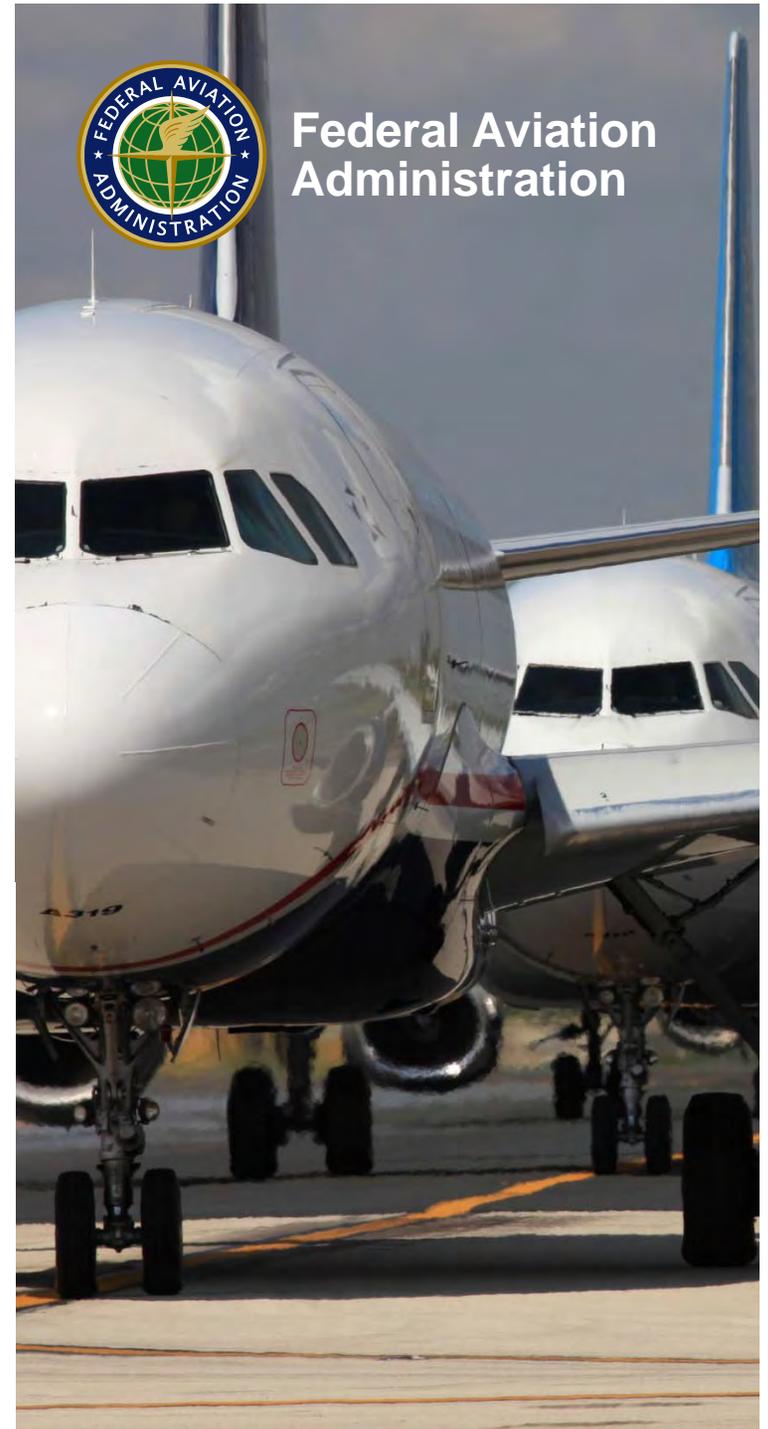


Aerodrome Inspectors Workshop

Movement Areas Inspection

Location: Trinidad & Tobago, 9-13 JUN 2014

Presenter: Herman Smith, FAA ACSI



OBJECTIVE

- **Gain understanding of your movement areas**
- **Techniques to conducting movement area inspections**
- **What to look for during your movement area inspections**

MOVEMENT AREA INSPECTIONS

OVERVIEW

- PAVEMENTS
- MARKING
- SIGNS
- LIGHTING

Pavement Inspections



Date

Presentation Title



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•CONCRETE PAVEMENT DEFECTS

DEFECTS	EXAMPLES
Surface defects	Polishing Map cracking Pop-outs Scaling Spalling
Joints	Cracks parallel to joints Joint deterioration

•CONCRETE PAVEMENT DEFECTS

DEFECTS	EXAMPLES
Cracks	Slab cracks D-cracks Corner cracks Meander cracks Manhole and inlet cracks
Distortion	Settlement or heave Blowups Faulting Utility repairs, patches and potholes

SURFACE DEFECTS

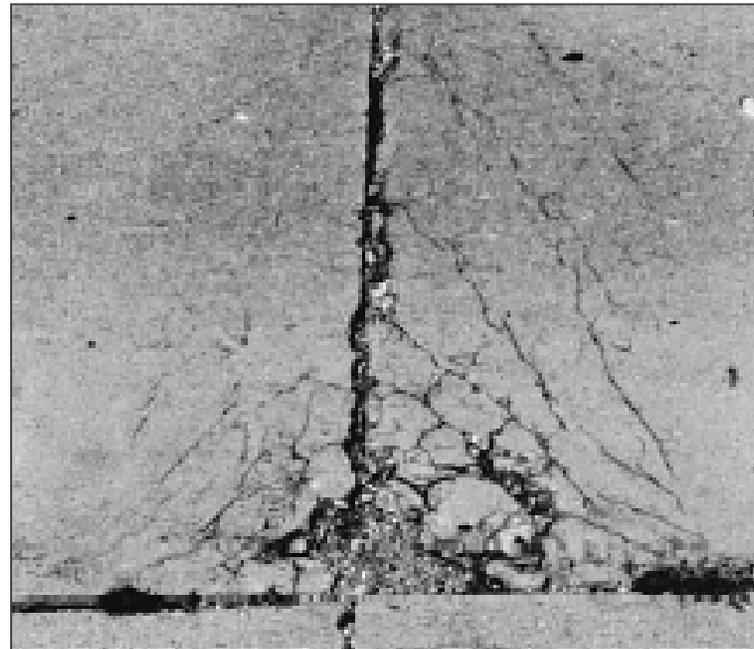
- **SCALING**



- **SPALLING**



•CRACKS



Date

Presentation Title

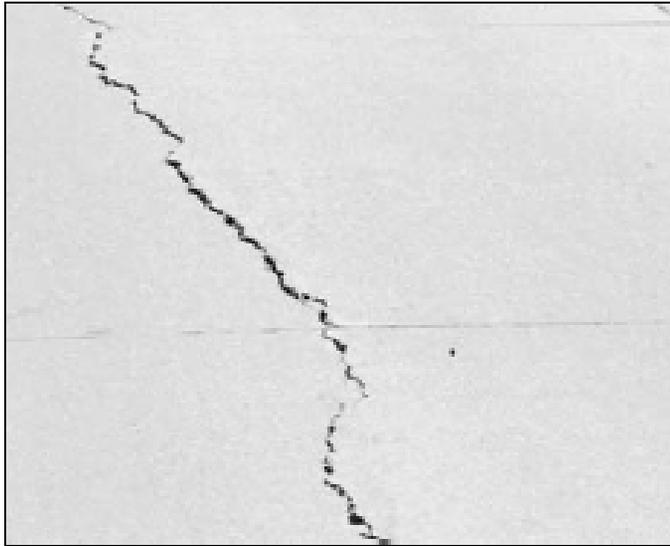


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8

•8

•DISTORTION



Date

Presentation Title



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Administration

9

•9

•CRACKS



Date

Presentation Title



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10

•10

• ASPHALT PAVEMENT DEFECTS

DEFECTS	EXAMPLES
Surface defects	Raveling Polishing Flushing
Surface deformation	Rutting Distortion

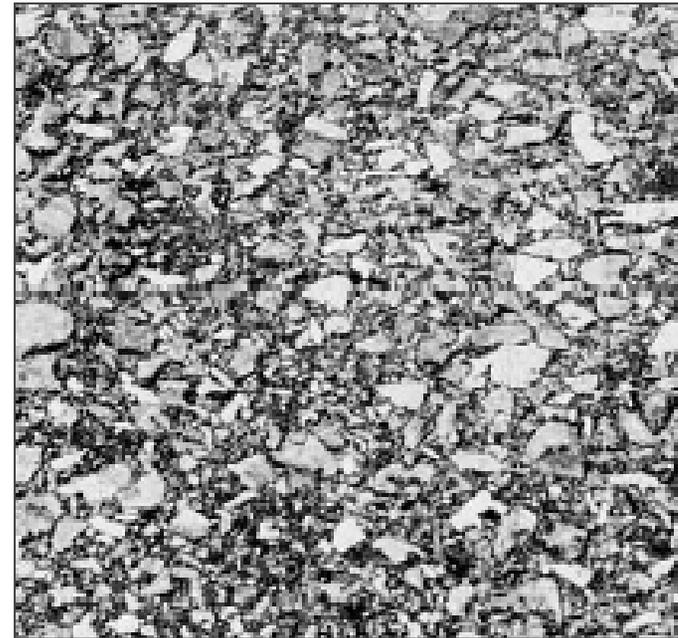
• ASPHALT PAVEMENT DEFECTS

DEFECTS	EXAMPLES
Cracks	Thermal cracks Reflection cracks Slippage cracks Joint/edge cracks Block cracks Alligator cracks
Patches and potholes	

- **ASPHALT PAVEMENT DEFECTS**
 - **SURFACE DEFECTS**



• **RAVELING**



• **POLISHING**

- **ASPHALT PAVEMENT DEFECTS**
 - **SURFACE DEFORMATION**



• **RUTTING**



• **DISTORTION**

- **ASPHALT PAVEMENT DEFECTS**

- **CRACKS**



- **BLOCK
CRACKS**



- **ALLIGATOR
CRACKS**

•PAVED SURFACE INSPECTION CRITERIA

- ➔ Certificate holder must maintain and promptly repair each runway, taxiway, loading ramp and parking area available for air carrier use



•PAVED SURFACE INSPECTION CRITERIA

- ✦ Pavement must be free of cracks and surface variations that could impair air carrier aircraft directional control
- ✦ Any crack or surface deterioration that produces loose aggregate or other contaminants should be repaired immediately



•RUBBER BUILDUP

•FOD



•PAVED SURFACE INSPECTION CRITERIA

- Contaminants and FOD can cause
 - ✓ Aircraft fuselage and control surface damage from foreign objects
 - ✓ Lost of aircraft braking action due to surface slipperiness (poor skid resistance) (rubber build up)

•PAVED SURFACE INSPECTION CRITERIA

- ◆ Pavement shall be sufficiently drained and free of depressions to prevent ponding that
 - ✓ Obscures marking
 - ✓ Impairs safe aircraft operations

•PAVED SURFACE INSPECTION CRITERIA

- Ponding can result
 - ✓ Reduced braking action
 - ✓ Aircraft gear damage
 - ✓ Hydroplaning

✓ The inspector must refer to all design and minimum standards when inspecting paved surfaces.



✓ An inspection is not just for failed conditions, it is also for potential hazards or conditions that could become potentially hazardous.

