

Surveillance and Broadcast Services

Alaska Industry Council

By: FAA, WSA

Date: May 14, 2008



Federal Aviation
Administration



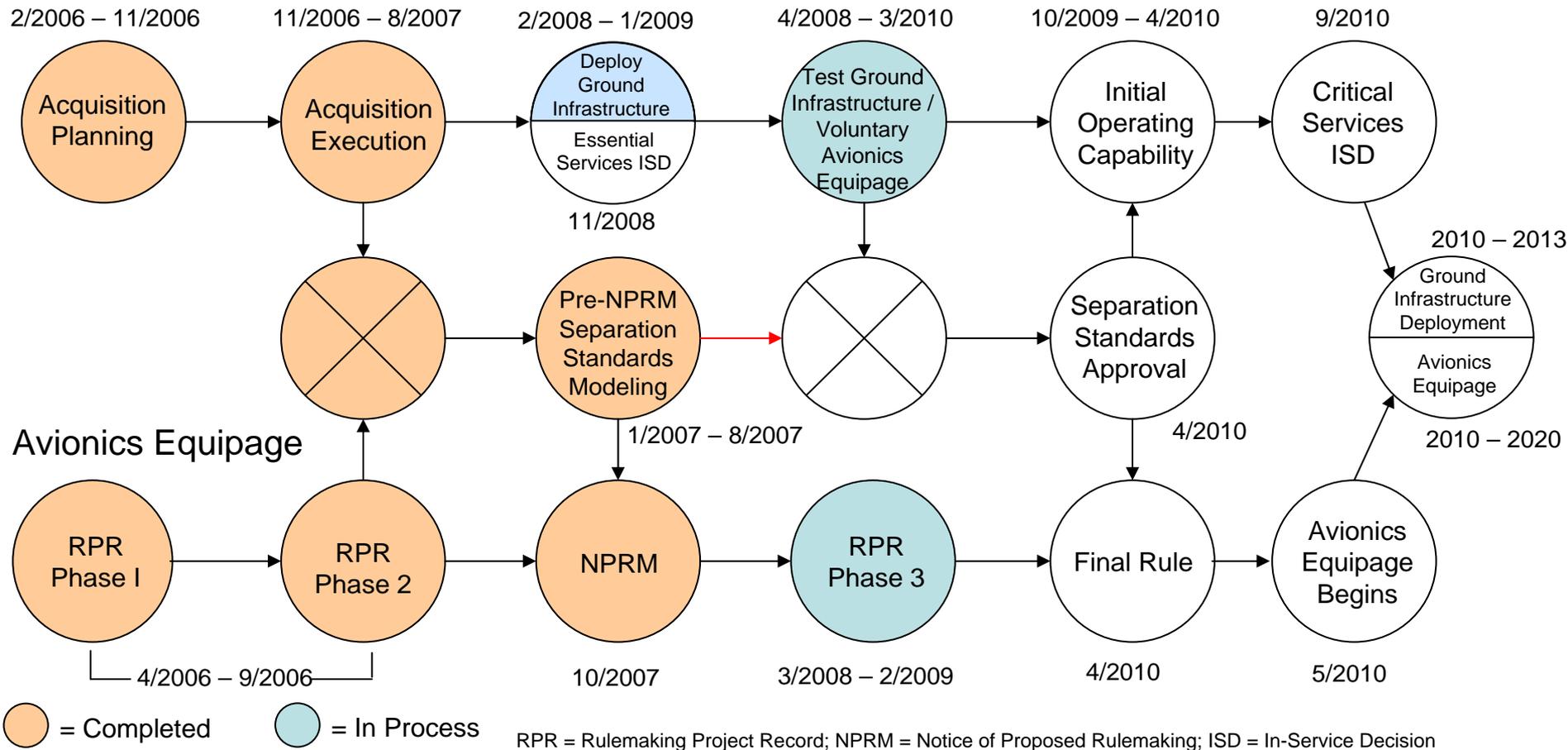
AGENDA

- Opening Remarks – Jere Hayslett
 - Dual Track Strategy update
 - NPRM Status
 - S.E. Avionics Transition
- Technical Update/Implementation – Wes Mooty
- Operational Brief – Jim Hill
- AIC Update – Jim Cieplak, Dee Hanson
- Navigation Services Update – JoAnn Ford
- Round Table



