Build 5/New VCP Status Update

NEXRAD TAC - Information Brief

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Build 5/New VCP Status Update

• VCP121
  – Issue: AU2 Parity Errors at 5 of 7 test sites
  – Frequency of occurrence: Commonly every third scan
    • Twelve seconds into the volume scan (transition point between 0.5 degree CS and first CD w/ Ambiguity using PRF 8)
    • AU Parity Errors are filtered occurrence secondary RDA Alarms
  – Solution:
    • None for Build 5.0
    • Build 6.0 will include a redefinition of the RDA Alarms addressing color coding of RDA alarms
    • Build 7.0 or later will provide better RPG Status log filtering method to search for specific categories of RDA and/or RPG Alarms.
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• VCP121
  – Issue: Rings in the Velocity and Spectrum Width Products
  – Frequency of occurrence: At lower elevations scans (0.5 - ~2.4 degree), when weather is present, at approximately 60-80 nm
    • Adjusting adaptable parameters helps, but ranges allowed are too tight to completely remove the rings in all cases
  – Solution:
    • Build 5.0: Make adjustments in MPDA adaptable parameters within ranges provided
    • Build 6.0: Ranges in the MPDA algorithm are expanded to completely remove the rings
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• VCP121
  – Issue: Pedestal Dynamic Faults at Two Locations Following 8 hour Calibrations
  – Frequency of occurrence: 8% at Dodge City, KS; Once during three-day Beta Use at Kohola, HI
    • Sensitive to alignment of DCU at RDA
    • Dodge City, KS had replaced an Azimuth Drive motor but had not performed an alignment
  – Solution: Using procedures in the tech manual, align the DCU to the ideal value.
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• **VCP12 and VCP121**
  – Issue: Clutter Filtering at Sites with Mountainous Terrain
  – Frequency of occurrence: During use of either VCP 12 or 121
    • Medium Suppression used to filter terrain with legacy VCPs
    • High suppression required for new VCPs
      – Faster rotation speeds; broader spectrum widths
    • Even with HIGH suppression, not all mountain returns removed at Kohola
      – Upper segment (abv 1.65 degrees) during Batch cuts of VCP12
  – Solution: Training
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• Data Quality
  – Albuquerque B5.0 Beta Test:
    • Following loading of B5.0
      – EPRE began collecting precipitation from mountainous terrain
      – Exclusion zones created to cover mountains
      – EPRE removed mountains and all real precipitation within the defined exclusion zones
    • ROC team performed a “Full System Calibration”
      – Upon arrival, RDA was within specifications
      – Several parts replaced; system fine-tuned and new clutter zones defined
  • Following “Full System Calibration”
    – Clutter maps identified mountains and removed targets from base products
    – Exclusion zones no longer necessary
  – B5.0 Deployment:
    • Exclusion zones may be used to remove precipitation accumulations caused by mountainous terrain as well as wind farms, etc…
Dodge City Observations

- KDDC 291453Z AUTO 31003KT 10SM -RA OVC038 06/05 A2956 RMK AO2 RAB00E26B52 SLP010 P0000 60015 T00560050 56030;
- SPECI KDDC 291403Z AUTO 30005KT 10SM -RA FEW006 SCT026 OVC050 06/05 A2958 RMK AO2 RAB00 P0000;
- KDDC 291353Z AUTO 28007KT 10SM FEW006 BKN027 OVC050 06/04 A2958 RMK AO2 RAE37 SLP018 P0001T00560044;
- KDDC 291253Z AUTO 15008KT 4SM RA BR BKN005 BKN009 OVC017 07/07 A2963 RMK AO2 CIG 003V007 SLP034 P0014 T00670067;
- SPECI KDDC 291216Z AUTO 15010KT 4SM RA BR SCT005 BKN008 OVC014 07/07 A2964 RMK AO2 P0007;
- KDDC 291153Z AUTO 16013KT 2SM +RA BR BKN001 BKN006 OVC012 07/07 A2966 RMK AO2 SLP042 P0028 60030 70034 T00670067 10072 20067 56027;
- KDDC 290553Z AUTO 15013KT 3SM BR OVC002 07/07 A2985 RMK AO2 RAE0456 SLP106 P0000 60003 T00720067 10072 20072 400890044 58012;
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Questions and comments