2018 STIWG Report

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STIWG Chair

Working Groups

- DCS Preservation
  - Tasked with addressing issues pertaining to matters that impact the viability, availability and integrity of GOES DCS data from the GOES satellites.
- OpenDCS Standardization
  - Tasked with establishing an executable plan that will unify existing OpenDCS variants and capabilities into a single platform. The second objective is to establish a way to jointly plan and fund the new platform's development and support by the STIWG agencies.

DCS Preservation

- Continue work on preserving the 1675 – 1695 MHz spectrum
  - Rekindled interest by private industry: 1675 – 1680 MHz
  - Agencies engage IRAC (Independent Radio Advisory Committee) Reps
    - Conduit to FCC to present Federal perspective on spectrum issues
    - Emphasize the effectiveness of the GOES DCS design and operation versus cloud based delivery systems or other terrestrial means
  - Monitor interference
    - Agencies are developing systems to identify, quantify and assess interruptions by encroaching signals
    - Record and report findings
    - Allows us to understand in real-life environment how interference impacts DCS ground stations and agency missions that rely on DCS data
    - Investigate viable/reasonable ways protect from interference
  - Feedback to the FCC about the proposed Content Delivery System
    - Quantitative and verifiable data

STIWG OpenDCS Platform Development

- Consolidate variants of OpenDCS
  - Cove baseline incorporating Sutron enhancements
    - Baseline selection determined by STIWG agencies' deployment rates
  - First release will incorporate Sutron developed National Ocean Service enhancements, etc.
  - The unified platform will be the official STIWG released and supported software

STIWG OpenDCS Platform Support

- Interagency Support Agreements
  - Existing MOA/MOU's allow USACE to establish SA's to receive funds from STIWG agencies in support of OpenDCS development through the RMA contract
    - 2018 Completed draft of agreement under existing 7600A between USACE and NOAA
      - Outlines the scope of work, expectations, requirements and funding
  - Existing MOA's and MOU's with USACE provide fundamental structure
    - Department of Agriculture (USFS)
    - Department of Commerce (NOAA: NESDIS, NOS, NWS, NDBC, etc.)
    - Department of Interior (BLM, USBR and USGS)
    - Department of State (IBWC)
  - Promote collaboration and improved scoping for future development
  - Existing MOA/MOU's allow USACE to establish SA's to receive funds from STIWG agencies in support of OpenDCS development through the RMA contract
  - Working with HEC to have all SA's in place by FY19

STIWG Summary

- New HRIT Format proposed by Microcom (2 Options)
  - Proposed expanded use of binary to replace ASCII header
  - Add new performance, quality and status information
  - Would like to transmit old and new signals simultaneously
    - Dependent upon the selected format and payload
  - NOAA and Microcom requesting feedback from manufacturers and users to best address the format proposal
  - Option 1: Change ASCII to binary and provides a single character quality indicator (e.g. G = “Good”)
  - Option 2: Expanded binary to include all the DEMOD information currently discarded; provides more granularity and disclose the path the data took to get to the user

STIWG Summary (cont'd)

- Narrow Band Channels
  - Working to get adjacent channels converted to 300 baud CS2 transmitters
  - Only 16 100 baud transmitters remain
  - Roughly 1/3 of the 38k GOES transmitters are CS2 and many channels are CS2-only
- DCS Preservation: Congressional Briefing
  - Steve Fitzgerald (President, National Hydrologic Warning Council) briefed the STIWG on his presentation to congressional staffers on the importance of the GOES spectrum and providing vital information for warning and relief efforts to protect lives, property and the environment

STIWG Summary (cont'd)

- DRGS, L/HRIT Spectrum Interference Monitoring
  - NOAA to perform a 2-year study on the 1675 – 1680 MHz band
  - NIFC is monitoring and documenting interference to their DRGS; looking for long-term solutions for affordable monitoring in the future
  - USACE has developed a scope of work to encompass mitigation, monitoring and reporting capabilities for impacted Corps assets

STIWG Summary (cont'd)

- 15-Minute GOES Transmissions
  - Only for critical programs (e.g. flash floods, fires, tsunami, etc.)
  - Require CS2 HDR transmitters
  - Must be deployed within 9 months of assignment
  - GOES East has 1 empty channel while GOES West has more availability
  - Users encouraged to work with Letecia to acquire assignments

STIWG Summary (cont'd)

- HRIT Preparedness: Hardware/Firmware Compatibility (Open Discussion)
  - Many LRIT receivers require upgrades for HRIT signal from GOES-16
    - Some receivers can be sent back to manufacturers for upgrade; performed quickly and with little disruption
    - Some users have expressed difficulty upgrading some systems; depends upon manufacturer
  - Have noticed some issues with GOES-16 DCS HRIT feed but overall the LRIT to HRIT transition has been ok

STIWG Summary (cont'd)

- Hypothetical Cost to Convert GOES DCS to Iridium
  - Open discussion to consider the cost to convert DCP's from GOES transmitters to Iridium
  - Two parts
    - Hardware
    - Service subscription
  - Current subscription rates may be subsidized and could increase over time
  - Competition for this market segment is also a contributing factor to overall cost compared to GOES DCS and other mediums

STIWG Summary (cont'd)

- Performance during Natural Disasters (Presented by Nathan Holcomb NOAA/NOS/COOPS)
  - NOS primarily uses Iridium and GOES to ingest data
    - Also employ IP modems and phone lines
  - Working to upgrade their data status reports to reflect where their data is coming from
  - Large decrease in data coming from terrestrial connections immediately before, during and after hurricanes
  - Large increase in GOES messages received during storm events
  - GOES messages continued when IP modems and other terrestrial infrastructure dependent methods failed
  - Intends to use the statistics collected for further outreach to stress the need for essential data collection systems
  - Important to estimate impact had there been no data during storm events

STIWG Summary (cont'd)

- Migration from DOMSAT: User Impact, mitigate loss, etc.
  - NOAA briefed the DOMSAT feed will discontinue May 2019; pushed back from 2018 to give users more time and reduce adverse impact
  - Recurring cost and failing components are primary drivers of need to replace the aging system

END