• LOO
K

✓ Surface condition and defects:
PASER criteria

✓ FOD: Mud, dirt, foreign objects

• FOR:

✓ Rubber buildup

✓ Depressions

✓ ACM requirements

✓ Pavement design standards

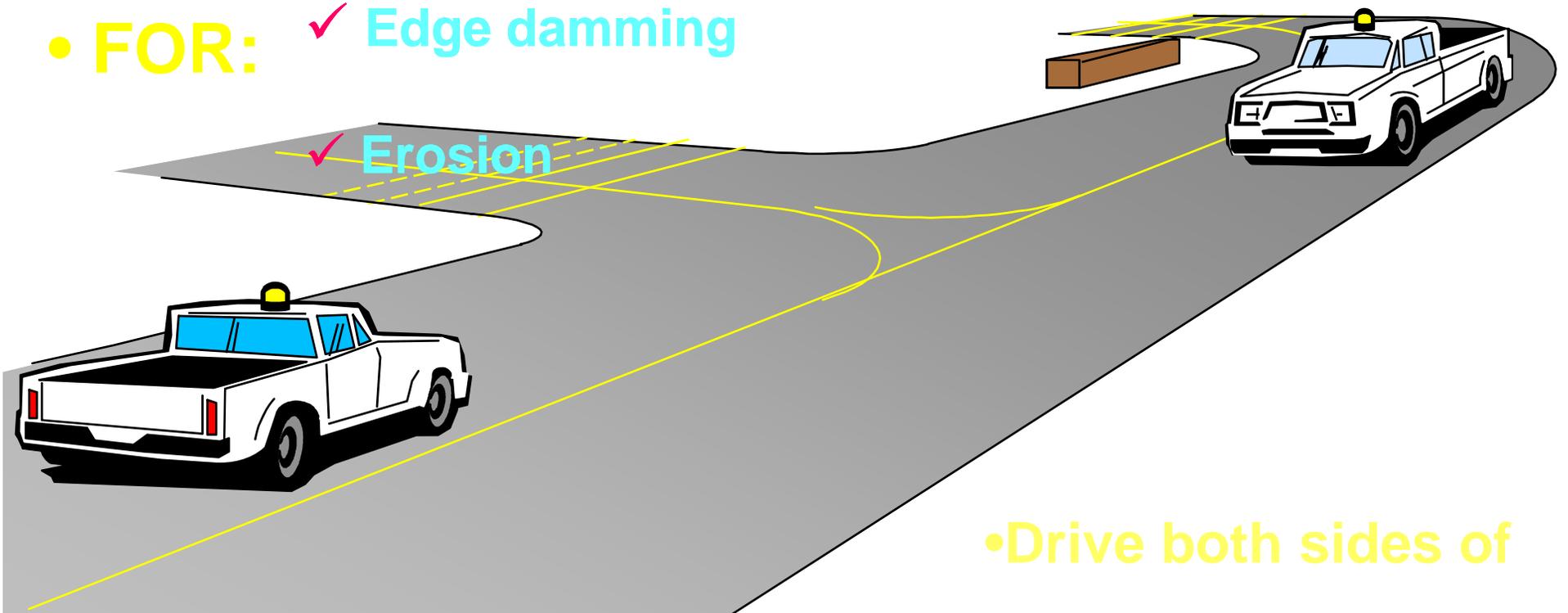
✓ Standing water

• Drive runway C_L and

• both edges 48 KM or less



- **LOOK**
 - ✓ Pavement lips
 - ✓ Shoulder and blast pad
- **FOR:**
 - ✓ Edge damming



• Drive both sides of

• taxiway C_L
 Federal Aviation Administration
 58 KM or less ²⁴

• L
• O
• O
• K

• FOR:

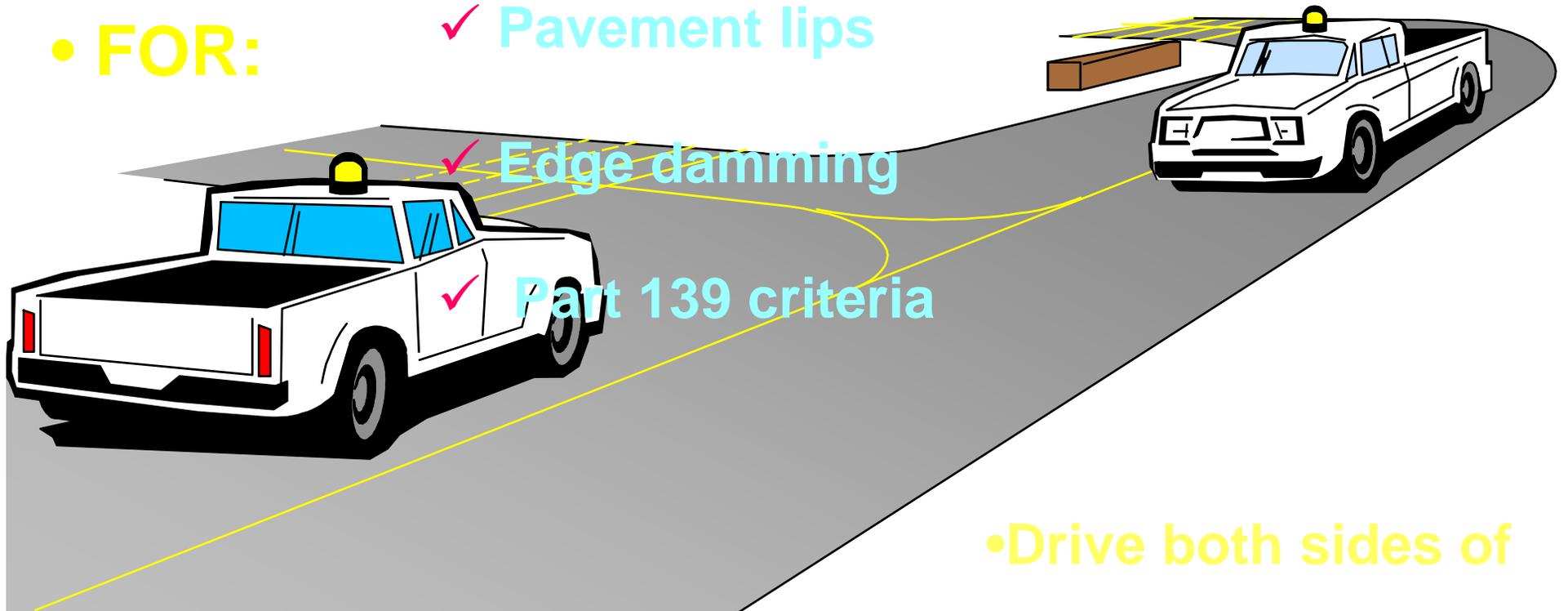
✓ Surface conditions (PASER criteria)

✓ FOD: Mud, dirt and foreign objects

✓ Pavement lips

✓ Edge damming

Part 139 criteria



• Drive both sides of

• taxiway CL
Federal Aviation Administration
48 KM or less



Markings



Date

Presentation Title



Federal Aviation
Administration

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Airport Markings are part of a system and convey a very specific and very important message



ICAO Markings: Runways

• Listed below are the markings that you may find on runways, depending on its status as an instrument runway, and depending on other criteria listed in Annex 14, Volume I, Chapter 5.

- -Runway Designation
- -Runway Centerline
- -Runway Side Stripe
- -Runway Threshold
- -Touchdown Zone Markings
- -Aiming Point Marking
- Traverse Marking
- Chevrons
- Arrows

Annex 14: Aerodrome Markings: Taxiways

• Listed below are markings that you may find on taxiways, and associated roadways, depending on the criteria detailed in Annex 14, Volume I, Chapter 5.

- -Taxiway Centerline
- -Runway Hold Position Markings
- -Intermediate Hold Position Markings
- -Road Hold Position Marking
- -Mandatory Instruction Markings
- -Information Markings

• *Types of ICAO Signs*

1. Mandatory Instruction Signs

- Runway designation signs
- Cat I, II, III holding position signs
- Runway holding position signs
- Road holding position signs
- No entry signs

2. Information Signs

- Direction signs
- Location signs
- Destination signs
- Runway exit signs
- Runway vacated signs
- Intersection take-off signs

Runway Designation Markings

- 5.2.2.4 A runway designation marking shall consist of a two-digit number and on parallel runways shall be supplemented with a letter.
- On a single runway, dual parallel runways and triple parallel runways the two-digit number shall be the whole number nearest the one-tenth of the magnetic North when viewed from the direction of approach.

Runway Designation Markings

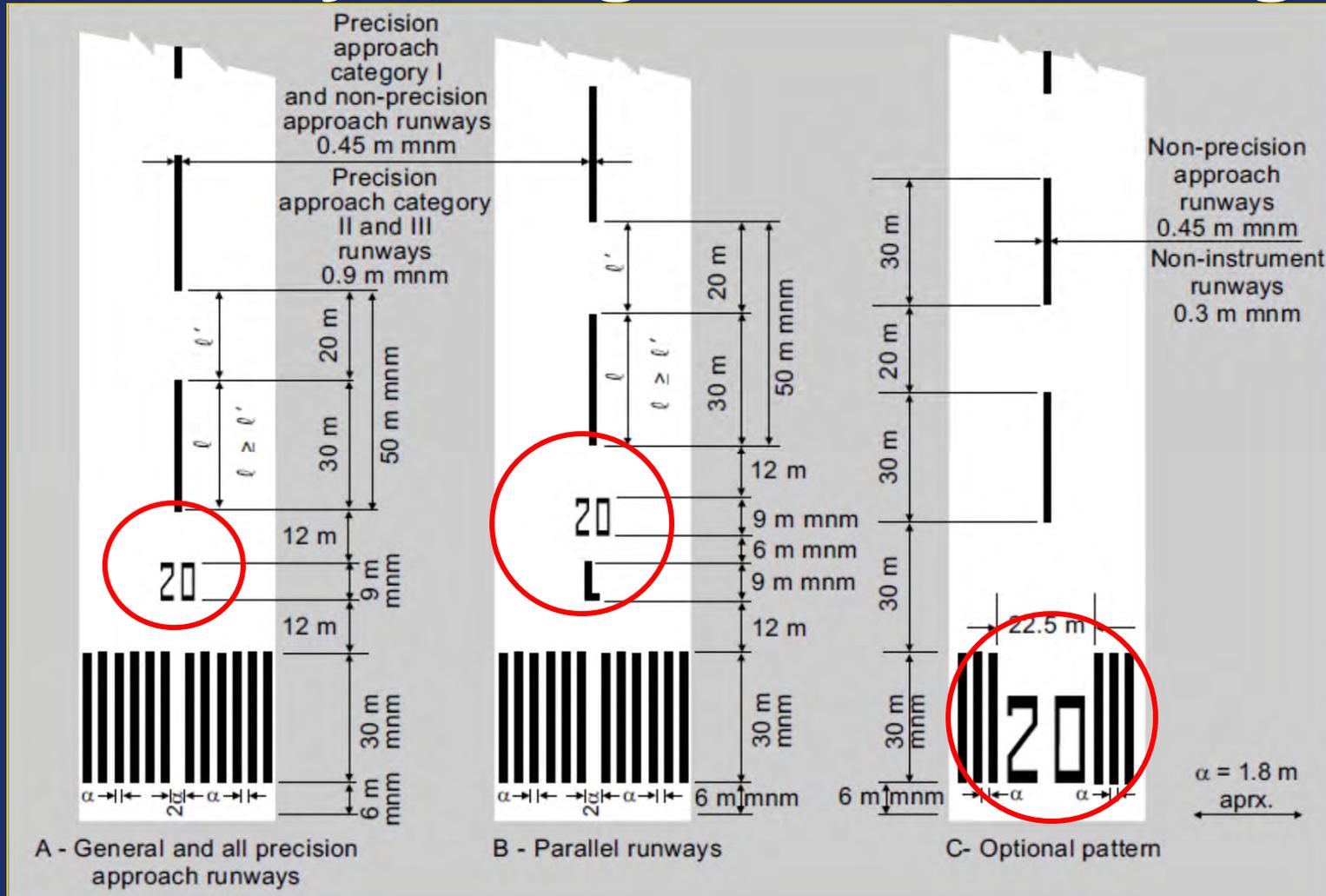
- On four or more parallel runways, one set of adjacent runways shall be numbered to the nearest one-tenth magnetic azimuth and the other set of adjacent runways numbered to the next nearest one-tenth of the magnetic azimuth.
- When the above rule would give a single digit number, it shall be preceded by a zero.

Runway Designation Markings

For parallel runways:

- for two parallel runways: “L” “R”;
- for three parallel runways: “L” “C” “R”;
- for four parallel runways: “L” “R” “L” “R”;
- for five parallel runways: “L” “C” “R” “L” “R” or “L” “R” “L” “C” “R”; and
- for six parallel runways: “L” “C” “R” “L” “C” “R”.

Runway Designation Markings



• *Mandatory Instruction Signs*

• ICAO 5.4.2.2 – Mandatory instruction signs shall include runway designation signs, category I, II or III holding position signs, runway-holding position signs, road-holding position signs and NO ENTRY signs.

B1

15R - 33L

Runway designation sign on a taxiway

15R - 33L

Runway designation sign on a runway

33L CAT III

Category III holding position sign

B2

Runway-holding position sign on a taxiway
(Approach Hold)



NO ENTRY sign

• ICAO 5.4.2.12 – A mandatory instruction sign shall consist of an inscription in white on a red background.

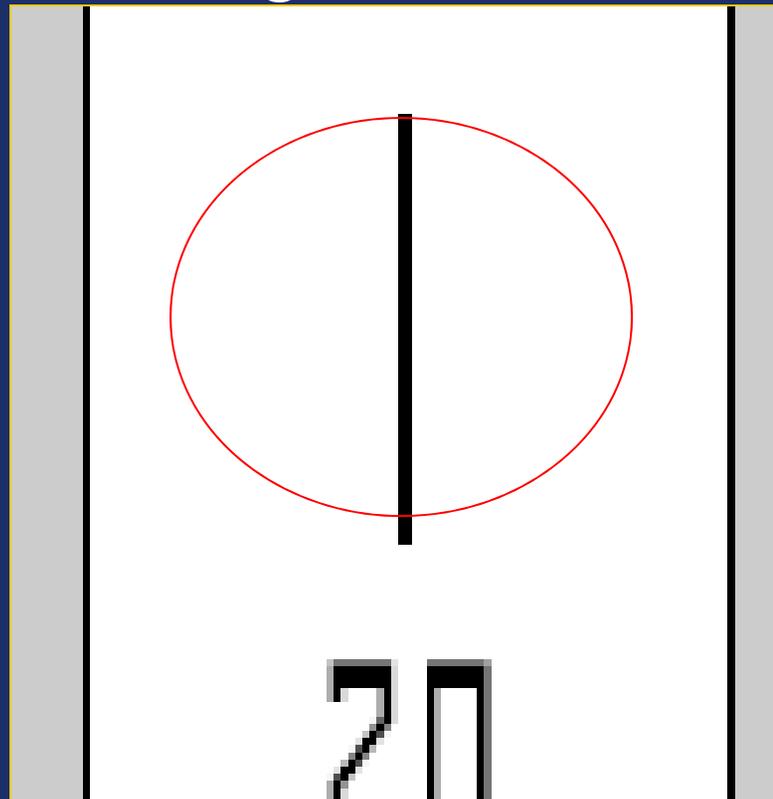
Runway Markings

Centerline Markings

- 5.2.3.1 A runway centre line marking shall be provided on a paved runway.
- 5.2.3.2 A runway centre line marking shall be located along the centre line of the runway between the runway designation markings as shown in Figure 5-2, except when interrupted in compliance with 5.2.1.1.

