A summary of NSF activities and topics this past year

- Federal Government outlook
- Sea-Change Update
- Cooperative Agreements New Cycle/language
- SSF/MOSA
- CY 17 Budget outlook- CY 16 outcome
- Polar Code
- RCRV
- IWG-FI
- Future of 3-D Seismics
- JR-100
- Safe Climate Video- Interagency project
• A CR in place until April 28th.

Bipartisan leaders on the spending panels in the House and Senate are making progress on a deal that would wrap several individual spending measures into one "omnibus" spending bill they hope to approve before the deadline.

The skinny budget did not mention NSF, so it’s unclear what kind of budget cut is being considered for NSF. However, if one presumes that “other” agencies includes NSF, then a 10% cut is likely.

• If we have Federal Government shut-down what is the impact to ship operators?

• With a few exceptions among the local class vessels, all operators received partial funding for CY 17. It remains unclear when I can provide the balance.
• For the most part I’ve deferred Ship Day Rate negotiations based on the need to potentially mitigate a budget short fall.
• If there is a government shut down, a person within NSF will be designated as “key POC” for emergency notifications.
§200.468 Specialized service facilities.

(a) The costs of services provided by highly complex or specialized facilities operated by the non-Federal entity, such as computing facilities, wind tunnels, and reactors are allowable, provided the charges for the services meet the conditions of either paragraphs (b) or (c) of this section, and, in addition, take into account any items of income or Federal financing that qualify as applicable credits under §200.406 Applicable credits.

(b) The costs of such services, when material, must be charged directly to applicable awards based on actual usage of the services on the basis of a schedule of rates or established methodology that:

(1) Does not discriminate between activities under Federal awards and other activities of the non-Federal entity, including usage by the non-Federal entity for internal purposes, and

(2) Is designed to recover only the aggregate costs of the services. The costs of each service must consist normally of both its direct costs and its allocable share of all indirect (F&A) costs. Rates must be adjusted at least biennially, and must take into consideration over/under applied costs of the previous period(s).

(c) Where the costs incurred for a service are not material, they may be allocated as indirect (F&A) costs.

(d) Under some extraordinary circumstances, where it is in the best interest of the Federal Government and the non-Federal entity to establish alternative costing arrangements, such arrangements may be worked out with the Federal cognizant agency for indirect costs.
CY 17 Total Projected % of Expenses

All ships

- Food
- Fuel
- Travel
- Crew
- Shore support
- MOSA & Normal Repairs
- Insurance
- Miscel
- IDC

### Rotator Data

- Food: 3%
- Fuel: 16%
- Travel: 2%
- Crew: 36%
- Shore support: 6%
- Insurance: 2%
- Miscel: 9%
- IDC: 12%
CY 17 Total Projected % of Expenses

- Food
- Fuel
- Travel
- Crew
- Shore support
- MOSA & Normal Repairs
- Insurance
- Miscel
- IDC

Global ships:
- 14%
- 13%
- 10%
- 14%
- 5%
- 19%
- 2%
- 2%

Ocean/Intermediate:
- 12%
- 8%
- 15%
- 6%
- 14%
- 38%
- 2%

Local/Coastal/Regional:
- 10%
- 14%
- 14%
- 4%
- 9%
- 36%
- 10%
- 2%
Operations by Ship Class

**2016**

- **Global**: 58%
- **Ocean/Intermediate**: 32%
- **Local/Coastal/Regional**: 10%

**Total Ship Cost**: $78,273,759

**2017**

- **Global**: 51%
- **Ocean/Intermediate**: 39%
- **Local/Coastal/Regional**: 10%