Dual Track Strategy

Ground Infrastructure



NPRM Status

- **The NPRM comment period closed on March 3, 2008**
- **The FAA has categorized the comments that were received**
 - Number of Submittals (excluding FAA / DOT) = 172
 - Excludes duplicates, Department of Transportation and requests for extension
 - Number of Comments = 1,372 (101 positive, 1,271 non-positive)
 - Number of Issues = 85

NPRM: Comments By Affiliation

Type of Affiliation	Number
Air Carrier (Domestic)	7
Aircraft Manufacturer - Transport Category	4
Aviation Law Student	6
Department of Defense	1
Individual Aircraft Owner	13
Individual Pilot - cert. type unknown	3
Individual Pilot - Private/Recreational/Sport	25
Other Government Org.	2
Aircraft Manufacturer - General Aviation	1
Association	22
Avionics Manufacturer	9
Foreign Air Carrier	1
Individual Pilot - ATP	4
Individual Pilot - Commercial Cert.	6
Other Fed. Government Agency	1
Other Individual	67



NPRM Summary: Top Issues

Issue	Number of Comments
ADS-B Benefits	137
Use of two datalink types	93
Disproportionality of costs / benefits on general aviation	75
Cost of implementation – Aircraft Owners / Operators	79
Equipment Requirements – Position Accuracy and Integrity	71
Limitation of rule to mandate ADS-B Out	42
Equipment Requirements	50
Implementation Timetable	45
System failures / backup	44
Broadcast message elements	41

ARC Formation of Working Groups

Working Group	Team Lead	ARC Member Support	FAA Support	SME Industry Support	Estimated Number of Comments
A: Link Implementation Strategy <i>- ADS-R, Strategies, Link</i>	George Ligler (PMEI)	Randy Kenagy (AOPA) Jeff Mittelman (MITRE)			131
B: Programmatic Issues <i>- Taking advantage of existing equipment domestically and internationally, Cost/Benefits, ARC recommendations</i>	Bob Hilb (L-3)	Jim Byrum (Cessna) Perry Clausen (Southwest Airlines) Randy Kenagy (AOPA) Sarah Dalton (Alaska Airlines) John Hansman (MIT)	Gary Paull (MCR)		340
C: Performance Requirements <i>- WAAS, Antenna Diversity, DO-260, Power</i>	Jens Hennig (GAMA)	Ken Dunlap (IATA) Randy Kenagy (AOPA) Bob Hilb (UPS) Jeff Mittelman (MITRE)			213
D: Avionics Transition <i>-Retaining transponder and ELT equipment, Retrofit and forward fit implementation, relationship to positioning for navigation</i>	Rick Heinrich (Rockwell Collins)	Jim Byrum (Cessna) Randy Kenagy (AOPA) Jeff Mittelman (MITRE) Jens Hennig (GAMA)			122

Notes: This will be further defined in the next few days. Only non-positive comments were assigned to working groups.

Schedule for SE Avionics Transition

- Internal meetings in Alaska with SBS project office, legal council and logistics - 4/7
- Review draft plan with SBS Program Manager – 4/21
- Conduct initial town hall meetings in SE to present plan by June
- Deliver letters to owners by the end of August 08
- Collect responses by end of September 08
- Complete all transfer documents for owners choosing to keep equipment by December 31, 2008
- Develop uninstall plan by December 31, 2008 for those choosing to uninstall
- Complete all uninstalls by May 1, 2009



Information Needs: Aircraft Owners and Pilots

- **Town hall meetings**
 - Co-hosted by Alaska Implementation Committee and FAA
 - Basic information session and Q&A
- **Information packet**
 - Cover letter
 - Detailed instructions
 - Schedule
 - POCs and contact information

