

# Electronic Systems Support Unit Seattle

US Coast Guard (MLC)

## Polar Science Systems Branch Support

- USCGC HEALY – Actively operating for science missions.
- USCGC POLAR SEA – Science Network (light version) Science of opportunity.
- USCGC POLAR STAR – Submitted budget for Science Network.



Homeland  
Security

December 2<sup>nd</sup> and 3<sup>rd</sup> 2008

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# Wide Area Network (WAN)

## INMARSAT – B (WAN)

- 24/7 connectivity
- At least 64K
- Provides Internet and e-mail connectivity

## IRIDIUM (WAN)

- 24/7 E-mail connectivity
- High altitude connectivity
- E-mail only



# Wide Area Network (WAN) Upgrade

## VSAT (WAN)

- LEDO has suggested VSAT connectivity for several years
- We received funding this year
- Site Survey on Healy – Completed November 20<sup>th</sup>
  - Report due December 15<sup>th</sup>
- ECR must be completed next
- 24/7 connectivity
- At least 256K for Science Network
- Installation TBA
  - Based on contracting requirement
- INMARSAT B – Replaced FY11 or 12
  - Bandwidth increase



# Chief Scientist report

## Science Network on HLY-08

- Overall – Science Network experience went well
  - Science Network administrators
  - IT1 Doramus and IT2 Graham (not part of ships crew)
  - ESU holds data for one year: Contact Chief Scientist before deletion.
  - Mini Mac – drop off network - Replaced.
  - *Medical forms – To large to receive underway – Fixed test on shake down*
  - IRIDIUM phone connection (MXU 2000 box) – New instructions
  - UPS
    - Working with ship to contract out UPS support
    - Do's and Don'ts using UPS

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# Debrief - 7) Information technology

Continued...

- Worked better than expected
- Far better than equivalent service on Canadian vessel
  - Was out of service for almost the entire duration
- Comms get better every year
  - Far north comms remain more difficult.
  - Worked as well as could be expected
- CG's inability to communicate with shore (CGDN) impact mission?
  - Yes - specifically re: ice info.
  - Also affected coordination with CG
  - Team was not up to speed in what was going on.

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# Debrief - 7) Information technology

- Continued...
- The firewall between the science network and crew network
  - Not on same LAN/system
  - Suggest that some protocol be considered to allow at least ship command
  - (Capt., XO, OPS, YNC) to be copied in directly to science email
- Communication network between the ships
  - did not work to expectation
  - Considerable effort by Dale Chayes
  - and his science support staff
- This substantially limited the degree of data sharing between the vessels that was hoped
- Did allow exchange of ice images
- Important contribution to the ice analysis.

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# Debrief - 7) Information technology

Continued...

- Impressed with web site on ship - Singled out Steve & Dale
  - Allowed access to real-time navigation information
  - Seabeam bathymetry,
  - ice info
  - Never seen better set up on any other ship
  - Independently hide way points
  - Large number of way points became confusing to the science party

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# Polar Science Systems Branch

## Our mission on Science Support

- **ESU will collect scientific data and archive for science cruises and transit.**
- **ESU will provides support for the Science Network, Infrastructure, and scientists during science missions on Icebreakers.**
- **ESU Supports ship communications. As well as the current solution we develop future Satellite connectivity where ever the Ice Breakers missions take it.**

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# Upgrades

## Local Area Network (LAN)

### Rack Replacement SWAP

- Supportable Installation

### XServer

- Solve SMB issues

### DAC Replacements

- 1U Ace PC's:
- Knudsen
- ADCP 75
- ADCP 150
- XBT
- Linux Logger (NetMon)

### SCS-Display

### Display for Bridge

### Display in Aloft Conn

### Aloft Conn,

- More network drops

### GP Workstations

- Refresh Image of all



# Science support

## North Star Technology Systems – FY 09

- Polar Icebreaker System Support contract
  - North Star Contract
    - Options until 2017
    - April 1<sup>st</sup> of 2009 to March of 2010
    - David Hassilev and Mike Merchant contracts will be renewed.
- ESU will be covering all transit legs
  - David Cohoe
  - IT1 Doramus
  - IT2 Graham

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# ESU - FY09 Budget – 2 Million

## CGC HEALY

### Contract personnel

- Addition of Store Keeper
- Terascan Contract CASREPs
- Equipment casualties
- Repairs

Preventative Maintenance  
Training  
Travel  
Grooms on sensors  
Science Network

## CGC POLAR SEA

### Terascan Contract CASREP

- Equipment casualties
- Repairs

Preventative  
Maintenance  
Training  
Travel  
Grooms on sensors  
Science Network

## CGC POLAR STAR

Not Funded



# Science Network - Supports

- Network equipment (VSAT)
- Servers
  - Life cycle upgrades
- Workstation
  - Life cycle upgrades
- Printers
- Warranties
- Licenses
- Domain maintenance (VSAT)
- Supplies
- Software
- Hardware

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# Engineering Division

## Polar Science Systems Branch

**ESU – 24/7 contact phone number 1-800-982-2564**

E-Mail Address: [James.M.Wilson@USCG.mil](mailto:James.M.Wilson@USCG.mil)

- Contact us any time about any support issues

### Civilian Personnel

- James Wilson
- Dave Cohoe
- David Hassilev (North Star)
- Mike Merchant (North Star)

### Military Personnel

- ETSC Michael Luna
- IT1 Jeff Doramus
- IT2 Donny Graham

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# Home Port – Seattle, WA



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