Runway Markings

Centerline Markings



Runway Markings

Threshold marking

- 5.2.4.4 The stripes of the threshold marking shall commence 6 m from the threshold.
- 5.2.4.5 A runway threshold marking shall consist of a pattern of longitudinal stripes of uniform dimensions disposed symmetrically about the centre line of a runway

Runway Markings

Threshold marking

- The number of stripes shall be in accordance with the runway width as follows:

<i>Runway width</i>	<i>Number of Stripes</i>
18 m	4
23 m	6
30 m	8
45 m	12
60 m	16

Runway Markings

Threshold marking

One example for 45m runway (appx 150 Ft.)



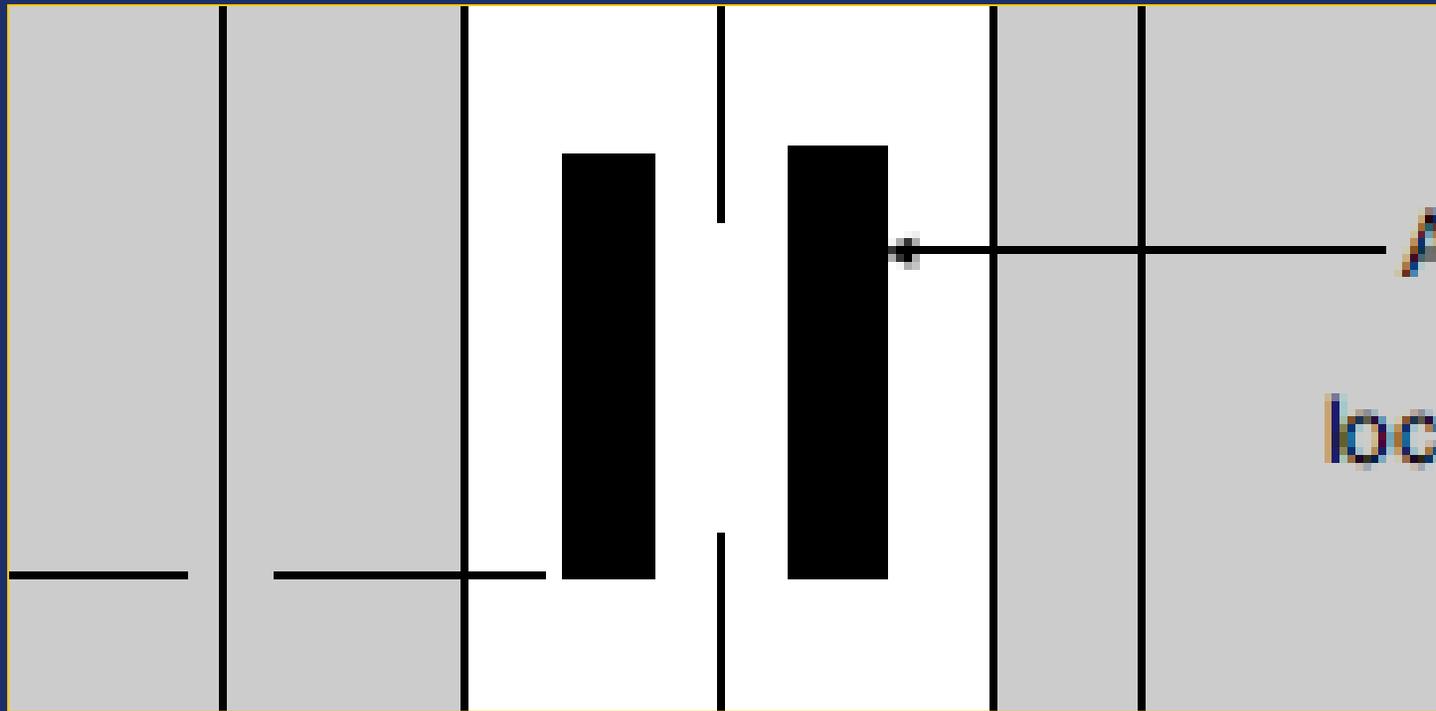
Runway Markings

Aiming point marking

- 5.2.5.5 An aiming point marking shall consist of two conspicuous stripes. The dimensions of the stripes and the lateral spacing between their inner sides shall be in accordance with the provisions of the appropriate column of Table 5-1. Where a touchdown zone marking is provided, the lateral spacing between the markings shall be the same as that of the touchdown zone marking

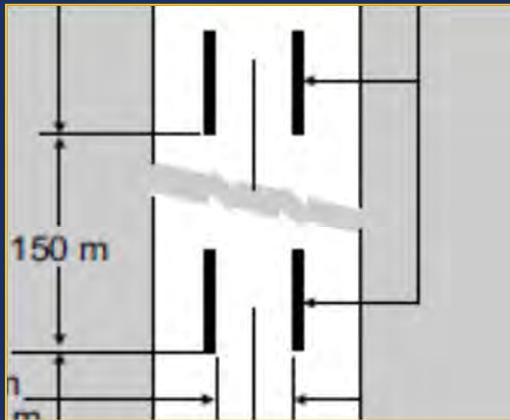
Runway Markings

Aiming point marking



Runway Markings

Touchdown zone markings



A- Without Distance Coding



B- With Distance Coding

Runway Markings

5.2.7 Runway side stripe marking

- 5.2.7.1 A runway side stripe marking *shall* be provided between the thresholds of a paved runway where there is a lack of contrast between the runway edges and the shoulders or the surrounding terrain

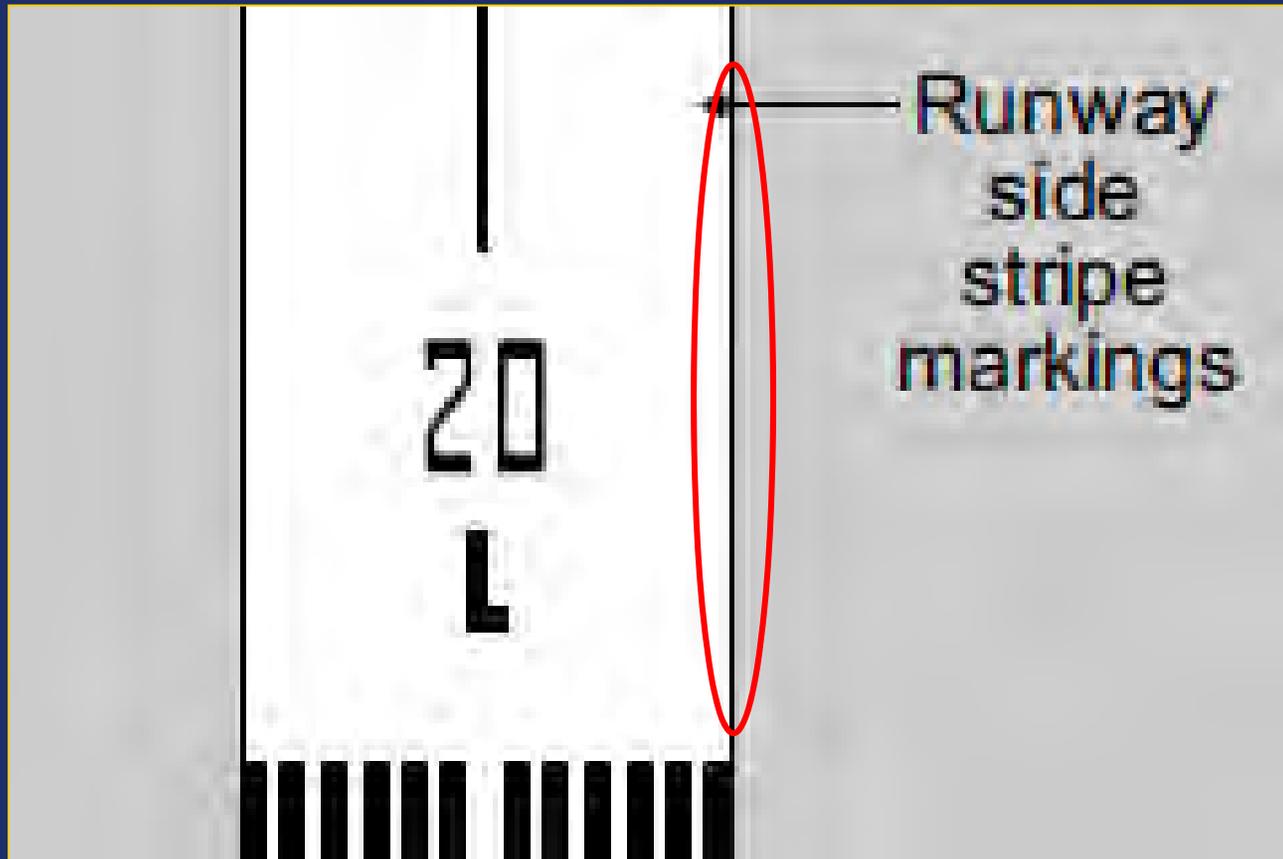
Runway Markings

5.2.7 Runway side stripe marking

- **5.2.7.2 Recommendation.**— *A runway side stripe marking should be provided on a precision approach runway irrespective of the contrast between the runway edges and the shoulders or the surrounding terrain.*

Runway Markings

Runway side stripe marking



Taxiway Markings

5.2.8 Taxiway centre line marking

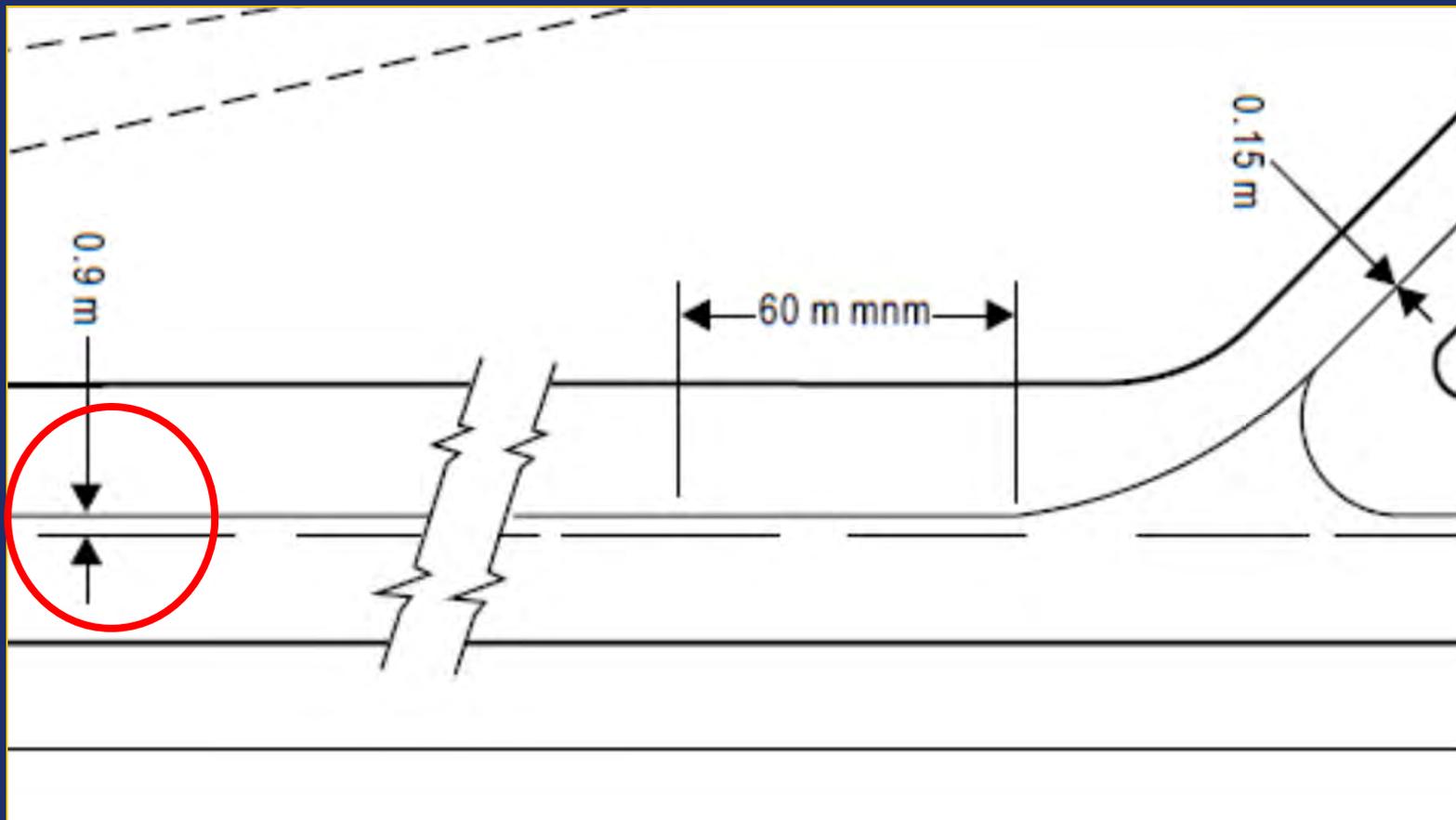
- **5.2.8.2 Recommendation.**— *Taxiway centre line marking should be provided on a paved taxiway, de-icing/anti-icing facility and apron where the code number is 1 or 2 in such a way as to provide continuous guidance between the runway centre line and aircraft stands.*

Taxiway Markings

5.2.8 Taxiway centre line marking

- 5.2.8.3 Taxiway centre line marking *shall* be provided on a paved runway when the runway is part of a standard taxi route and:
 - a) there is no runway centre line marking; or
 - b) where the taxiway centre line is not coincident with the runway centre line.