**Total Ship Cost**: $93,680,672
Proportion of NSF Support

2016 NSF Support
- 60% NSF Funded
- 40% Non-NSF Funded

2017 NSF Support
- 63% NSF Funded
- 37% Non-NSF Funded
NSF Amounts Funded by Ship Class

2016 NSF Funded $:
- Global: 67%
- Ocean/Intermediate: 30%
- Local/Coastal/Regional: 3%

2017 NSF Funded $:
- Global: 63%
- Ocean/Intermediate: 33%
- Local/Coastal/Regional: 4%
Total Funded Days by Ship Class

2016
Total Days
2959

Global
1160

Local/ Coastal/ Regional
895

Ocean/ Intermediate
904

2017
Total Days
3207

Global
1039

Local/ Coastal/ Regional
924

Ocean/ Intermediate
1244
NSF Funded Days by Ship Class

2016
NSF Days
1465

2017
NSF Days
1677

Local/Coastal/Regional
172

Ocean/Intermediate
526

Global
767

Local/Coastal/Regional
268

Ocean/Intermediate
648

Global
761
2016 Food Cost Per Person Per Day

Average, $19.73
2016/2017 Fuel Usage

- $9,997,417 spent on fuel
- at $3/gal => 3,332,472 gallons
- 9000 gal/truck => 370 trucks
- 3.5 mile line of trucks!

- $14,850,134 spent on fuel
- at $3/gal => 4,950,045 gallons
- 9000 gal/truck => 550 trucks
- 5.2 mile line of trucks!

9,157,588.800 pounds of CO₂ per month or 109,891,065.600 pounds of CO₂ per year
Regional Class Research Vessel (RCRV)

- Request for Proposals – Phase 2
  - Four U.S. shipyards invited to submit cost proposals
  - OSU currently evaluating bids

- Project Approvals
  - Final Design Review successful, December 2016
  - National Science Board, May 2017

- Operator Selection Solicitation – pending vessel number information
  - FY18 President’s Budget Request (May, 2017?)
  - Continuing Resolution through April 28
NSF is working through IRSO on Polar Code Implementation. The code is now mandatory under SOLAS and MARPOL

- Polar Code entered into force 1 January 2017
- UAF has been proactive in establishing a protocol-
- The Code regulates discharge and ship safety in the Polar Regions
WHAT DOES THE POLAR CODE MEAN FOR SHIP SAFETY?

**EQUIPMENT**
- **Windows on Bridge**: Means to clear melted ice, freezing rain, snow, mist, spray, and condensation.
- **Lifeboats**: All lifeboats to be partially or totally enclosed type.
- **Clothing I**: Adequate thermal protection for all persons on board.
- **Clothing II**: On passenger ships, an immersion suit or a thermal protective aid for each person on board.
- **Ice Removal**: Special equipment for ice removal: such as electrical and pneumactic devices, special tools such as axes or wooden clubs.
- **Fire Safety**: Extinguishing equipment operative in cold temperatures; protect from ice; suitable for persons wearing bulky and cumbersome cold weather gear.

**Operations & Manning**
- **Navigation**: Receive information about ice conditions.
- **Training**: Masters, chief mates and officers in charge of a navigational watch must have completed appropriate basic training (for open-water operations), and advanced training for other waters, including ice.

**Design & Construction**
- **Ship Categories**: Three categories of ship which may operate in Polar Waters, based on:
  - A: medium first-year ice
  - B: thin first-year ice
  - C: open waters/ice conditions less severe than A and B
- **Intact Stability**: Sufficient stability in intact condition when subject to ice accretion and the stability calculations must take into account the icing allowance.
- **Materials**: Ships intended to operate in low air temperatures must be constructed with materials suitable for operation at the ship's polar service temperature.
- **Structure**: In ice strengthened ships, the structure of the ship must be able to resist both global and local structural loads.

**Background Info**
- The International Code for Ships Operating in Polar Waters was adopted November 2014 by the IMO Maritime Safety Committee.
- It applies to ships operating in Arctic and Antarctic Waters.
- The aim is to provide for safe ship operation and the protection of the polar environment by addressing risks present in polar waters and not adequately mitigated by other Instruments.

*International Maritime Organization (IMO)*
Marine seismic research is an important component of the OCE/MGG research portfolio and NSF remains committed to supporting marine seismic data collection, including the type of work that is currently carried out on the Langseth (long-offset 2D, 3D, and other active source seismic experiments requiring a large well-tuned source).

- NSF is considering a variety of models to support the tools required to collect marine seismic data (reflection and refraction, including OBSs).
- NSF Programs will continue to accept proposals to use existing assets. Proposals to use the Langseth should be consistent with the current regional plan of operations.