

 UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM 

**FLEET IMPROVEMENT
COMMITTEE
(FIC)**

MEETING MINUTES

September 20, 2000

**National Science Foundation
Room 130
Arlington, VA**



Meeting Minutes

Fleet Improvement Committee
National Science Foundation
Room 130
Arlington, VA

September 20, 2000

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FIC Welcome and Introductions – The Fleet Improvement Committee (FIC) held their meeting on 20 September at the National Science Foundation in Room 130. The meeting participants introduced themselves. See *Appendix I*.

Discussion of Agenda Items - Larry Atkinson reviewed the agenda and added the following items: CAPE HATTERAS midlife planning, NR-2, MTS Journal, and Sea Technology Soapbox. See *Appendix II*.

Future Science Needs and Fleet Planning - Larry Atkinson began the discussion and reported on the NSF workshop to Address Future Scientific Needs in Oceanography in the Context of Academic Fleet Capabilities. Larry co-chaired the workshop with Tim Cowles at Oregon State University in August. The draft report is expected to be completed soon. Some of the findings indicate that the demand for ships will not go down. Instead, the way that ships are used will likely change. There will be additional use of ships as support platforms for various ocean observatories, AUVs and ROVs. Also, it is anticipated that as technologies become more advanced, ships with larger labs with more sophisticated equipment will be needed.

Larry Reviewed the FIC website: <http://www.unols.org/fic/> which includes the Biennial Review, Fleet Planning document, and Science Mission Requirements (SMRs). All of the available SMRs have been posted on the website. There was a discussion on the definition of the UNOLS ship classes and it was noted that this definition should be included on the website. It was recommended that the dates of the SMRs be added to the website. Most of these SMRs were developed in the late 1980's.

Larry reviewed the FIC Fleet Planning document, <http://www.unols.org/fic/planning/fltplan.pdf>. He began by showing the chart that predicts ship availability into the out years. This was based

on the average use trends of the last five years. He showed charts that provide the total number of operating days by year for the separate classes as well as the fleet as a whole. Use by ship class appears to be fairly stable over the years in regard to operating days. Since there is the need for flexibility, the excess days due to underutilizations is good to some extent. Chris Measures commented that shipboard lab space demand would continue to increase. The numbers of computers being brought aboard by the science party continues to grow. Size needs to be an important factor in the ship renewal process. Demands for lab space and power will in turn drive the size of the ship. The question was asked if science funding would increase to match increase ship use demands. Mike Reeve indicated that it is impossible to predict what the funding situation will be in the future.

There was a discussion on what defines the ship and the following questions were identified:

- What will be the operating region of the ship?
- How many people will it need to carry?
- What is the mission of the ship?
- What size is needed?

The UNOLS Biennial Review of Sea Going Oceanographic Facilities– Annette DeSilva reviewed proposed changes to the format of the Biennial Review document. The document will be reformatted for easier viewing. It will also merge the Fleet Planning Document into its body. Details of the changes are as follows along with suggestions from the Committee:

The report will be divided into six sections.

Section 1: Will explain the web document and its goal.

Section 2: The Future. This will link to the:

- Futures Documents
- FIC Recommendations
- OSU Workshop Paper

Section 3: General Information on the UNOLS Fleet

- Past Trends and Future Projections (remove bunk charts)
- Historical Perspective – Dinsmore paper
- New Assets – This can be in the form of a chart: Ships vs. Capabilities

Section 4: Capabilities and Future Needs

- Icebreakers – link to HEALY and Polar Class
- SWATHs – link to AGOR 26 (ONR/UH), link to WHOI
- ROVs/AUV/HOVs – link to DESCEND
- Ocean Observatories – find link.

It was recommended that a brief introduction be added to each of the items in Section 4.

Section 5: Fisheries and Hydrographic Surveys

- Fisheries – link to the NOAA/NMFS FRV
- Hydrographic surveys – Contact Tom Aldridge for information. This could explain the need for a shallow water multibeam capability, long endurance, and few bunks.