Taxiway Markings



Taxiway Markings

5.2.11 Intermediate holding position marking

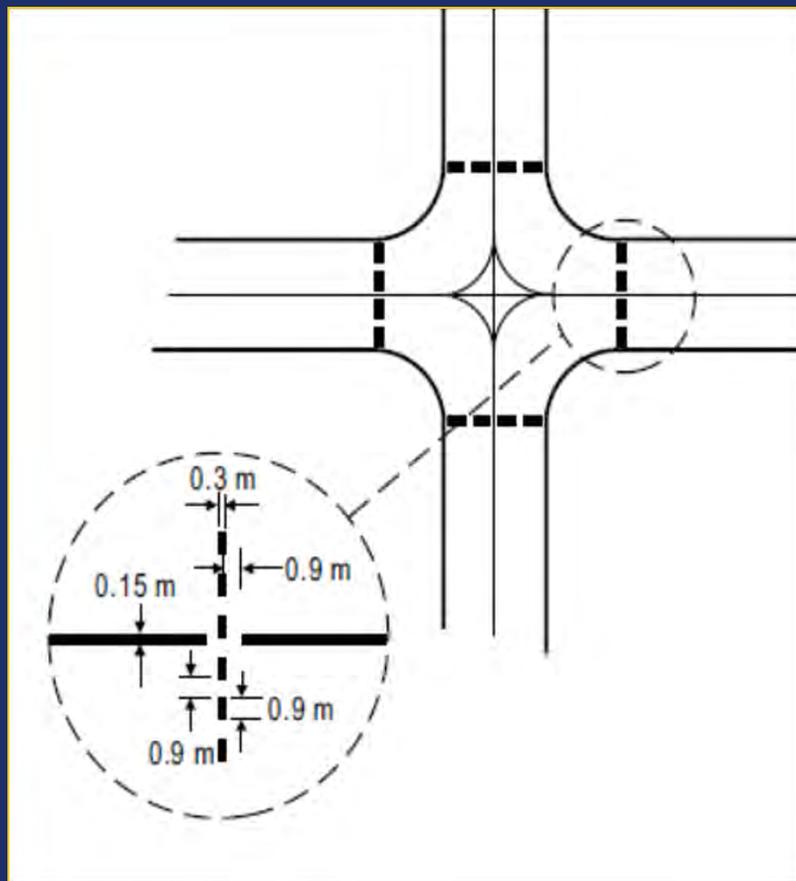
- ***Application and location***

- 5.2.11.1 **Recommendation.**— *An intermediate holding position marking should be displayed along an intermediate holding position.*

- 5.2.11.2 **Recommendation.**— *An intermediate holding position marking should be displayed at the exit boundary of a remote de-icing/anti-icing facility adjoining a taxiway.*

Taxiway Markings

5.2.11 Intermediate holding position marking



Surface Painted Signs

5.2.17 Information marking

- 5.2.17.6 An information marking shall consist of:
 - a) an inscription in yellow upon a black background, when it replaces or supplements a location sign; and
 - b) an inscription in black upon a yellow background, when it replaces or supplements a direction or Destination sign.

Surface Painted Signs

5.2.17 Information marking

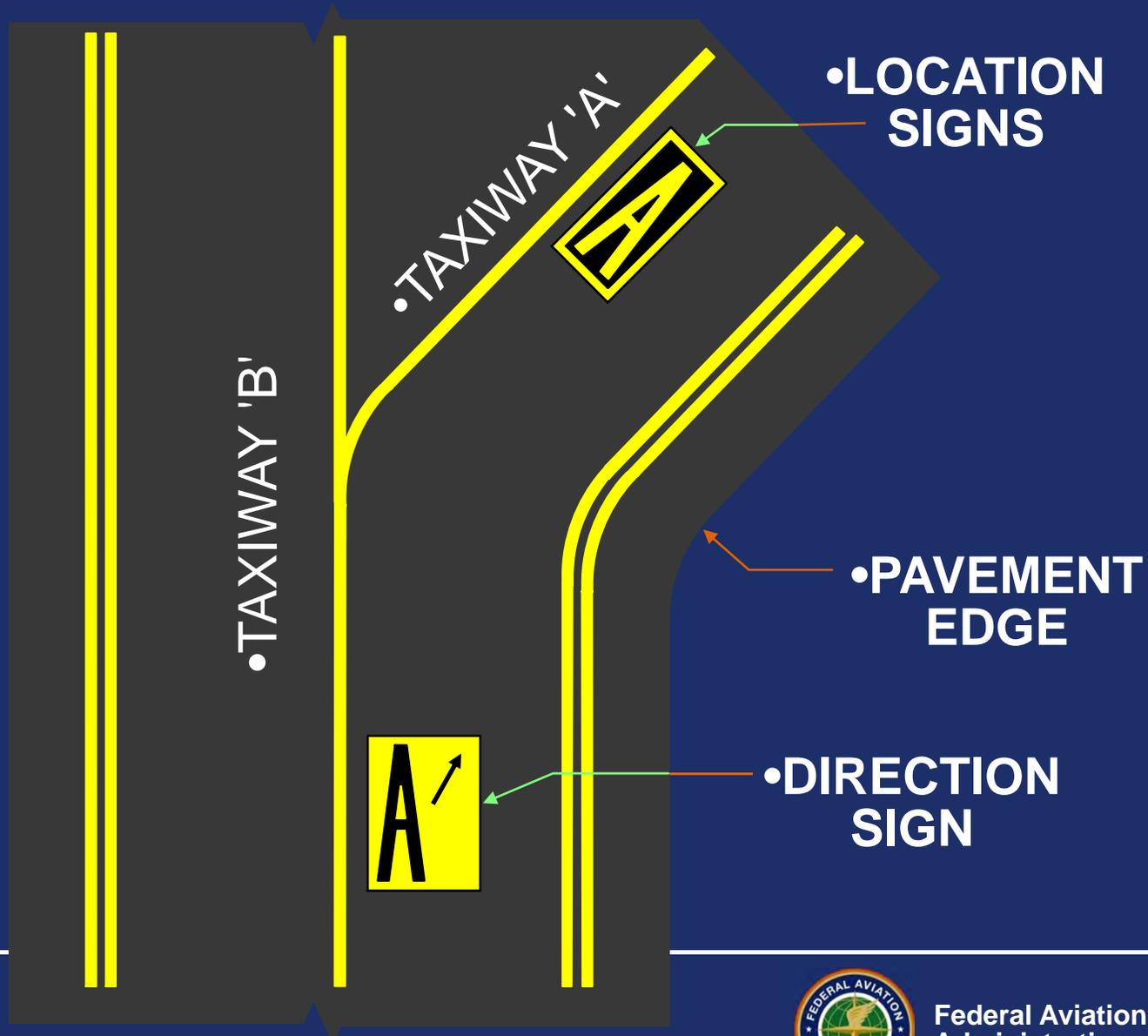
- 5.2.17.7 Where there is insufficient contrast between the marking background and the pavement surface, the marking shall include:

- a) a black border where the inscriptions are in black; and

- b) a yellow border where the inscriptions are in yellow.

–5.2.17.8 **Recommendation.**— *The character height should be 4 m. The inscriptions should be in the form and proportions shown in Appendix 3.*

•SURFACE PAINTED SIGNS



Markings



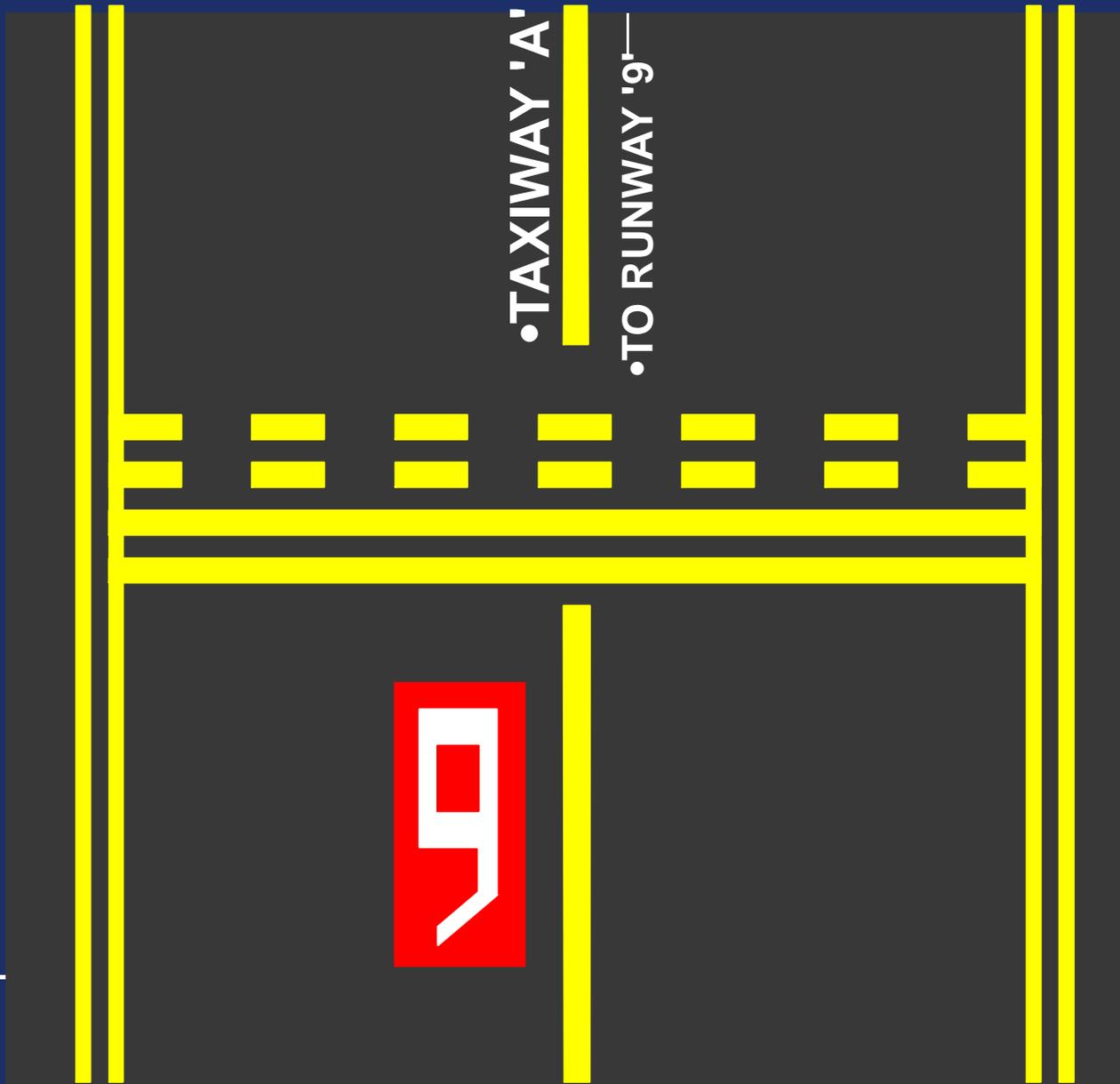
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• *Holding Position Markings*

• Runway-Holding Position Marking

- A runway-holding position is required to protect aircraft landing or taking-off on a runway. The runway-holding positions are located to keep vehicles and aircraft out of the runway obstacle free zone, approach surface and ILS critical areas.
- Obstacle free zones provide a clear area around a runway in case an aircraft inadvertently leaves the runway pavement.
- ILS critical areas are protected to prevent aircraft or vehicles from distorting the ILS signal while an aircraft is making an ILS approach during low visibility conditions. An ILS signal distorted by an aircraft or vehicle can cause an aircraft on approach to be off the runway alignment or glide angle. During low visibility conditions, a pilot may not have time to correct his approach when the runway becomes visible.

