

Operational Safety on Airport During Periods of Construction

Principles of Construction Safety and Phasing Plan

Presented to: NEC/AAAE Annual Airport Conference

By: Guillermo Felix P.E.

Date: March 29, 2017



**Federal Aviation
Administration**

Incidents and Accidents occur during construction at airports



**And They Are Very Scary and
Expensive!!!!!!!**



2017 NEC/AAAA Airport Conference



5



2017 NEC/AAAA Airport Conference



6



2017 NEC/AAAA Airport Conference



7



2017 NEC/AAAA Airport Conference



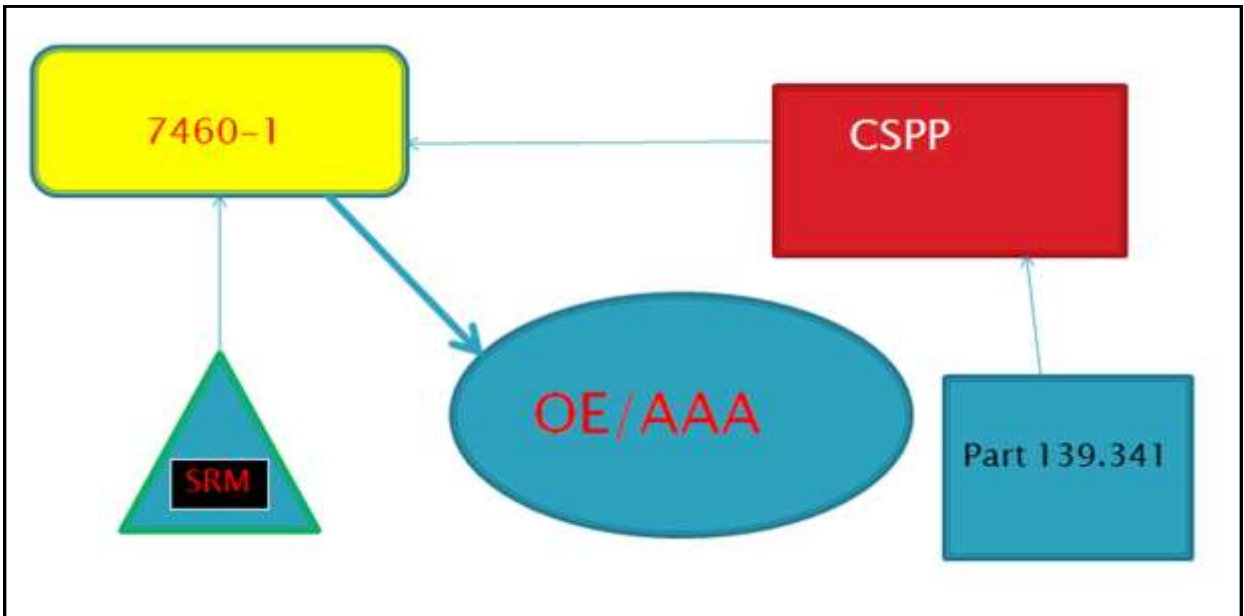
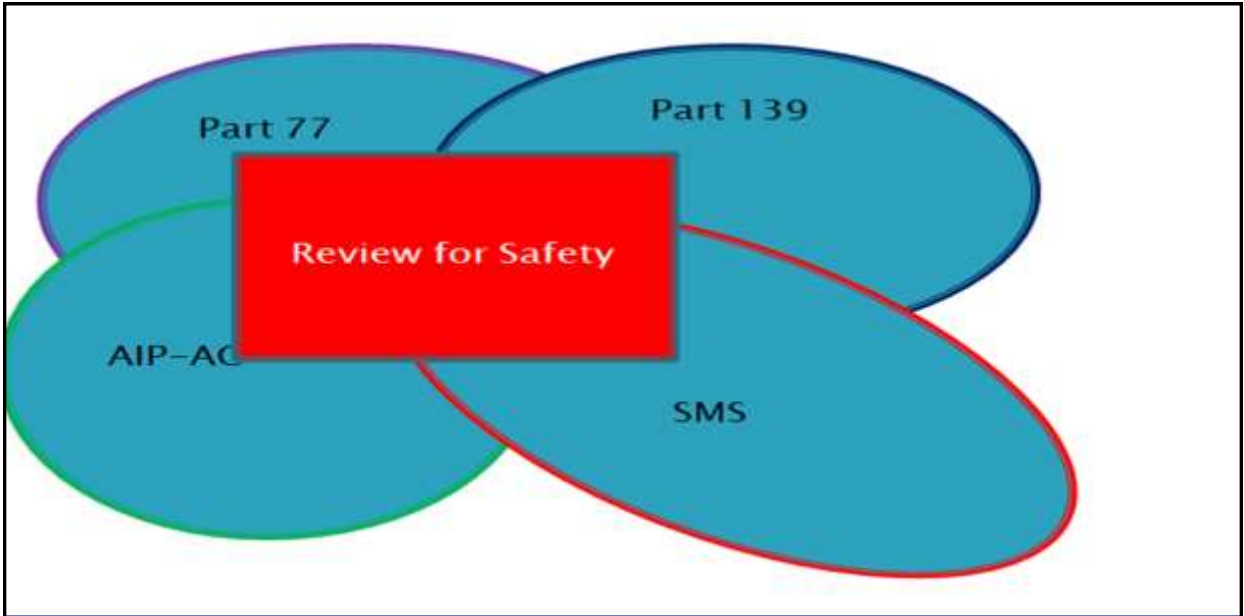
8