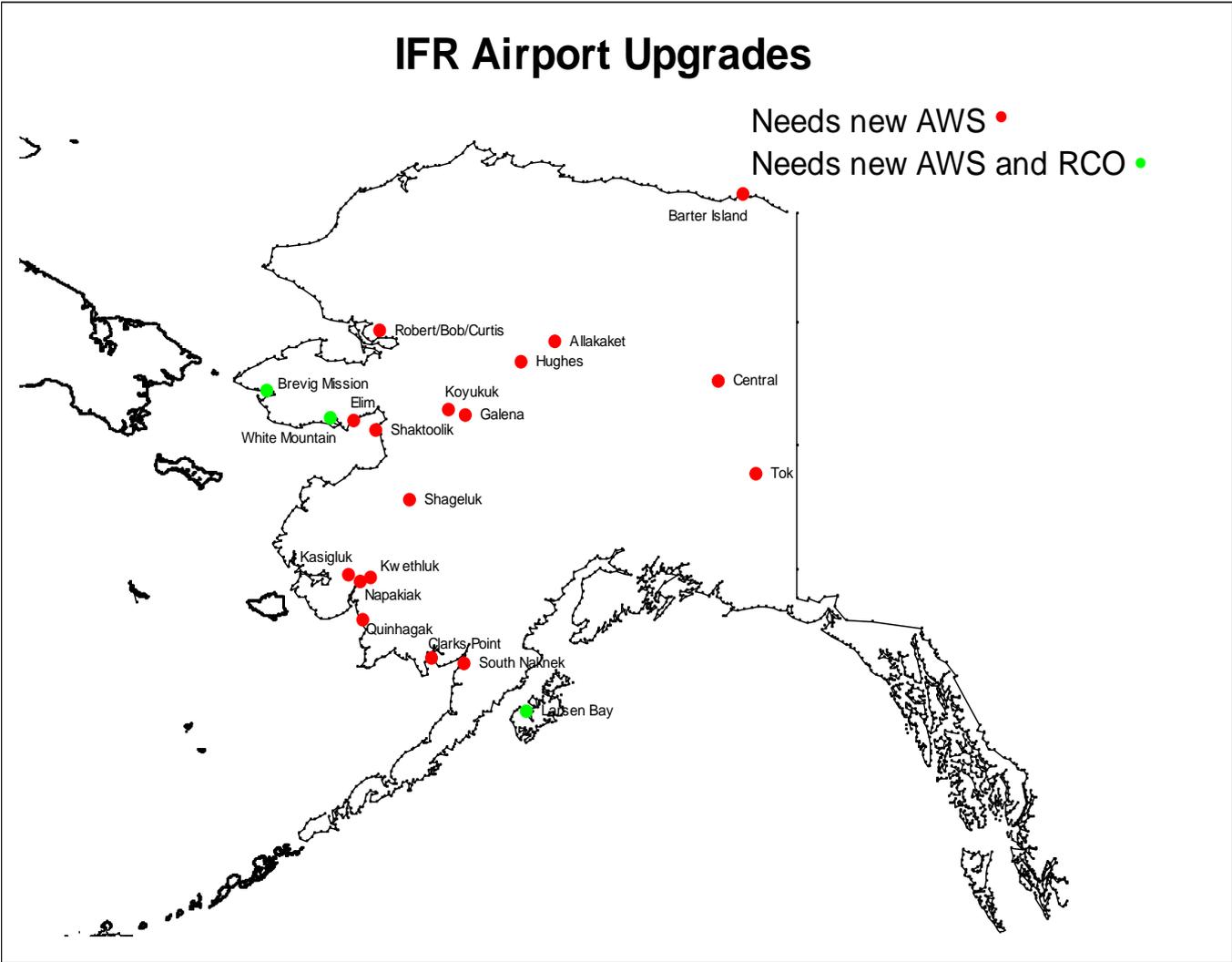
SBS Technical Update – GBT Sites

- **Service Volume 6 (ANC-FAI) and 13 (OTZ) for FY08**
 - **GBT Service Delivery**
 - Anchorage - Available Today
 - Fairbanks – 15 JUN 08
 - Kotzebue – 22 JUL 08
 - Reindeer Hill – 25 AUG 08
- **Service Volume 11 (OME) and 13 (OTZ) for FY09**
 - **Anticipated GBT Service Delivery**
 - Savoonga (SV11) –01 AUG 09
 - Moses Point (SV11) – 14 AUG 09
 - Newton Peak (SV11) – 30 AUG 09
 - Shishmaref (SV11) – 14 SEP 09

 - Point Hope (SV13) – 01 SEP 09
 - Kivalina (SV13) – 15 SEP 09
 - Selawik (SV13) – 30SEP 09

Proposed Airport Upgrades

IFR Airport Upgrades



- Needs new AWS**
 - Allakaket
 - Barter Island
 - Central
 - Clarks Point
 - Elim
 - Galena
 - Hughes
 - Kasigluk
 - Koyukuk
 - Kwethluk
 - Napakiak
 - Quinhagak
 - Robert/Bob Curtis (Noorvik)
 - Shageluk
 - Shaktolik
 - South Naknek
 - Tok
-
- Needs new AWS and RCO**
 - Brevig Mission
 - Larsen Bay
 - White Mountain



Planned Automated Weather System (AWS) and Radio Communication Outlets (RCO) for Airport Upgrades

Automated Weather Systems (AWS)

- **Commissioning in FY08**
 - Teller
 - Walles
 - Chevak
 - Kiana
 - Shungnak
 - Galena
 - Barter Island