•SURFACE PAINTED HOLDING POSITION SIGN



•RUNWAY HOLDING POSITION MARKING

•4 lines and 3 spaces at 0.15 m each

•ICAO

•Dashes and spaces 0.9 m length

•0.9 m'

•1.05 m

•0.9 m

•Aircraft holding side

Markings



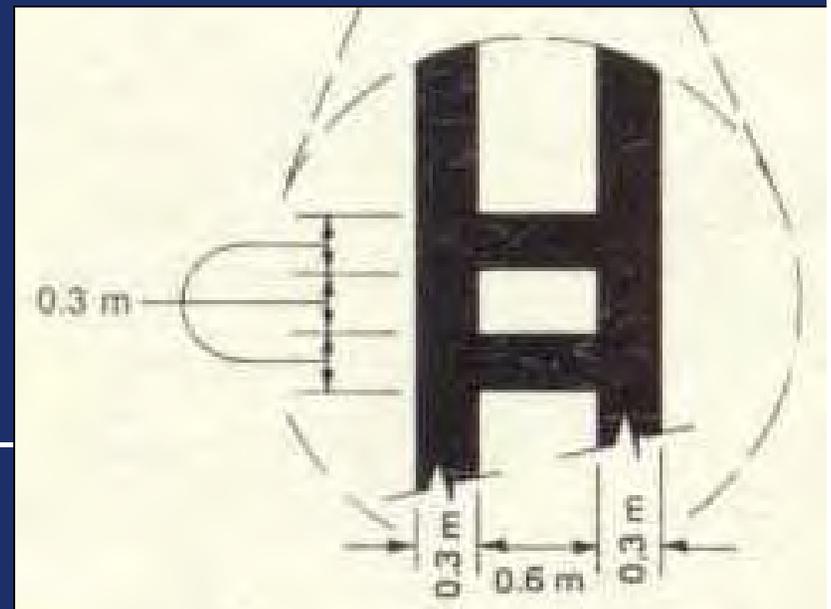
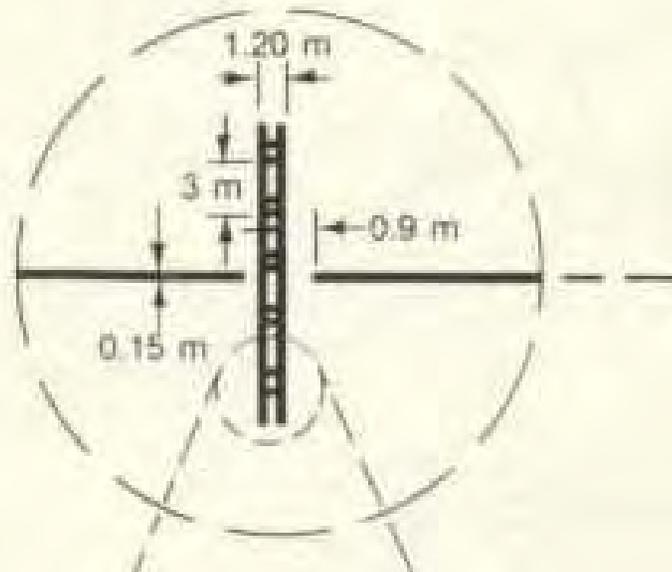
Federal Aviation Administration

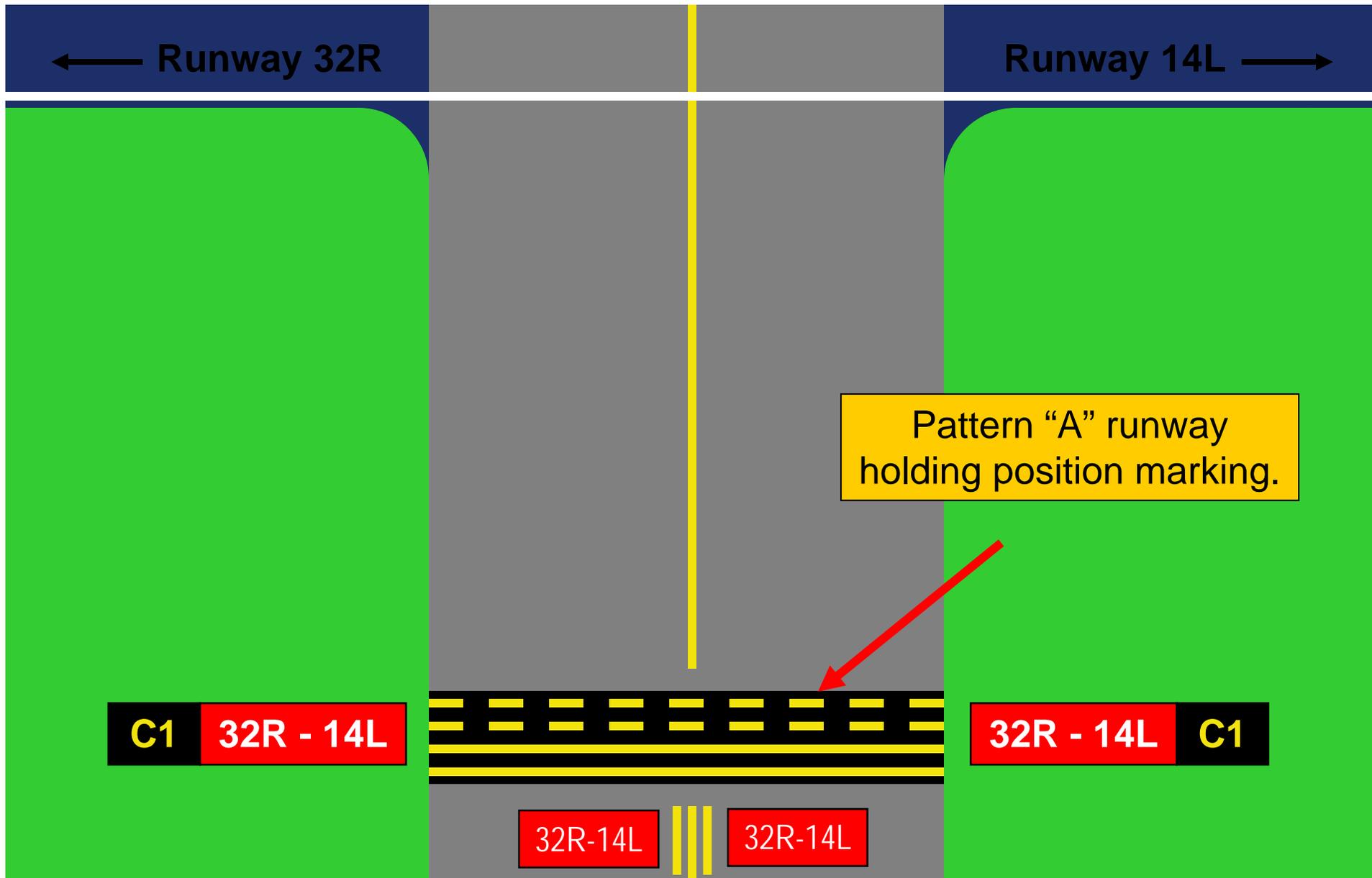
•ICAO Annex 14 Standards

•Runway-Holding Position Marking

•ICAO 5.2.10.3 – Where a single runway-holding position is provided at an intersection of a taxiway and a precision approach category I, II or III runway, the runway-holding position marking shall be as shown in Figure 5-6, pattern “A”. Where two or three runway-holding positions are provided at such an intersection, the runway-holding position marking closer (closest) to the runway shall be shown in Figure 5-6, pattern “A” and the markings farther from the runway shall be as shown in Figure 5-6, pattern “B”.

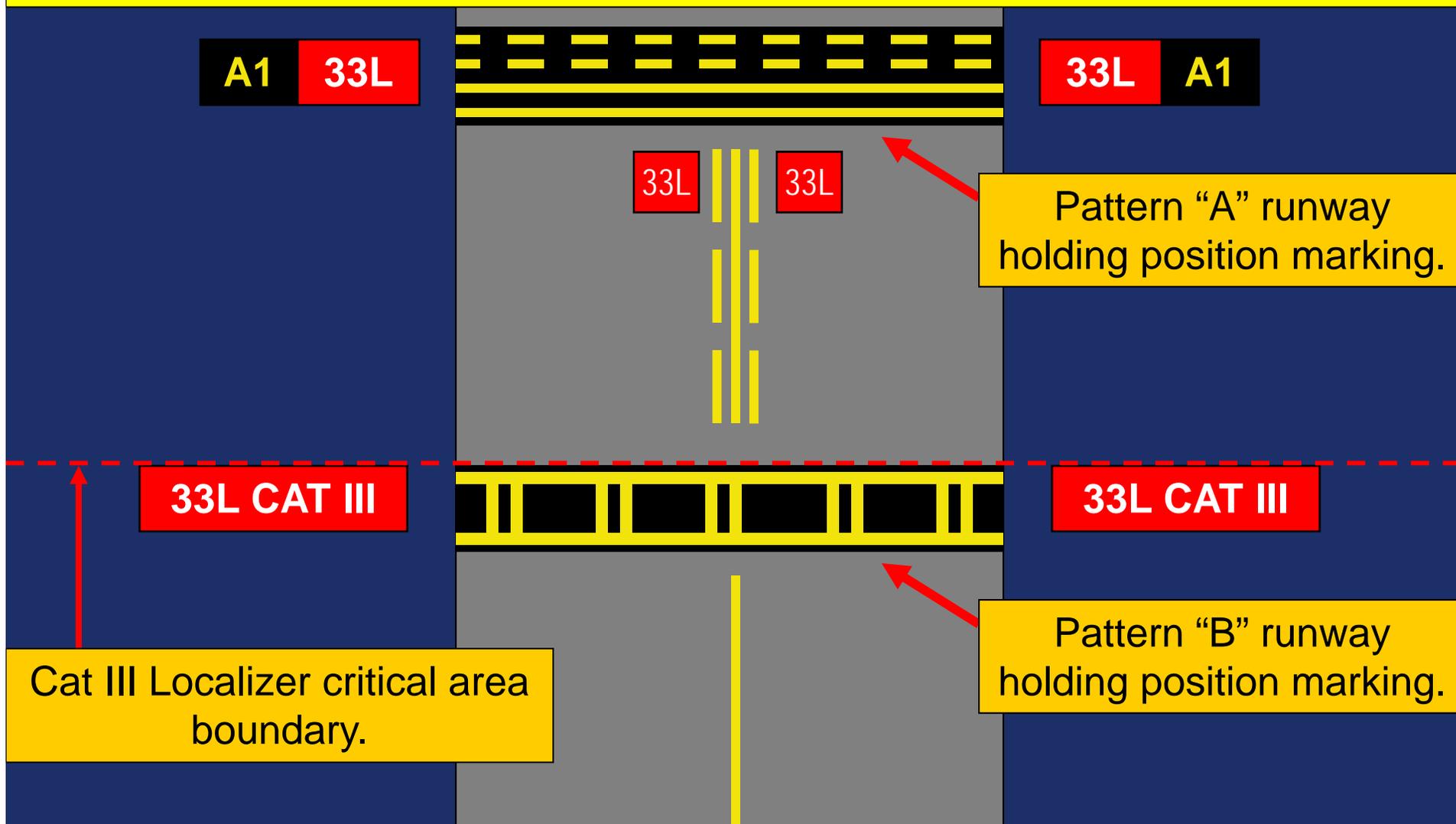
PATTERN B:
2 lines at
0.3 m each
1 space at
0.6 m





•ICAO 5.4.2.8 – A runway designation sign at a taxiway/runway intersection or a runway/runway intersection shall be located on each side of the runway-holding position marking facing the direction of approach to the runway.

- Example of a runway-holding position and CAT III critical area holding position at the takeoff end.



- ICAO 5.4.2.9 – A category I, II, or III holding position sign shall be located on each side of the runway-holding position marking facing the direction of the approach to the critical area.

•No Entry Signs

- These signs identify areas where entry is prohibited. Normally used on service roads, closed taxiways and rapid exit taxiways.



- ICAO 5.4.2.7 – A NO ENTRY sign shall be provided when entry into an area is prohibited.
- ICAO 5.4.2.10 – A NO ENTRY sign shall be located at the beginning of the area to which entrance is prohibited on each side of the taxiway as viewed by the pilot.



