ATC PROCEDURES

CAR/SAM RVSM
Seminar

Lima, Peru

August 5-7, 2002

Overview

- Critical RVSM Procedures
- “Lessons Learned”
- ATC Work Group Milestones
  - ConOps
  - Altitudes
  - Flight Level Allocation System (FLAS)
  - Exclusionary airspace/Transitional Airspace
  - Training/Phraseology....Training Manual
  - Regional traffic vs. Domestic Traffic
- “Big Bang”

Critical RVSM Procedures

- Weather deviations
- “Andes Rule”
- Mountain Wave/Turbulence
  - Suspension of RVSM
- FLAS…..also called WAFDOF
- One way/Two way routes
- Non-approved aircraft
- Equipment failures

Weather Deviations

- Procedural kick-ins..pilot reports/forecasts
- Close coordination with IATA/IFALPA/IFATCA
- Most of CAR/SAM has DCPC.....for areas that don’t, WATRS procedures will be a good starting point
- LOAs/MOUs between States can be used for management of known weather patterns

ANDES Rule

- Loss of pressurization under RVSM operations currently covered under equipment failure contingency procedures
- ATC Working Group needs to study effect of offsets/compacted traffic on “theoretical emergency descent with lateral implications”

Mountain Wave/Turbulence

- Domestic airspace may see higher occurrence than oceanic environment
- East side of Andes experiences substantial mountain wave activity
- Regional/Airway suspension may be the answer
- Anchor States will play key role

Flight Level Allocation System (WAFDOF)

- Sounds complicated but merely requires regional agreement
- One way routes may be the answer
- Even with radar, standardization will be needed
- ATC Working group will develop WAFDOF plan

One Way/Two Way Routes

- Assists in traffic management
- Supports hub and spoke traffic system
- Could be time sensitive
- Coupled with new RNAV routes, would be the foundation for regional TFM effort
- Must be specified in a regional RVSM plan

Non Approved Aircraft

- Stand back, this one is a tough one!!!!
- Current rules permit only very limited types/numbers of flights of non-approved aircraft into RVSM exclusionary airspace
- Allowing non-approved aircraft into exclusionary airspace can increase difficulty of meeting the TLS

Non Approved Aircraft

- Provisions will be made for:
  - State Aircraft
  - Maintenance Flights
  - Ferry/Delivery Flights
  - Humanitarian/Mercy Flights
  - Climb/Descent Through Exclusionary Airspace..must be “non-stop”
- Substantial advance coordination required...at least 8 hours
- Advance coordination does not guarantee aircraft will be accommodated

Non-Approved Aircraft

- Each State will decide how to handle non-approved aircraft operating totally within their FIR(s). .....But remember

These Procedures may impact the Safety Analysis...and our ability to meet the TLS

Equipment Failures

- Operators will have list/procedures identifying necessary equipment list
- ATC notification is critical
- Turnback/vertical-lateral offsets can be devised, also descent out of RVSM altitudes
- Large areas of DCPC should lessen impact

Lessons Learned

- There is no such thing as too early.....except for training
- There is no such thing as too late.....except for training
- NAT….nuisance TCAS alerts...V.7 and ACAS III should eliminate this problem
- PAC...have a plan “B” and maintain tracking record of each State’s progress

Lessons Learned

- Wake Turbulence procedures
- Training Standardization
- Harmonize dates and altitudes
- Some type of RVSM identifier is needed at the Controller's position
- Automation issues
- Effect of radar on RVSM operations, similar to U.S. DRVSM effort

Lessons Learned

- Remember that RVSM does not create more airplanes....
- RVSM does impact Traffic Flow Management
- QA.....one major height deviation can ruin your TLS for the whole year
- Get controllers and pilots together to work on lateral offsets and weather deviation procedures

ATC Working Group Milestones

- First…..if you don't have a representative for the ATC Working Group, don't leave the room until you give me a name.....
- CONOPS.....due this Fall to full RVSM Task Force
- Will be the blueprint for ATC aspect of RVSM implementation..critical to safety analysis

Altitudes

- First alternative....FL290-FL410
- Second alternative....FL410-FL290
- Third alternative....simultaneous implementation at FL290-FL330 and FL330-FL410
- 290-410 makes the most sense operationally
- Having an “island” of 2000 feet vert-sep makes the airspace extremely complex

Exclusionary Airspace Transition Areas

- Core areas will extend from Canada to northern FIRs of Argentina and Chile
- Due to natural geographic situation, Chile and Argentina can easily implement as transitional areas (presence of radar is a +)
- Again, procedures for non-compliant aircraft weigh heavily in establishment of exclusionary airspace

Training/Training Manual

- Developed by ATC working Group based on European Model.
- Will contain milestone dates for controller training
- Standardization of phraseology and procedures is critical to safety
- Past implementations have shown that training, while important, takes less time than might be expected
- States will need to adapt training to their ops environment….radar vs. non-radar

Regional vs Domestic

- ATC working group will be developing regional guidelines
- Important for States to use the regional/ICAO standards when developing domestic procedures
- Domestic procedures can impact safety analysis and TLS
- ATC working group will be available to States/ATC service providers
- Guidance material is already available in all areas of ATC procedures/training/contingencies

Why do a “Big Bang”

- Beware the unknown!!!!
- Key to safe ATC is predictability and situational awareness
- Harmonized altitudes/dates allows controllers and operators to know what is expected of them
- Complexity of a mixed operational environment could be almost impossible to predict
- Mixed environment (and associated procedures) may make it difficult, or impossible, to achieve regionally established TLS
- Doing all the work now will reduce costs/hassles later

Questions

Copies of this presentation are available for sale in the lobby! Just kidding!!!!