- **Installation in FY08 - FY09**
 - Brevig Mission
 - White Mountain
 - Shaktoolik
 - Robert/Bob Curtis (Noorvik)
 - Elim
 - Larson Bay

Radio Communication Outlets (RCO) Projects

- **Installation FY08 – FY09**
 - Brevig Mission
 - White Mountain

- **Installation FY09 – FY10**
 - Larson Bay

SBS Operational Update

- **Performance Based Navigation**
 - T&Q Routes
- **ADS-B Surveillance Expansion**



AIC Update

- **AIC continues to meet bi-weekly**
- **Coordinate, State, Federal and FAA interests**
 - AEA presentation
 - Airmen’s presentations
 - Recommendation to Division of Investments
“Alaska Capstone Avionics Revolving Loan Fund.”
- **Next Steps**
 - Outreach committee to put together avionics
equipage informational package



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AIR TRAFFIC ORGANIZATION

Capstone Industry Council Meeting - GNSS Update

JoAnn Y. Ford

Navigation Systems Engineering

May 14, 2008

Navigation Services Update Profile: effective May 2008

- NAS Published LPVs
 - Alaska LPVs
- Alaska WAAS Availability
- Status of:
 - WAAS Equipage
 - Cold Bay WAAS Ground Reference Station Potential Relocation
 - WAAS Predictive NOTAMs
 - Inverse Ws
 - DF Study