Runway

Lighting

Date

Presentation Title



Federal Aviation Administration

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ICAO Standards and Recommended Practices (SARPS)



RUNWAY EDGE LIGHTS

Applies to: (cl. doc. # 2, pg. 5-50)

- Runways intended for night operations or for any precision instrument runway.
- Runways with an operating minimums during the day below 800m RVR.

Location:

- Two parallel rows, full length of runway and equidistant from the centerline.
- Not more than 3m from edge.

RUNWAY EDGE LIGHTS

Location (cont'd):

- Uniformly spaced 60m on instrument runways and not more than 100m on visual runways.

Characteristics:

- White in color
- Lights between the beginning of the runway and displaced threshold shall show red in the approach direction.

RUNWAY EDGE LIGHTS

Characteristics (cont'd):

- **The last 600m or one-third of the runway, whichever is less, may show yellow towards the departing aircraft (caution zone).**

RUNWAY THRESHOLD LIGHTS

Applies to: (cl. doc. # 2, pgs. 5-51 & 5-52)

- Runways with edge lights; except on visual or non-precision runways where the threshold is displaced and wing bar lights are provided.

Location:

- At the extremity or runway ends (not more than 3m out) or at the displaced threshold.
- Visual or non-precision rwy = min. 6 lights

RUNWAY THRESHOLD LIGHTS

Location (cont'd):

- **Precision Runways = at least the number of lights required for 3m spacing between both sets of edge lights.**

WING BAR LIGHTS

Applies to: (cl. doc. # 2, pg 5-52)

- Recommended for precision approach runways when additional conspicuity is desired.
- Shall be provided for visual and non-precision runways when the threshold is displaced and runway threshold lights are required.

WING BAR LIGHTS

Location:

- At least five lights extending at least 10m outward at a right angle to the edge lights, with the innermost light in line with the edge light.

Characteristics:

- Showing green in the direction of the approach.

RUNWAY END LIGHTS

Applies to (cl. doc. # 2, pg. 5-54):

- All runways equipped with runway edge lights.

Location:

- Placed at the runway ends and not more than 3m off the end.
- Should consist of at least 6 lights.
- CAT III spacing should not exceed 6m.

RUNWAY END LIGHTS

Characteristics:

- Shall show red back towards the runway.

RUNWAY CENTERLINE LIGHTS

Applies to: (cl. doc. # 2, pg 5-54 & 5-55)

- Precision runways (CAT II & III)
- Take-off min. below 400m RVR
- Recommended:
 - ✓ CAT I with high landing speeds
 - ✓ Take-off min. above 400m RVR and high takeoff speeds

Location:

- Along centerline, all offset 60cm if needed

RUNWAY CENTERLINE LIGHTS

Characteristics:

- **White from runway threshold to within 900m from runway end**
- **Alternating red & white from 900m to 300m from the runway end.**
- **Red last 300m.**
- **See cl. doc. # 2, pg. 5-56**

RUNWAY TOUCHDOWN ZONE LIGHTS

Applies to: (cl. doc. # 2, pg 5-55/56)

- Precision runways (CAT II & III)

Location:

- Extend longitudinally 900m from threshold
- Pairs of barrettes spaced laterally with the innermost lights spaced the same as the touchdown zone markings.
- Longitudinal spacing 30m (low vis.) or 60m

RUNWAY TOUCHDOWN ZONE LIGHTS

Characteristics:

- Barrettes 3m to 4.5m in length with at least 3 lights spaced not more than 1.5m apart
- Lights are white aimed in the direction of the approaching aircraft
- See cl. doc. # 2, pgs. 5-34 & 5-35

APPROACH LIGHTING SYSTEMS

Simple Approach Lighting System

- **Applies to:** (cl. doc. # 2, pg. 5-30)
 - ✓ **Non-Instrument** (visual at night) (code 3 or 4)
 - ✓ **Non-Precision**
 - ✓ **Exception:** runway is used only in good vis. & other vis. aids provide sufficient guidance.
- **See cl. doc. # 2, pg. ATT A-16 for configuration (white lights only).**

APPROACH LIGHTING SYSTEMS

Precision Approach (CAT I) Lighting System

- Applies to: precision approach runway (CAT I) (cl. doc. # 2, pg. 5-30)
- See cl. doc. # 2, pgs. 1-5 for apch. definitions.
- See cl. doc. # 2, pg. ATT A-19 for configuration (white lights only).

APPROACH LIGHTING SYSTEMS

Precision Approach (CAT II & III)

- Applies to: precision approach runway (CAT II & III) (cl. doc. # 2, pg. 5-30)
- Uses red and white lighting.
- See cl. doc. # 2, pgs. 5-34 & 5-35 for configurations.

EDGE LIGHTS

- ◆ Low intensity runway lights (LIRL)
- ◆ Medium intensity runway lights (MIRL)
- ◆ High intensity runway lights (HIRL)



- ◆ Medium intensity taxiway lights (MITL)

INSTALLATION OF LIGHT FIXTURES

- ✱ LIRL, MIRL, HIRL, MITL may be stake-mounted or base-mounted
- ✱ Frangible no higher than 3” above grade
- ✱ Leveled and aligned
- ✱ Top of elevated fixture 14” above grade (may be increased in areas where mean annual snowfall exceeds 2 feet)



Taxiway Lighting

Date

Presentation Title



Federal Aviation
Administration

TAXIWAY LIGHTING

•Purpose

Provide visual guidance during low visibility conditions

Supplement taxiway marking and other taxiway guidance elements





Taxiway Centerline Lights

•5.3.16.1 Taxiway centerline lights shall be provided on an exit taxiway, de-icing/anti-icing facility and apron intended for use in RVR conditions less than a value of 350 m in such a manner as to provide continuous guidance between the runway centerline and aircraft stands. ...They need not be provided where traffic density is light and taxiway edge lights and centerline marking provide adequate guidance.

•5.3.16.2 Recommendation: *Taxiway centerline lights should be provided on a taxiway intended for use at night in RVR conditions of 350 m or greater...*

•5.3.16.4 Recommendation: *Taxiway centerline lights shall be provided on a runway forming part of a standard taxi route and intended for taxiing in RVR conditions less than a value of 350 m...*

Taxiway Lighting CL Colors

- Normally green
- Alternating green and yellow when “Lead-off lights”
- Taxiway CL crossing a runway



Taxiway Lighting

5.3.16 Taxiway centre line lights

- 5.3.16.7 Taxiway centre line lights on an exit taxiway shall be fixed lights. Alternate taxiway centre line lights shall show **green** and **yellow** from their beginning near the runway centre line to the perimeter of the ILS/MLS critical/sensitive area or the lower edge of the inner transitional surface, whichever is farthest from the runway;

Taxiway Lighting

5.3.16 Taxiway centre line lights

- thereafter all lights shall show green (Figure 5-24). The light nearest to the perimeter shall always show yellow. Where aircraft may follow the same centre line in both directions, all the centre line lights shall show green to aircraft approaching the runway

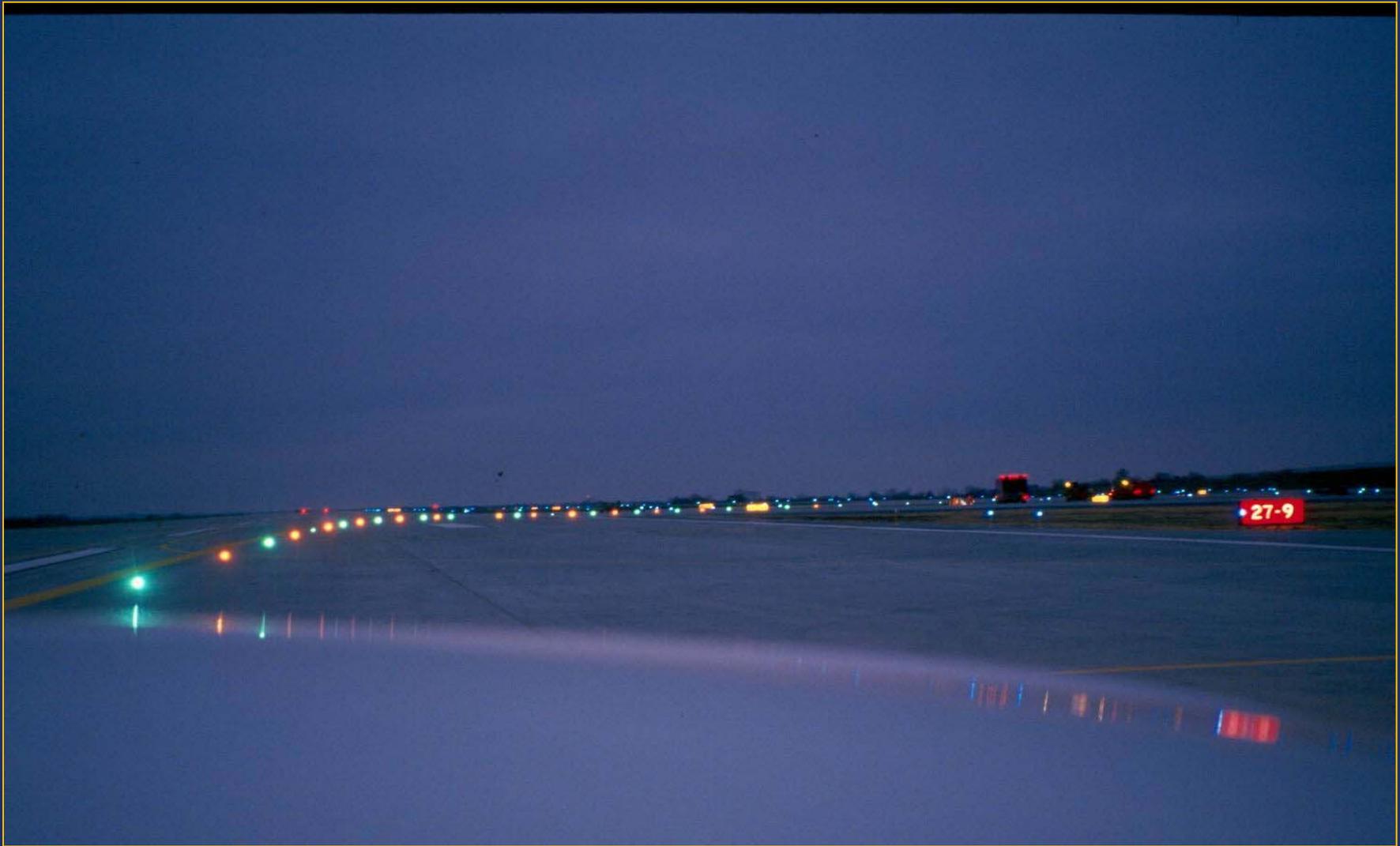
Taxiway Centerline Lighting Standards



Lights are fixed and green in color (5.3.16.6)

On exit taxiways lights alternate green and yellow from runway centerline to edge of ILS/MLS critical area or inner transitional surface (5.3.16.7)

Color Coded Lead Off Lights



Taxiway Lighting

5.3.16 Taxiway centre line lights

5.3.16.9 Recommendation

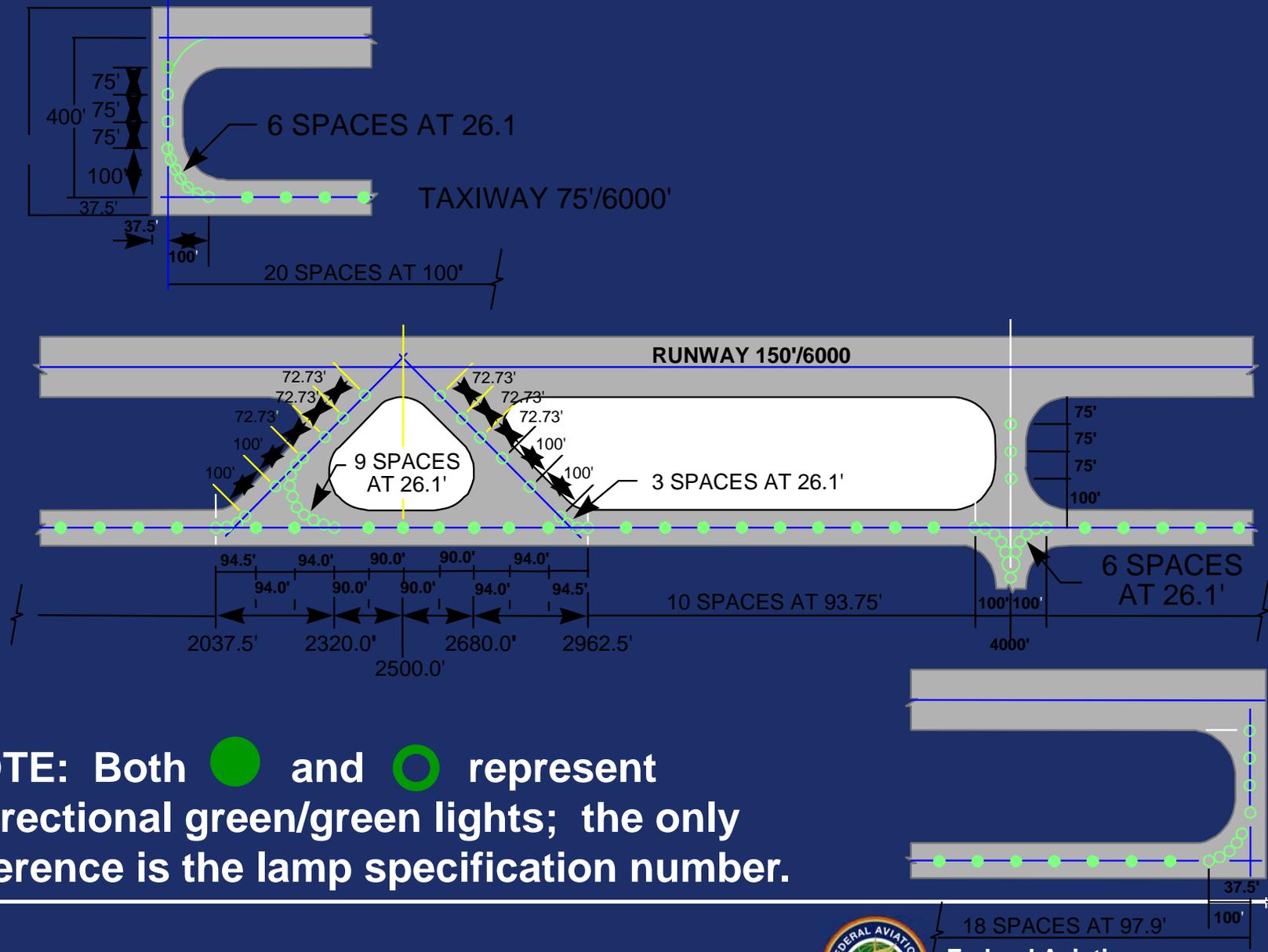
- *The number of levels of brilliancy settings for these lights should be the same as that for the runway centre line lights.*