Section 6: Technical Issues

- New Regulations – Joe Coburn completed and it is posted.

- Shore side and Ship Technical Support
- Impact of new technologies.

A discussion on future ship needs followed. It was commented that the AGOR SWATH might change the way science at sea is conducted. A credible plan for fleet replacement must begin now.

Break

Fleet Replacement Plan: Larry Atkinson began the discussion by asking what is the mechanism that should be used to develop a plan. We have the projected retirement dates for the ships of the fleet. Chris Measures noted that there are three ways of approaching the replacement plan:

1. UNOLS can develop the plan, and seek the necessary construction funding.
2. UNOLS can leave the responsibility of fleet replacement to the operators.
3. A combined approach of items one and two.

Chris went on to provide his thoughts on ship acquisition. The fleet is here for the purpose of supporting science. UNOLS should be driving the ship acquisition process and scientists should be taking the lead in making the acquisition decisions, not the ship operators. In Chris' view, the problem with ship operations is that it has become too political. Non-biased scientists should be advising on ship needs and they should be making the decision of fleet geographic distribution. Chris added that there is a general opinion that ship acquisition is in the hands of the operators. Under his proposed acquisition plan, the scientist would provide the Science Mission Requirements (SMRs). Then the funding agency would take these SMRs and broadly advertise a request for proposals. Any institution could submit a proposal and the scientists would decide the optimal ship operator.

The question was asked what the role of FOFC is in this process. Mike Reeve indicated that in this initial effort, FOFC is looking at science directions and trying to match the facility need requirements.

There was some discussion on Chris's proposed method of acquisition and the process in general. Sujata indicated that she felt that the selections have been fair in the past. Operators were given an opportunity to submit proposals for the operation of the AGORs. The reviewers looked at what the institution could offer for the opportunity to be the ship operator. Chris noted that user comments must factor into the process.

In developing a plan, Sujata suggested that five items be addressed:

1. Science requirements
2. Design requirements
3. Replacement types/rates
4. Acquisition methodology
5. Operator selection method

Chris reemphasized that we should look at this from a science perspective and questioned how a customer survey could be conducted? From his perspective the need to retain single ship operators is very important. He noted that many times the multi-ship operations are less responsive than and less personal than the single ship operations. However, it was pointed out there are benefits for having multi-ship operations. They can often draw on a larger pool of resources when preparing for cruises.

Larry Atkinson suggested that a special report from FIC be prepared to highlight the strengths in having a distributed fleet. It should also express for the need for community feedback. Cruise feedback should be allowed from the entire science party, not just the chief scientist. Larry tasked Terry Whitledge and Chris to write a document. Larry will present it to the Council. See ***Appendix III***.

Sujata reported that ONR has developed a life cycle decision model. It is very useful tool and may be helpful as fleet planning issues arise. They are using the AGOR 26 as a model. She recommended that the FIC invite the group who developed the model to present their work at a future meeting.

Lunch

SUNCOASTER Replacement Plans - John Ogden, Director of Florida Institution of Oceanography (FIO), made a presentation on plans for replacement of their vessel, SUNCOASTER. FIO is located in St. Petersburg, FL and is a consortium of state university schools. University of Miami is a member of their consortium. FIO functions as a meeting place, an administrator and an initiator of projects. They are funded by the state to give out ship time. FIO has two ships, BELLOWS (71') and SUNCOASTER (110') along with the Key Marine Lab. They generally operate their ships 300 days a year.

SUNCOASTER is a very flexible vessel and has steadily increased in use. It does all types of oceanographic work. SUNCOASTER is 35 years old. Initial design features for the replacement vessel include flexibility, 120 feet in length, and approximately 18 bunks. A day rate of \$3K is desired. FIO plans to develop a set of SMRs. They are budgeting \$10M for the project. Some of the funds are in hand. They expect to operate the ship as they now operate SUNCOASTER. They would like to stay in their niche to best serve their clients. They provide the ship, bunks, food and fuel.

FIC endorsed FIO's replacement efforts. It is FIO's intent to keep FIC and UNOLS informed on the status of their plans.