Presentation outline

- Application of FAA guidance
- **The airport operator's responsibilities**
- The consultant's role
- The contractor's role
- Guidance for developing safety during construction plan
- Various scenarios

FAA Guidance

- **FAR Part 77:** requires proponents notification to FAA of any activity that may impact navigable airspace. This include on-airport proposals. Purpose: **provide safe movement and separation of aircraft from objects.**
 - a) Airport Imaginary surfaces are the “alert” surfaces
 - b) ACs and Orders are used to do the evaluation.
 - c) Enough information is need to for the FAA to conduct the evaluation
 - d) FAA determines if it is a “HAZARD” to air navigation. For NRA cases we use language of “Objection, no objection or no Objection with provisions”
- **FAR Part 139.341** Requires certificated airports to conduct construction activities marking and lighting closed areas in a manner acceptable by “administrator” as well as protecting utilities serving airport. Other 139 requirements may apply. **DO NOT REQUIRE FILING** with FAA. Used by cert. inspector to determine “discrepancy” to Part 139 regulation.
- **AIP Order 5100.38:** Sponsor-FAA contractual requirement when receiving federal assistance. AC 150/5370-2F: provides guidance on the extend and how to prepare CSPP for PM approval. It is recommended for non AIP/PFC projects.
- **Order 5200.11:** ARP Safety Management System. Tool used by PM to “approve” CSPP (and ALP/MOS) based on assessed “level of risk” either by PM, coordinating with an LOB or by a panel. Risk level (high, medium, low) are determined in this process.



Airport Operator's Responsibilities

- **Ensure operational safety is not degraded by hazards or marginal conditions associated with construction activity on the airport.**
- **Provide and maintain safe clearances between construction activities and aircraft.**
- **Close affected area or pull back personnel and equipment for aircraft movement during construction.**
- **Get necessary FAA acceptance**

Airport Operator's Responsibilities

- **Coordinate the development and approval of construction safety (phasing) plan.**
- **Require contractors to adhere to safety plans.**
- **Coordinate construction. (contacts list)**
- **Notify users. (NOTAM)**
- **Training.**
- **Control vehicles.**
- **Comply with standards**
- **Inspect and resolve deficiencies found**

Airport Operator's Responsibilities at certificated airports

- Compliance with FAR Part 139 Regulation and ACM during construction —
- Part 139.341, Identifying, marking, lighting and reporting construction and other unserviceable areas
- Condition of movement areas and safety areas
- Self-inspection and airport condition reporting
- Emergency access roads
- For other than FAR Part 139 but Federally funded project the AC 150/5370-2E establishes standards

Consultants' Role

- Develop plan for safe and efficient construction activities minimizing airport operation
- Preparing construction safety and phasing plan
- Prepare contract documents
- Provide technical advices to airport operators