Taxiway Lighting

5.3.16 Taxiway centre line lights

- **5.3.16.11 Recommendation.**— *Taxiway centre line lights should normally be located on the taxiway centre line marking, except that they may be offset by not more than 30 cm where it is not practicable to locate them on the marking.*

TYPICAL TAXIWAY CL LIGHTING CONFIGURATION



•NOTE: Both ● and ○ represent bidirectional green/green lights; the only difference is the lamp specification number.

Taxiway Lighting

5.3.17 Taxiway edge lights

- 5.3.17.1 Taxiway edge lights shall be provided at the edges of a runway turn pad, holding bay, de-icing/anti-icing facility, apron, etc. intended for use at night and on a taxiway not provided with taxiway centre line lights and intended for use at night...

Taxiway Lighting

5.3.17 Taxiway edge lights

- 5.3.17.1 (continued)...except that taxiway edge lights need not be provided where, considering the nature of the operations, adequate guidance can be achieved by surface illumination or other means.

Taxiway Lighting

5.3.17 Taxiway edge lights

- **5.3.17.3 Recommendation.**— *Taxiway edge lights on a straight section of a taxiway and on a runway forming part of a standard taxi-route should be spaced at uniform longitudinal intervals of not more than 60 m. The lights on a curve should be spaced at intervals less than 60 m so that a clear indication of the curve is provided.*

Taxiway Lighting

5.3.17 Taxiway edge lights

- **5.3.17.4 Recommendation.**— *Taxiway edge lights on a holding bay, de-icing/anti-icing facility, apron, etc. should be spaced at uniform longitudinal intervals of not more than 60 m.*
- **5.3.17.5 Recommendation.**— *Taxiway edge lights on a runway turn pad should be spaced at uniform longitudinal intervals of not more than 30 m.*

Taxiway Lighting

5.3.17 Taxiway edge lights

- 5.3.17.7 Taxiway edge lights shall be fixed lights showing blue. The lights shall show up to at least 75° above the horizontal and at all angles in azimuth necessary to provide guidance to a pilot taxiing in either direction. At an intersection, exit or curve the lights shall be shielded as far as practicable so that they cannot be seen in angles of azimuth in which they may be confused with other lights.

Taxiway Lighting

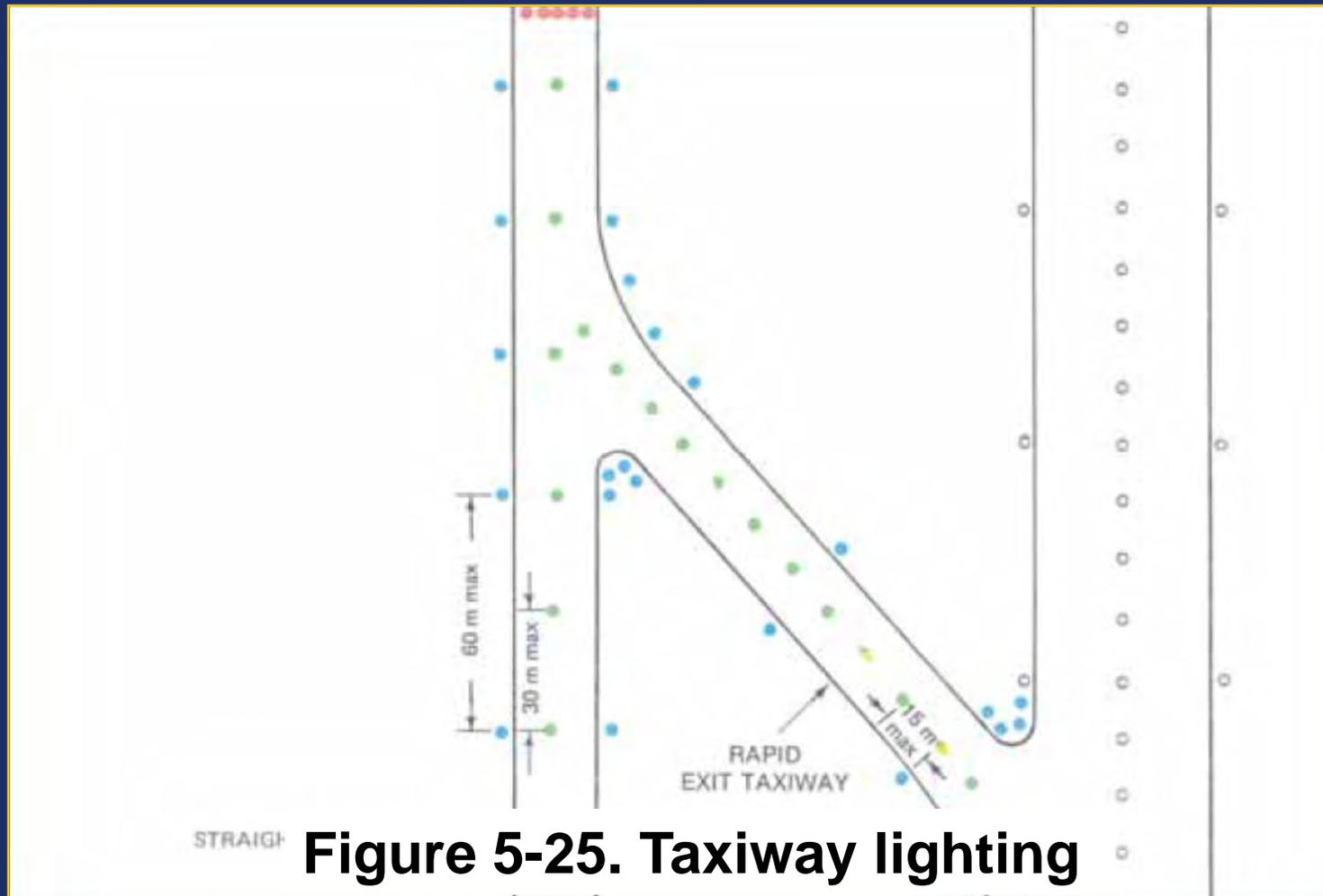


Figure 5-25. Taxiway lighting

LOW VISIBILITY LIGHTING

- Stop bars
- Runway guard lights (RGLs)
- Intermediate Hold Position Lights

Stop Bars



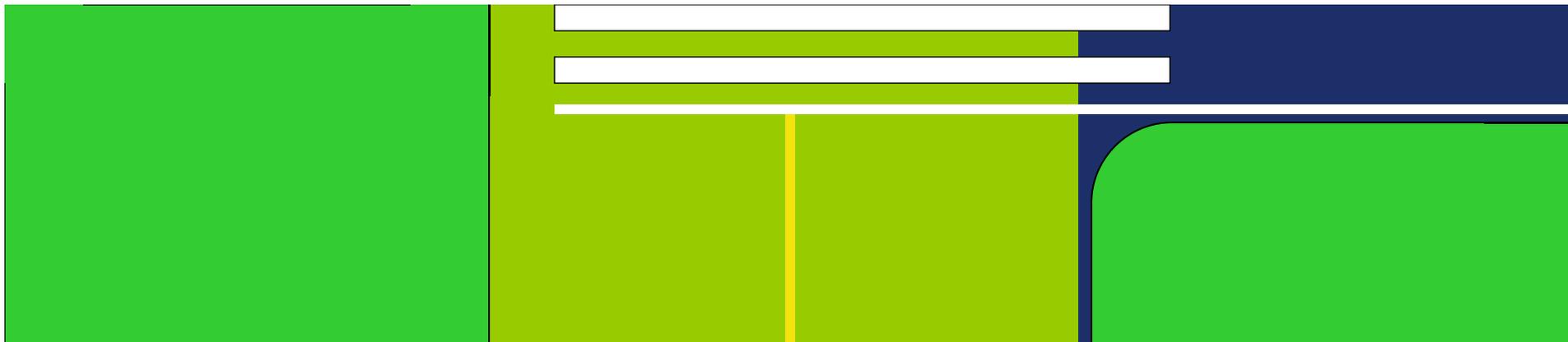
- Runway incursions may take place in all visibility or weather conditions. The provision of stop bars at runway holding positions and their use at night in visibility conditions greater than 550 m RVR can form part of an effective runway incursion prevention programme.