It was recommended that SUNCOASTER and other vessels of this type be added to the to the UNOLS website. [Note - The UNOLS website includes a small research vessel inventory list, www.gso.uri.edu/unols/schedules/srv/default.htm.]

National Science Foundation (NSF) – Mike Reeve began the agency report with comments on the budget. The House mark shows a 3% increase to the NSF 2000 budget. The Senate mark indicates a 10.3% increase. NSF's budget request is for a 17% increase with a 23% increase for

Ocean Science. The budget has not gone to conference yet. NSF hopes to have a budget by mid October. The Ocean Sciences increase was spread across the division and included an increase for facilities operations. Biocomplexity has been receiving a lot of support. There was a significant increase for support of ocean observations. Stay tuned.

Agency Long-Range Plan – Mike Reeve went on to report that the agency representatives (NSF, ONR, and NOAA) have been meeting on this topic. They are anxiously awaiting the summer OSU workshop report from Tim Cowles. With the formation of the Federal Oceanographic Facilities Committee (FOFC), long range planning is a high priority. FOFC will try to meet twice a year with the next meeting planned for November. The agency reps would like to have the draft long-range plan to FOFC at their November meeting. NORLC oversees FOFC. They hope that the plan will shape future fleet capital plans. Larry commented that this makes it a very exciting time for the FIC since much of the information that they provide to the agencies will work it's way into the capital plan. Margaret Leinen is the Chair of FOFC.

Mike Reeve reported on other topics of high interest. An Ocean Exploration Panel has been formed to report back to the President by mid October. The US Oceans Act of 2000 will establish a 16-member National Ocean Commission to formulate recommendations for a national ocean policy within 18 months. This may result in a Stratton II type study. Many of these programs are a result of The Year of the Ocean initiative. The formation of the Ocean Caucus is another exciting activity.

Office of Naval Research (ONR) – Sujata reported on the status of the AGOR 26 project. American Marine Inc (AMI), Lockheed Martin and Guido Perla and Associates are working on the ship design details. They expect the ship to be delivered in late January 2002, which is approximately a four month delay. As part of the structural design, Lockheed Martin has been working with ABS to get any issues resolved as early as possible. Some of these issues include the USCG requirement to double hull parts of the hull. All of the hurdles in the design stage have been passed. Sujata reported that the design process, in terms of communication, is going fine. ONR is concerned about the design timeline since they had hoped to have the ship ready for operations at the start of 2002. Joe Coburn pointed out that there is an advantage to the winter delivery schedule of the SWATH since it would allow testing of the ship during the high sea states.

In other activities, Sujata reported that a meeting was held to consider replacing NR-1 with a new submarine, NR-2. It may not be configured as the existing NR-1. By 2012, NR-1 will need to be decommissioned or refueled. A science committee meeting, chaired by Dick Pittenger, was held to discuss the replacement needs. The vehicle will primarily be for support of Navy needs. There is some interest among the science community on this issue.

In personnel news, Pat Dennis will be taking a full time position at CORE. He will no longer provide support for the Oceanographer of the Navy or ONR. Terry Schaff, Bob Winokur, and Jim Watkins will be leaving CORE.

National Oceanic and Atmospheric Administration/National Marine Fisheries Service (NOAA/NMFS) - John Hotaling provided the report on the status of the NOAA Fisheries

Research Vessel (FRV) construction project. NMFS hopes to have the first FRV construction contract awarded by the end of the year. The contract would include options for the next three FRVs. Although the new FRVs will be in the same class of vessels, there will be slightly different regional vessel requirements that will have to be incorporated into each of the designs. The first ship will be assigned to the Alaska region.

Ship Construction/Upgrade Projects:

ALPHA HELIX Replacement Plans - Terry Whitledge reported on University of Alaska's plans for replacing ALPHA HELIX. They have been funded for conceptual design and the first part of the preliminary design. They are collaborating with Woods Hole Oceanographic Institution on the project. Terry distributed a package that provides comparative vessel data between the R/V ARANDA, NOAA FV-40, NATHANIAL PALMER, MELVILLE, and THOMPSON (see *Appendix IV*). It also provides a comparison between the Alaskan Regional Research Vessel (ARRV) and the NOAA FV-40. The package includes the SMRs for the ARRV. These SMRs are basically the 1999 Alaska SMRs that have been slightly modified.

