursion such as but not limited to:
 - a. Close monitoring of on-going construction in the airside area and direct concerned contractor to maintain line and grade of the runway strip particularly the runway shoulders and to remove excavated materials if any;
 - b. Removal of protruding objects/mounds and significant depressions, and covering of open manholes on the airside area;
 - c. Redesign and if practicable relocation of open canals and fences within the runway strip to outside the runway strip; and,
 - d. Removal or redesign of protruding concrete pedestals of runway lights, navigational aids and equipment that pose obstruction and hazard during the occurrence of runway excursion.

*Note: To ensure the functions of a runway strip are satisfied, measures should be taken to prevent an aeroplane's wheel from striking to a hard vertical face of a constructed structure (often called 'delethalisation').
ICAO Aerodrome Best Practice RERR 2nd Edition 2011*

3. Airport Manager/OIC to organize a Local Runway Safety Team (LRST) and implement the Runway Safety Program.
- VI. Implementation of the provision of this safety directive shall be subjected to inspection and surveillance activities of the Aerodrome and Air Navigation Safety Oversight Office (AANSOO).
- VII. Taking cognizant of the duties and responsibilities of each Airport Manager, Chief of ADMS and Chief of ANS in implementing the provision of this Safety Directive, without prejudice to other relevant rules, regulations and memorandum circulars pertaining to aviation safety, that, after due evaluation and consideration of facts, when Airport Manager, Chief of ADMS or Chief of ANS is found to be remiss or negligent, he/she shall be subject to administrative sanctions.

This safety directive shall take effect immediately.

For widest dissemination and strict adherence.



LT GEN WILLIAM K HOTCHKISS III AFP (Ret)
Director General