IN-PAVEMENT STOP BAR

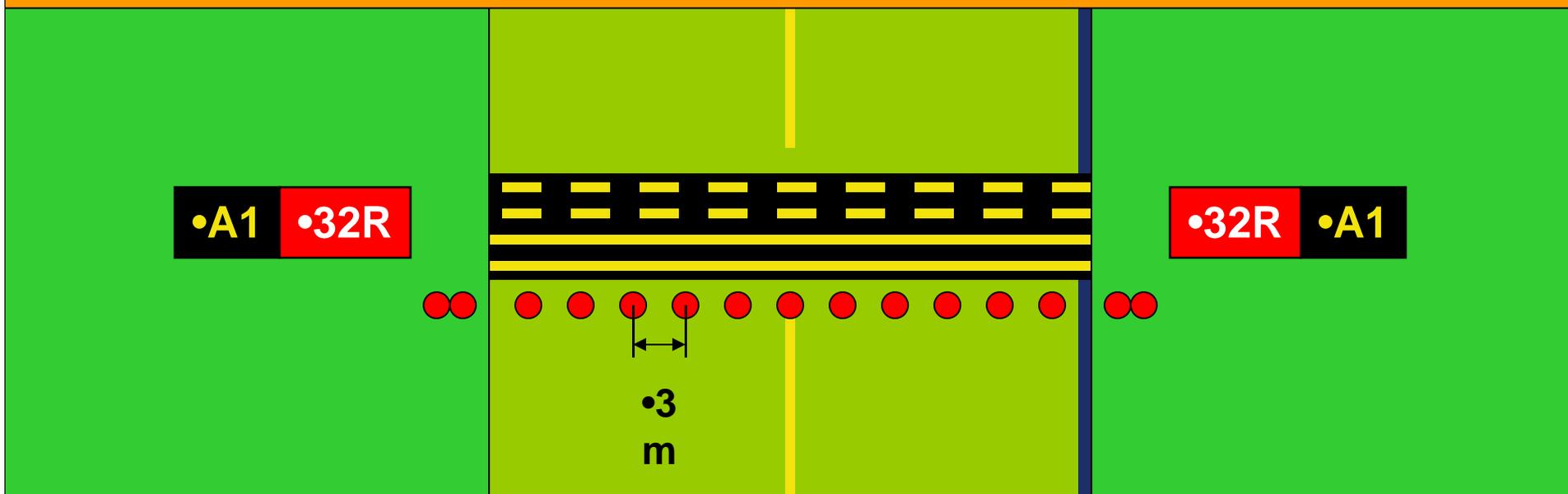


ELEVATED STOP BAR

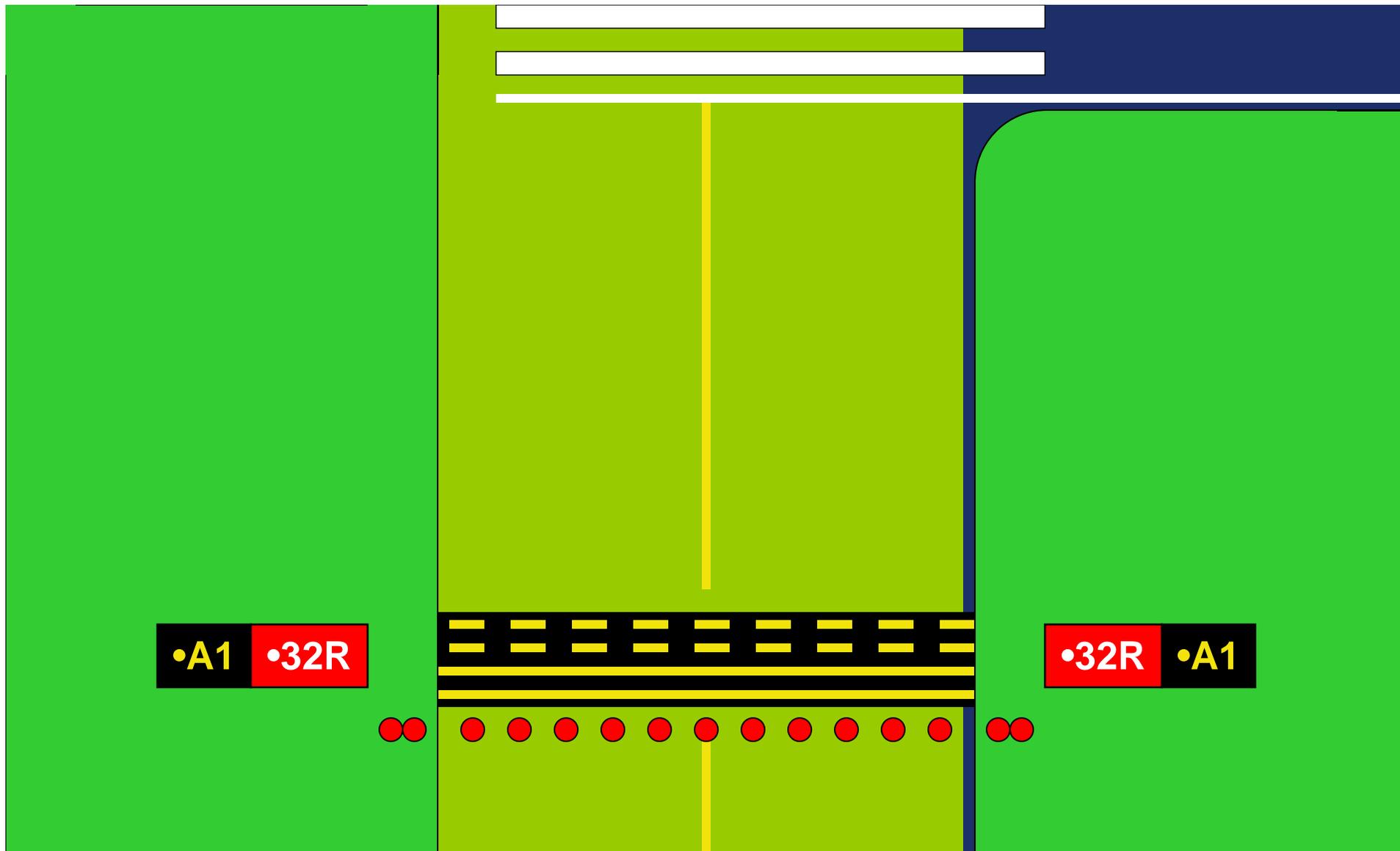




•ICAO 5.3.19.6 Stop bars shall consist of lights spaced at intervals of 3 m across the taxiway, showing red in the intended direction(s) of approach to the intersection or runway-holding position.



•ICAO 5.3.19.7 Stop bars installed at a runway-holding position shall be unidirectional and shall show red in the direction of approach to the runway.



•ICAO 5.3.19.9 Selectively switchable stop bars shall be installed in conjunction with at least three taxiway centre line lights (extending for a distance of at least 90 m from the stop bar) in the direction that it is intended for an aircraft to proceed from the stop bar.



Runway Guard Lights

• **Purpose:** Warn pilots, and drivers of vehicles when they are operating on taxiways, that they are about to enter an active runway.

• **5.3.22.1** Runway guard lights, Configuration A, shall be provided at each taxiway/runway intersection associated with a runway intended for use in:

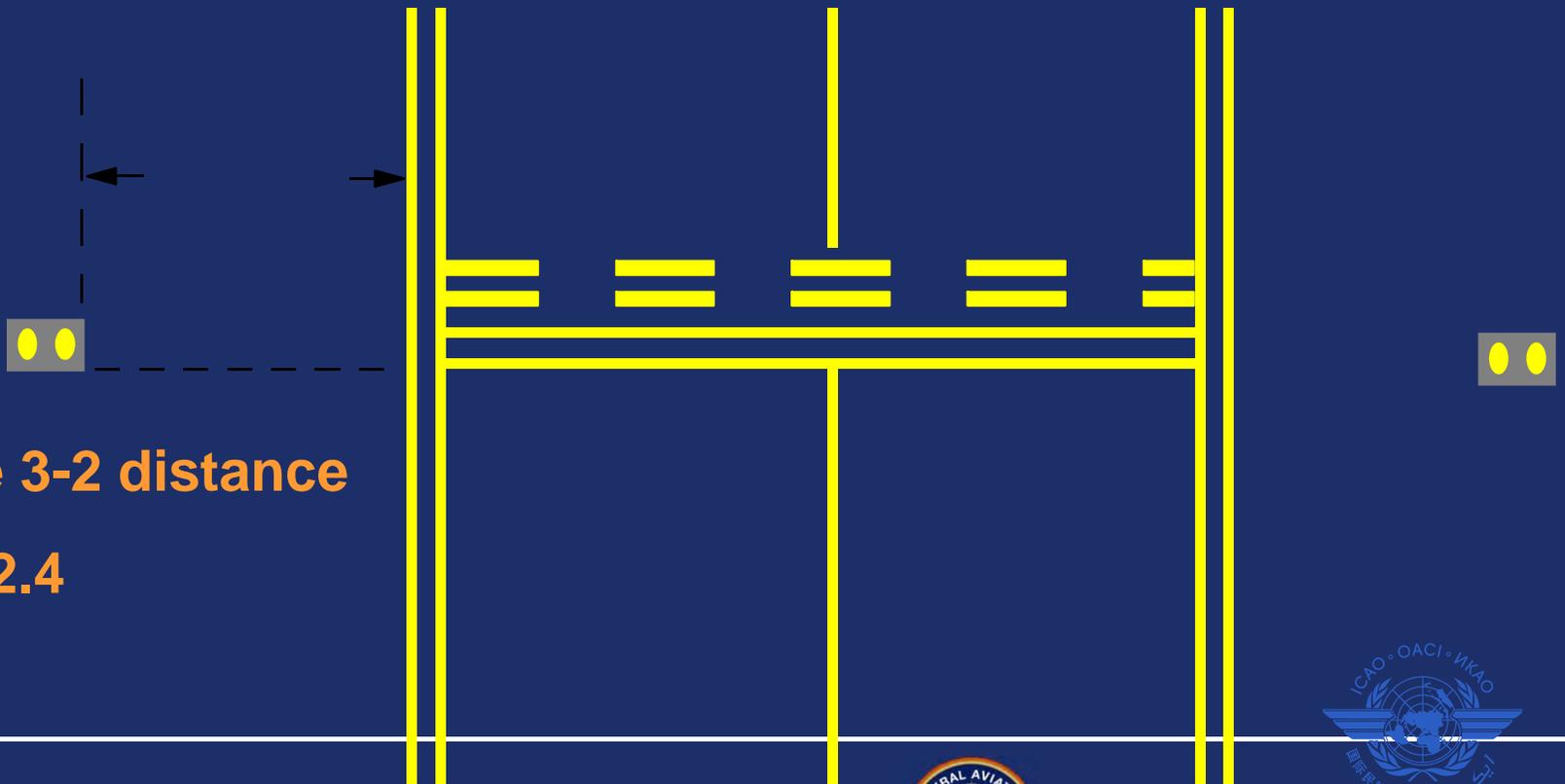
- Runway visual range less than a value of 550 m where a stop-bar is not installed
- Runway visual range conditions of values between 550 m and 1200 m where the traffic density is heavy.

• **5.3.22.3** Recommendation: *Runway guard lights, Configuration A, should be provided at each taxiway/runway intersection associated with a runway intended for use in*

- *RVR conditions of values less than a value of 550 m where a stop-bar is installed*
- *RVR conditions of values between 550 m and 1200 m where the traffic density is medium or light.*

Runway Guard Lights: Configuration A

•5.3.22.6 Runway guard lights, Configuration A, shall consist of two pairs of yellow lights.



•Table 3-2 distance

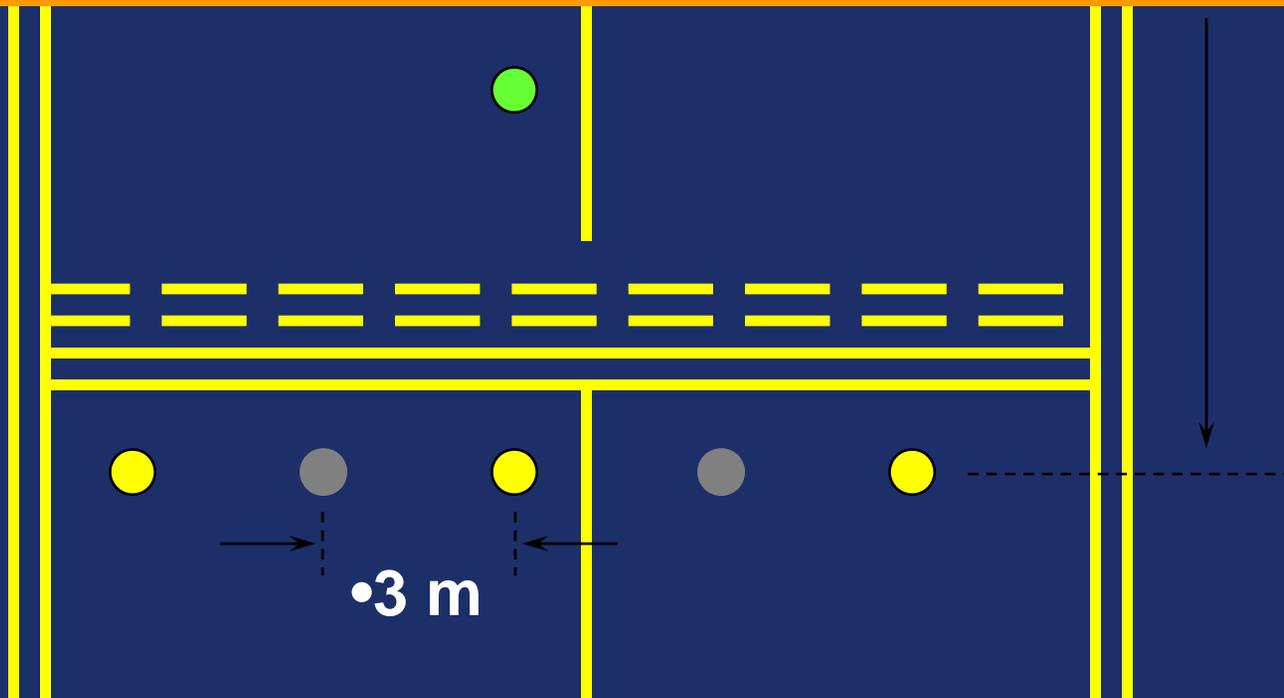
•5.3.22.4

ELEVATED STOP BAR AND RUNWAY GUARD LIGHT (RGL)



Runway Guard Lights: Configuration B

•5.3.22.5 Runway guard lights, Configuration B, shall be located across the taxiway at a distance from the runway centerline not less than that specified in Table 3-2.



•5.3.22.17 For Configuration B, adjacent lights shall be alternately illuminated and alternative lights shall be illuminated in unison.

TYPICAL INSTALLATION OF CONFIGURATION A RUNWAY GUARD LIGHTS



Inspection Checklist



- Installed correctly



- At proper elevation



- In line with other lights



- Level and correctly oriented



- Configured and operating in accordance with SMGCS plan

Inspection Checklist



- Over 90% of lights operational



- No 2 lights in a row inoperative



- Lenses clean and undamaged



- Lights not obscured by snow/ice



- Any negative user comments

Things to Remember

INSPECTING TAXIWAY LIGHTING

- Correct installation/ elevation
- Level and in line
- Correct orientation
- In accordance with SMGCS plan
- Operational

Things to Remember

INSPECTING TAXIWAY LIGHTING

- Intensity steps functioning
- Clean/undamaged lenses
- Uniform intensity
- No confusing/deceptive conditions

Things to Remember

INSPECTING TAXIWAY LIGHTING

- Effective maintenance program
- No obscuration by snow/ice
- Proper current
- No water in fixtures



Questions?????