Terry reviewed the comparison charts and the SMR changes. The size of the vessel is a driving factor in the design. The vessel length has grown slightly to 200-210 feet. This growth came from input by the science community. Terry indicated that the size might grow even more. Draft will be a limiting characteristic since many of the ports that they will enter are shallow. Endurance of the ship has been increased from 45 to 60 days with enhanced hotel service. Other changes included relaxing the speed requirement from 12 knots to 10 knots in seas up to 12 feet. They plan to operate the vessel in the seasonal sea ice of the indicated geographic regions. Diesel electric engines will likely be the design of choice.

Terry indicated that this package is the first look at the design. Any input from FIC would be appreciated. It appears that this vessel is somewhat comparable to the new NMFS FRV. The replacement-planning group had their initial meeting in mid September. They would like to complete the draft concept design by April 2001. They will post the design on the web and pass it along to FIC for review. They would like as much input as possible. WHOI's interest in this project is to participate in the design process and to help make a design suitable for wider use. Terry indicated that the WHOI partnership has worked well.

United States Coast Guard (USCG) – Jon Berkson reported that HEALY transited to Seattle on schedule. The ship's science trials went very well. On a macro scale the ship performed very well, however, there is a long list of micro type issues/problems to resolve. The biggest problem is in the winch control system. They are trying to come up with a way of simplifying the winch control. The Post Shipyard Availability (PSA) period is on schedule. It appears that 100 days of science operations are scheduled for 2001. The operations will be in the eastern Arctic. If transit time is factored in, there is approximately 200 days of operations. Jon provided a video of HEALY taken during ice operations that will be shown during the UNOLS Council meeting. Technician support for HEALY is an issue that still needs to be resolved. Mike Prince has offered to explore possibilities and perhaps submit a proposal that will provide UNOLS technical support. There may be funds at NSF to help support this effort. There is no easy, obvious

solution. Joe Coburn commented that HEALY is a magnificent facility. Design goals were exceeded in many areas. The USCG has done a great job on this project.

Regional Ship Planning – Annette DeSilva summarized a written report provided by Lee Black (Bermuda Biological Research Station). The regional ship operators met in March to discuss midlife work plans for their vessels. The list of topics discussed and attendees are included in *Appendix V*.

AGOR 26 – Sujata Millick provided the status of the AGOR 26 project in her ONR report.

CAPE HENLOPEN Replacement – Matt Hawkins provided a written report prior to the meeting, see *Appendix VI*. Their goal is to have the concept design completed by late spring 2001.

SAVANNAH Construction – Braxton Tesh provided a written update of SAVANNAH's Construction prior to the meeting. It is included as *Appendix VII*. Construction is expected to be complete by July 1, 2001. They hope to begin operations in fall 2001.

WHOI SWATH Update – Joe Coburn reported on WHOI's plans for construction of a SWATH vessel. The plans are well on their way and they hope to have a construction contract in place before the first of the year. Delivery is estimated for February 2002. They hope to be able to conduct sea trials on Georges Bank during challenging sea conditions. The ship will be instrumented/alarmed for stress monitoring. WHOI would like to look at the vessel as a test bed and they will be seeking additional information on its performance. For additional information on the project, see <http://www.marine.whoi.edu/ships/swath/index.html>.

CAPE HATTERAS Midlife Planning – In November, Duke/UNC sent FIC their plans for a CAPE HATTERAS Midlife effort. A FIC review of the plans was requested. DUKE/UNC will be contacted for additional information.

NR-2 – At this time, the role of FIC on this effort is unknown. The committee will try to stay abreast of any developments.