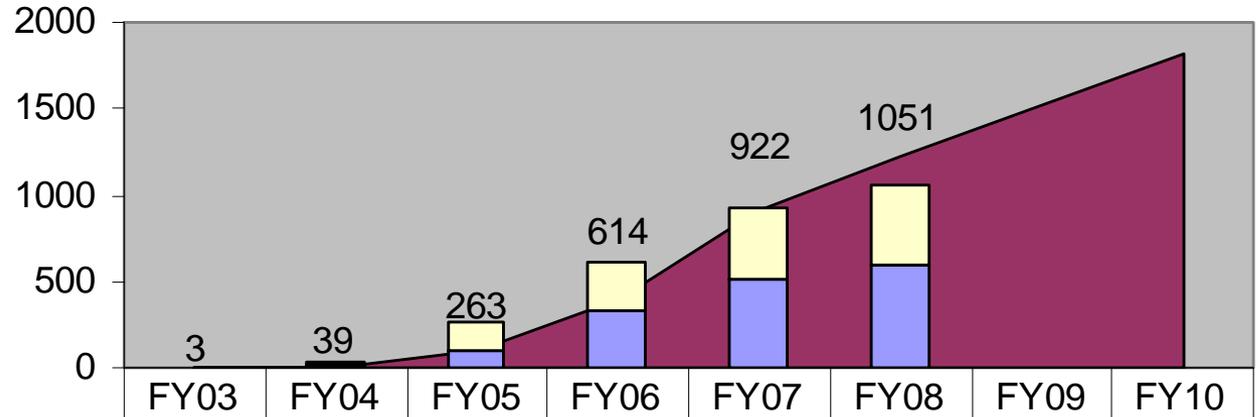
LPV Procedure Publication Progress to Date (Current and all prior years)

LPVs Published to non-ILS Runways	602
LPVs Published to ILS Runways	<u>449</u>
Cumulative LPVs Published to Date	1051

LPVs Published to <250' Decision Altitude 14

FY08 LPV Production Status

Cumulative Procedures



	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
FLIGHT PLAN CUM GOAL	0	0	100	400	914	1222	1522	1822
NON-ILS RWY ENDS	1	10	106	328	516	602		
ILS RWY ENDS	2	29	157	286	406	449		

Annual Production Totals

	FY03	FY04	FY05	FY06	FY07	FY08	FY08 Goal
Non-ILS Runway Ends	1	9	95	222	188	90	
ILS Runway Ends	2	27	126	129	120	39	
Total LPV per year	3	36	221	351	308	129	300 (Flight Plan)