Contractor's role

- Familiarize and adhere to plan. Prepare Safety Plan Compliance Document (SPCD)
- Recommend modification of plan if applicable
- Get all necessary training
- Coordinate with airport operations for movement on the airfield
- Work with airport operator for issuance of NOTAM
- Provide POC

Important Definitions

- Air Operations Area (AOA)
- Movement Area - ATCT
- Runway/Taxiway Safety Area
- Runway/Taxiway Object Free Area
- Runway Obstacle Free Zone
- Runway end and Threshold
- Declare distances
- NAVAIDs/VISAIDs
- Jet Blast

The Air Operations Area is the portion of the airfield inside the perimeter fence where airport safety and security regulations apply.



•where

Movement Areas – Towered Airports



The movement area is the portion of the airfield where aircraft operate under the control of the Air Traffic Control Tower (ATCT). The movement area includes runways and taxiways. Normally, the apron area is non-movement area, however, at some airports, a taxiway may be located adjacent to the apron area and be under the control of Air Traffic Control.

Safety Phasing Plan

Delineate construction areas within aircraft operating areas (AOA)



Safety Phasing Plan

Identify all construction access & egress routes on the airfield



Safety Phasing Plan

Separate construction activities from movement areas



HAZARDOUS CONDITIONS:

- Tall but relatively low visibility units such as cranes or drilling equipment in safety areas or approach zones.





HAZARDOUS CONDITIONS

Attractions for birds such as trash, grass seeding, or ponding water on or near airport movement areas.

▪ Proximity to Navigation Aids

- Construction activity in the vicinity of navigational aids requires special consideration, particularly stockpiles of materials and movement or parking of equipment that may interfere with electronic emissions and transmissions
- The effect of the activity will be evaluated by the FAA through the airspace review process. Recommend coordinating with local AF for input prior to submission of S/P.

SAFETY PHASING PLAN SUBMITTALS TO THE FAA



2017 NEC/AAAA Airport Conference



29

In summary: Safety Plan Elements

- **Scope**
- **Visual aids**
- **Wildlife control**
- **Areas affected**
- **NAVAID protection**
- **Separate from AOA**
- **Barricades/fencing**
- **Limits**
- **Marking/lighting**
- **Surfaces/slopes**
- **FOD**
- **Hazmat**
- **NOTAM**
- **Inspections**
- **Utility locations**
- **Point of contacts**

2017 NEC/AAAA Airport Conference



30

the **MUST**
versus
the **SHOULD**

Let's test our understanding!!!

Example No. 1

- **ABC Airport is going to extend Runway 1-19 using AIP funds. Runway will be closed during construction. It is a Part 139 airport and GA.**
- **Do they need to file a 7460? Why?**
- **Do they need to prepare a CSPP in accordance to AC 150/5370-2?**
- **What kind of ADO response will be issued at the end of the review?**
- **Do PM need to do an SRM?**
- **Is AP(139) review requested?**

Example No. 2

- **ABC Airport is replacing EMAS at the approach end of Runway 4. Runway 4 needs temporarily displacement to allow for construction activities/excavation. Project is NOT AIP/PFC funded**
- **Does ABC Airport must submit CSPP in accordance to AC 150/5370-2?**
- **PM coordinate review with AP(139)?**
- **Does PM perform SRM?**
- **What kind of response PM send to ABC Airport?**

Example No. 3

- An FBO is reconstructing its apron at ABC Airport adjacent to Taxiway P. No AIP/PFC money is used. It is a Part 139 airport
- Do they need to prepare a CSPP in accordance to AC 150/5370-2?
- Do they need to file a 7460?
- Is coordination with AP(139) required?
- What kind of SRM process the PM conducts?

Last one: FAA Project

- AT XYZ Airport Tech Ops is going to relocate Runway 9 localizer from existing location 300' to standard 1000' IT is a Part 139 airport.
- Who files the 7640 with ARP? (threshold displacement) – RSA
- What information we need?
- What kind of letter the ADO will send?
- Is an SRM required?
- What kind of questions the ACSI will ask?

Thanks!!!