MTS Journal – Annette DeSilva reported that an upcoming issue of the *MTS Journal* would be devoted to ships. Jack Bash is the editor for that edition. It is likely that UNOLS/FIC will be asked to provide input. There will be authors from other countries as well.

Sea Technology Soapbox – Larry Atkinson reported that he has been asked to write a soapbox for *Sea Technology*. He indicated that the Soapbox will be similar to the *EOS* article and will focus on the need to begin the UNOLS Fleet renewal process.

Science Mission Requirements (SMRs) - There was a discussion on the UNOLS SMRs. All of the SMRs that have been developed by UNOLS are now posted on the UNOLS/FIC website. It was noted that these are quite old and applied an old format. In many cases they are probably outdated. It was recommended that a note be added at the top of the web page to indicate that these SMRs are the ones that have been developed and new ones will be developed as needed. It was commented that it is too difficult and in many cases meaningless to develop general SMRs.

Fleet Planning – There was a general discussion on the need for a fleet replacement/renewal plan and a strategy for development of the plan. Three steps were identified:

1. Develop a FIC Strawman Plan
2. Make a FIC announcement to the community that will be a “Statement of intent for a Fleet Renewal Plan.”
3. Do it (FIC).

We looked at each of the ship classes. Should the fleet renewal plan be updated to address the need for large ship planning sooner or later? It was commented that AGOR 26 might help to alleviate the ship scheduling situation experienced this year. It was recommended that we wait until AGOR 26 is in the system before addressing the need for additional large ships. Adding another ship may actually increase utilization. NSF requested an increase of 26% to their budget. How does this impact oceanographic research and fleet utilization? There are many indicators that ship demand will increase.

The fleet renewal plan will need to initially focus on intermediate size ships. Things to consider in developing the plan include the new ISM Code and new USCG regulations. Joe Coburn explained some of the potential impacts of the new regulations. It is likely that the large intermediate ships would need to become inspected vessel. They can still be built under Subchapter U. There will be increased manning requirements, however these may be offset by automation and engineering manning. The new regulations may have a greater impact in terms of manning requirements for smaller ships (125-feet) that are considering a stretch.

In summary, some of the information that will be needed when developing the renewal plan includes the following:

- The impact of ISM codes on larger intermediate ships.
- US Coast Guard manning and inspection requirements.
- Automation and its offset to manning requirements.
- Watch standing requirements for ships expanding beyond ~125-feet.
- Constraints on replacement.
- Research directions, needs, and use.
- Fleet trends.
- User input.

There was discussion on how FIC can obtain user feedback. It was suggested that a web or paper survey of the community be conducted. Annette will gather information and examples from past customer satisfaction surveys. WHOI will be contacted for information on the survey that they recently conducted. It was also suggested that FIC could have a display in the UNOLS booth at the fall AGU. The FIC needs to identify the science requirements in the fleet plan. The design requirements should be based on user comments. FIC needs to ask the community what their highest priority is when considering ship design features. What is the most important attribute to conduct your science? It was pointed out that this question must be directed for an intermediate type vessel. The survey will need to clearly point this out since this class will be the first to go off line. It was also suggested to ask questions about satisfaction with the ship

acquisition process and operator selection. "How would you change it if you had the opportunity?" Lastly it was pointed out that we would need to address technology needs and availability.

A strategy was agreed upon:

1. Send a community letter of intent for fleet renewal.
2. Conduct a user satisfaction survey.
3. Meet in February to begin development of the plan based on the input received.

FIC Membership - There was discussion on FIC membership and suggestions were made for potential new members. Larry Mayer was suggested. It was also suggested to contact Dana Kester to see if he has any recommendations for people with ocean observatory experience.

The meeting was adjourned at 5:00 pm.

Following the meeting, Larry Atkinson prepared a summary of FIC activities and plans for fleet renewal. He presented these to the UNOLS Membership at their Annual Meeting on 22 September. They are included as **Appendix VIII**.

