



# AFC Manual Review for 2015

AFC Spring 2015

# Scope



- Review the AFC documentation set over 2015/2016
  - Coordinated with AFC meetings
    - Outside work will be required
  - AFC manual approval targeted for Q1 2016
  - Other documentation will then be updated
- Review is intended to update and rationalize
  - Reflect how we would want to do it in a practical manner

# This meeting



- Specifics for this meeting:
  - Frequency justification/assignment
  - De-icing
- Introduce initial draft
  - Seek initial feedback/suggestions
  - Additional work/info identified
  - Will be seeking some volunteers from the membership to test

# VHF Frequency Assignment/Justification



- To update with new technologies, projects, and try to make assignment more efficient
- Considerations
  - Co-frequency separation for space planes
    - New EHL class for 300000
  - Additional VDLM2 channel justification
    - Work being done in spectral sub-group
  - ACARS channel justification
    - Predicative mechanism adapted from VDLM2 work
  - Emission profiles used to make co-site assignments
    - Voice 25k/8.33k, VDLM2, ACARS

# VHF Frequency Assignment/Justification (cont)



- Number of channels justified relies on current formula (section 2.6.1):

$$N = \frac{A}{14}$$

*14 = The number of flights that can be accommodated within a channel assignment sector within a peak hour for voice.*

- Where:

$$A = \sum_{i=1}^{i=4} \left( T_i + L_i + \frac{0.25P_i}{S} \right)$$

*Note: The operating entity shall select the four 15 minute periods, which need not be consecutive, but the same four 15 minute periods shall be used for all the factors,  $T_i$ ,  $L_i$  and  $P_i$ .*

*Note: Where application of the formula results in a fractional number greater than 0.3, the next larger whole number will apply.*

# VHF Frequency Assignment/Justification (cont)



- Congested vs. non-congested (2.6.2)
  - Additional requirements when in congested airspace  
*'approximately 80% of the available frequencies are in use located within low level air-to-air interference range of the congested area (605 nmi radius), or when it becomes necessary to assign cosite adjacent channels\*'*
- CONUS is now considered 'congested' by the above definition
  - Must be justified by actual loading in addition to formula
  - Subject to validation by physical measurement of channel occupancy on all channels used by the applicant
  - Measuring carrier on power over a peak 5 min period
  - Below interval - new users can be assigned to existing channel
  - Above interval - new channel provided
    - Single user - 35-45%
    - Multiple users - 30-40%
  - Rules intended to ensure even loading across all channels

# VHF Frequency Assignment/Justification (cont)



- Alternative models – EuroControl recommended guidance

No. annual aircraft movements (0000's)	Number of frequencies
< 40	3
40-80	4
80-150	7
150+	Dependent on complexity of operations

– Intended for ATS purposes only

- AOC frequency application reviewed on 6 month block planning cycle

# VHF Frequency Assignment/Justification (cont)



- Discussion
  - Are current methods still viable?
  - Balance of diligence vs. practicality
- Way forward
  - Volunteers needed airlines to provide traffic data
  - Review current measurement/alternatives
  - Emission profile review



# De-icing



# Summary



- Confirm policy meets current requirements
  - ‘Measure twice, cut one’
  - Q1 2016 timeline
- See AFC Spring 2015 web meeting space
  - Draft Rev C available
  - Track changed document
  - Comments added for quick explanations



# Questions?