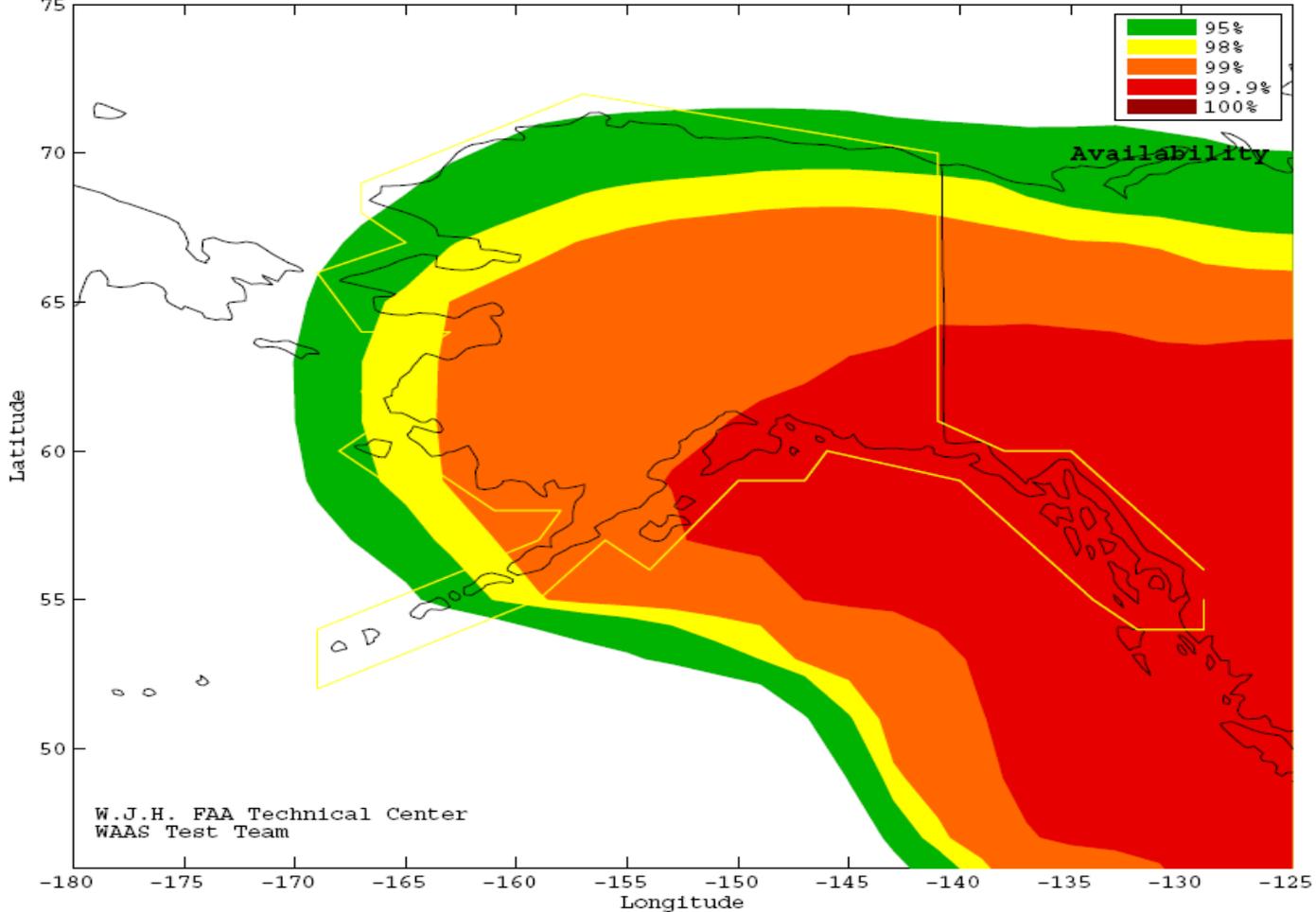
Alaska LPV approaches

- Current LPV approaches
 - Anchorage, Homer, Emmonak, St. Michaels, St. Mary's, Yakutat, Deadhorse, Kenai, Selawik
- “Planned” (Tentative) LPV approaches
 - June
 - Galena RWYS 25/7
 - Gulkana RWYS 15/33
 - Gustavus (Y) RWY 29
 - Prospect Creek PVT RWY1

Alaska LPV approaches (con't)

- Planned approaches
 - July
 - Cold Bay
 - Bethel RWYS 1L/19R
 - Sitka RWY 11
 - September
 - Nuiqsit RWYS 21/3
 - Birchwood RWY19R
 - Badami PVT RWYS 21/3
 - Ketchikan RWY 11
 - King Salmon RWYS 11/(Y)29/(Z)29
 - Kwethluk RWYS 18/36
 - Napakiak RWYS 16/34
 - Shageluk RWYS 16/34
 - Kuparuk PVT RWYS 23/5
 - November
 - Cordova RWY 27

WAAS LPV Alaska Availability Contours, January 1 - March 31, 2008



W.J.H. FAA Technical Center
WAAS Test Team

Alaska Coverage at 95% Availability = 94.57%
Alaska Coverage at 99% Availability = 67.39%
Alaska Coverage at 100% Availability = 0%

SL = LPV

WAAS Equipage

- Approx 32,181 (previous 30,715) WAAS-capable (TSO-145 or TSO-146) (number does not include SAAAR and/or ongoing R&D)
 - GARMIN: +2,000 each month
 - GNS 480, GNS430W/530W, GNS 430/530Upgrades, G1000
 - UNIVERSAL
 - “First Air” B737-200 Uses Universal Avionics' WAAS-FMS (dual [UNS-1Fw](#) FMSs) for LPV Approach in Waterloo Intl Arpt, Ontario, Canada
 - Made possible by installation of WAAS GRS @Goosebay, Gander, Winnipeg, and Iqaluit
 - UNS-1Fw FMS system is installed on the airline's entire fleet of 737s, 727s and ATRs
 - UNS-1Fw FMS is certified for Part 23 and Part 25 aircraft and meets FAA TSO-C146b Gamma-3 and DO229D certification criteria
- Alaska equipage – majority is primarily discretionary information at this point in time