Appendix I
Attendance List
Fleet Improvement Committee Meeting
September 20, 2000

Last Name	First	Inst/Org	Phone	Fax	e-mail
Atkinson	Larry	ODU	757-683-4926	757-683-5550	atkinson@ccpo.odu.edu
Berkson	Jonathan	USCG	202-267-1457	202-267-4222	jberkson@comdt.uscg.mil
Coburn	Joe	WHOI/RVOC	508-289-2624	508-540-8675	jcoburn@whoi.edu
DeSilva	Annette	UNOLS	401-874-6827	401-874-6167	office@unols.org
Dupree	George	USCG	202-267-1456	202-267-4427	Gdupree@comdt.uscg.mil
Freitag	John	URI/RVTEC	401-874-6579	401-874-6578	jfreitag@gso.uri.edu
Hotaling	John	NMFS	301-713-2369	301-713-4057	John.Hotaling@noaa.gov
Measures	Chris	UH	808-956-5924	808-956-7112	chrism@soest.hawaii.edu
Millick	Sujata	ONR	703-696-4530	703-696-2710	millics@onr.navy.mil
Ogden	John	FIO	727-553-1100	727-553-1109	jogden@marine.usf.edu
Reeve	Mike	NSF	703-292-8581	703-292-9085	mreeve@nsf.gov
Whitledge	Terry	U Ak	907-474-7229	907-474-7204	terry@ims.uaf.edu

Appendix II

08/18/00

Agenda

**Fleet Improvement Committee
National Science Foundation
Room 130
Arlington, VA
September 20, 2000**

Wednesday 20, 2000

- 9:00 am** **FIC Welcome and Introduction** - Larry Atkinson will welcome the Committee and review meeting logistics.
- 9:10 am** **Discussion of Agenda Items** - Review agenda and identify any needed modifications.
- 9:20 am** **Accept Minutes** - Accept the minutes of the November 9-10, 1999 FIC Meeting.
- 9:25 am** **Future Science Needs and Fleet Planning** – Larry Atkinson will review the findings and recommendation from the Fleet planning workshop held in August at Oregon State University. The workshop identified future science missions and facility needs. Can these research needs be met using existing facilities? Are additional facilities needed? Larry will review FIC's recent Fleet planning documents including the EOS Vol 81, No 30 article, *Academic Research Fleet Faces Ship Shortage* and any community response received to these documents. Fleet replacement/upgrade needs and timeline will be reviewed. Strategies for implementation will be discussed.
- 10:25 am** *Break*
- 10:45 am** **Future Science Needs and Fleet Planning** - Discussion continued.
- 11:45 am** **The UNOLS Biennial Review of Sea Going Oceanographic Facilities** – Larry will review the change in format of the Biennial Review report and discuss any additional information that would be useful to add.
- 12:00 pm** *Lunch Break*
- 1:00 pm** **Agency Reports and Long-Range Plan** - NSF, ONR, NOAA, and USCG representatives will provide agency reports on matters of concern to FIC. Additionally, the status of their long-range planning document will be reported.
- 1:45 pm** **Technology Upgrading** - An ONR representative will make a presentation on the innovative technology concepts being developed at ONR. These concepts will be discussed as they might apply to the UNOLS Fleet.
- 2:15 pm** **FIC/Agency Activities** - The role of FIC in the agencies' long-range planning activities will be discussed.

- 2:30 pm** *Break*
- 2:45 pm** **The Need for New SMR's** - There will be a discussion on the need for new Science Mission Requirements.
- 3:15 pm** **Ship Construction/Upgrade Projects:**
- **Regional Ship Planning** - The status of the regional ship planning efforts for mid-life refits, SMRs, timelines, and replacements will be discussed
 - **AGOR 26 Update** - ONR will provide an update on the AGOR 26 project.
 - **CAPE HENLOPEN Replacement Plans** - An update on University of Delaware's plans for replacement of CAPE HENLOPEN will be reviewed.
 - **SAVANNAH Construction** - An update on the ship's construction will be provided.
 - **ALPHA HELIX Replacement Plans** - Terry Whitley will report on U.Alaska's efforts to replace ALPHA HELIX.
 - **WHOI SWATH** - Joe Coburn will provide the status of WHOI's SWATH project.
- 3:45 pm** **Fleet Planning** - An open discussion on the fleet planning issues identified in the morning and early afternoon presentations. Any tasking will be identified.
- 4:30 pm** **General Business**
- Review of FIC Member Terms
 - Scheduling of Next Meeting
 - Recap of FIC Action Items

