



Lighting Systems and Use

IMC Club Meeting

Approach Rules

- 14 CFR 91.175(c) rules for flight below MDA/DA
 - Must have the required visibility for approach
 - Approach lights only allows 100 AGL descent
 - Until red terminating or side row bars
 - Other lights or marking allow descent to runway

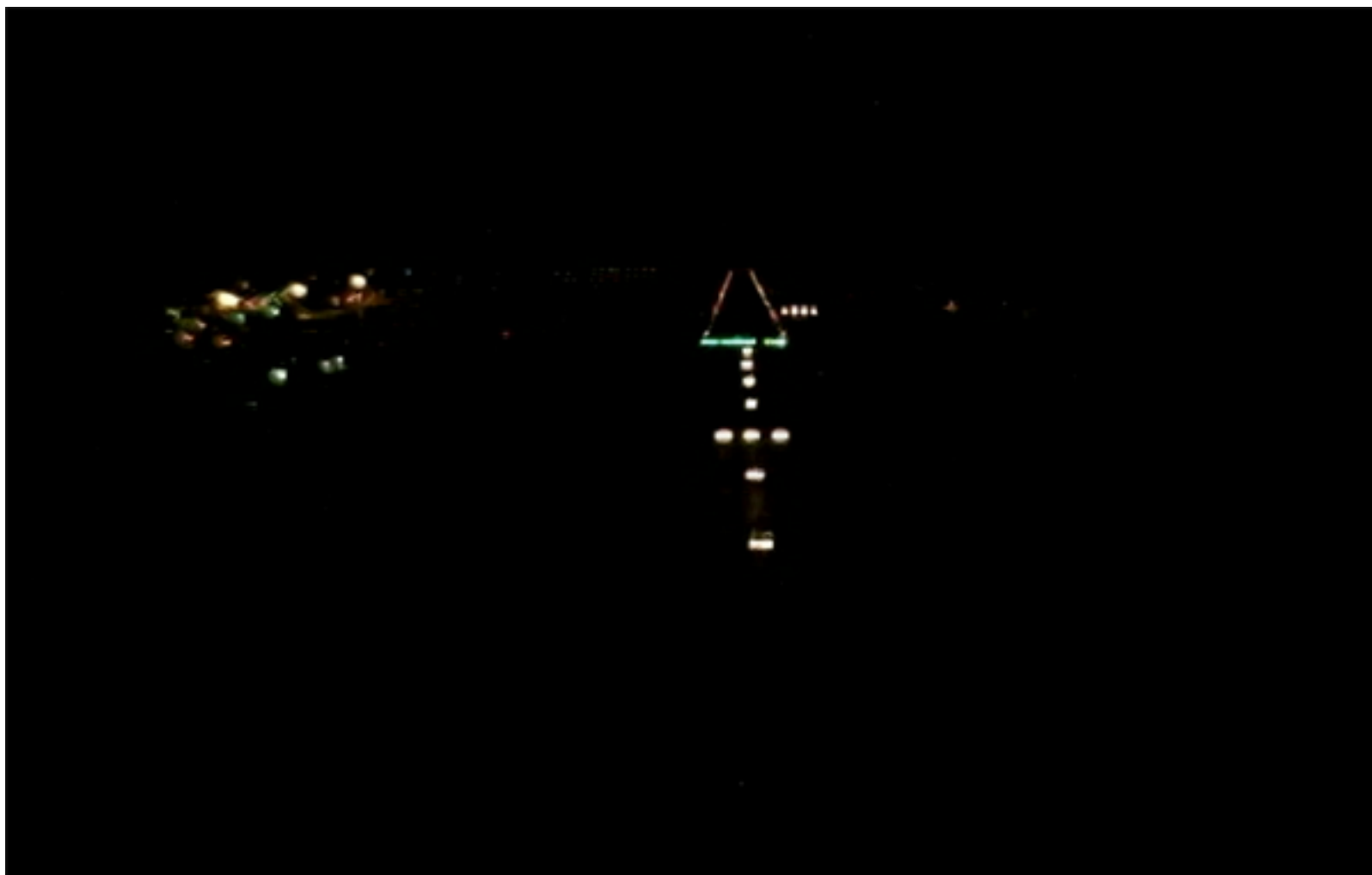
14 CFR 91.175(c) – Below DA

(2) The flight visibility is not less than the visibility prescribed in the standard instrument approach being used; and

*(3)(i) [visual references] The approach light system, except that the pilot may not descend below 100 feet above the touchdown zone elevation using the approach lights as a reference unless the **red terminating bars or the red side row bars** are also distinctly visible and identifiable.*

MALS and SSAL

- Medium Approach Lighting System
Simplified Short Approach Lighting
- No red bars; must wait for runway environment
- Roll bar lights (white) at 1000 feet from threshold, 200' intervals after
- SSAL has green lights at threshold
- Many local airports
 - RWY 17 KMHT 11/29 KBED
 - RWY 14 KASH 16/34 KPSM



Credit: code7700.com

ALSF

- Approach Lighting System with Sequenced Flashing Lights
- Red side row bars present on ALSF-2, red terminating bars on ALSF-1; can go below 100 AGL if in red lights in sight
- Roll bar lights at 1000 feet from threshold, 100' intervals after
- Fewer airports; associated with CAT-II/III
 - RWY 35 KMHT 33L/4R KBOS
 - RWY 11 KORH



Credit: code7700.com

Lights and Visibility

- At 200' DA on 3° GS, you're 2846' from threshold
 - ½ SM visibility is 2640', so runway lights may not be visible for 200'. (1.5s at 80kts)
 - Need to see last row of lights to meet vis.
 - Roll bar is at 1000' from threshold, so if it is at limit of visibility at DA, then visibility is 1846' or just over 1/3 SM. Lights past roll bar are at 100' (ALSF) or 200' (MALSS/SSAL) intervals.