Adjourn FIC Meeting

Appendix III

Special Report From FIC

A better system of feedback from participants in scientific expeditions on UNOLS vessels is desirable. This would enable the operating institutions to assess the success or failures of the science programs that are related to vessel capabilities, outfitting or operations. The current reporting process that involves only the chief scientist does not always assess the problems or accomplishments that were encountered on a cruise. A possible remedy to this problem would be at least a questionnaire given to all cruise participants to request their post cruise responses to problems encountered. Electronic versions of the questionnaire could be resident on the shipboard information/data collection system.

Appendix IV

ALPHA HELIX Replacement Status

**Comparative Vessel Data
Revised SMRs**

**This Appendix can be requested from the UNOLS Office:
Office@unols.org**

Appendix V

MEMO

To: Paul Ljunggren
From: Lee Black
Subject: Report on the Regional R/V Meeting, 22-23MAR00
Date: 03APR00

We held a two day meeting at the Inner Harbor Holiday Inn in Baltimore, Maryland on the 22nd and 23rd of March to provide a forum for planning the midlife work on the regional research vessels. We were lucky enough to included a tour of the new USCGC "HEALY". Following are the topics discussed and a list of attendees.

Topics:

Impact of Code of Federal Regulations (CFR) and other regulations on regional research vessels. Focus was on tonnage laws and crewing requirements.

Developments in the revision of the 1988 Science Mission Requirements (SMR) for regional research vessels. We went over the 1988 SMR line by line.

Scope of proposed midlife work to enhance the SMR capabilities of regional research vessels.

Funding support for midlife work.

Overview, by individual operators, of proposed midlife refit work for their regional research vessels.

Three to five year plan for proposed midlife work on regional research vessels.

The possible need for an independent midlife survey of regional research vessels.

Attendees:

Alaska, U. of	Tom Smith, Assistant Director
BBSR	Lee Black, Marine Superintendent
Delaware, U. of	Mat Hawkins, Marine Superintendent Tom Church, Ph.D., Chemical Oceanographer
Duke U.	Quentin Lewis, Marine Superintendent
FIC	Larry Atkinson, Chairman of FIC and Physical Oceanographer
HBOI	Tim Askew, Marine Superintendent
LUMCON	Steve Rabalais, Assistant Director
MLML	Mike Prince, Marine Superintendent
NSF	Mike Reeve, Section Head for Oceanographic Centers and Facilities Dolly Dieter, Program Director of Ship Operations

ONR **Sujata Millick, Research Facilities**
 Tim Pfeiffer, Research Facilities

Observer **Bill Keefe, Marine Superintendent (retired)**

UNOLS **Annette DeSilva, Assistant Executive Secretary**

Attachments:

List of Regional R/Vs by age
5 Year Usage Summary
Common Concerns
Scope of Midlife work
University of Delaware Approach to New Vessel SMR's

Appendix VI

September 18, 2000

Dr. Larry Atkinson
Chair, UNOLS Fleet Improvement Committee
Old Dominion University
P.O. Box 6369
Norfolk, VA 23508

Dear Dr. Atkinson:

I would like to take this opportunity to provide you with a brief update on where the University of Delaware stands in the design effort to replace the R/V CAPE HENLOPEN.

The comments on the Preliminary Science Mission Requirements (SMR's) have been received from the Fleet Improvement Committee. FIC's comments were extremely valuable and most will be able to be incorporated in the final SMR's without difficulty. We felt it necessary to forward several topics back to the Delaware Research Vessel Committee (DRVC) for final review, particularly on the critical issues of deck and lab space. We have since received final comments from the DRVC on these topics.

We intend to finalize the SMR's and begin development of the "Concept" design in October 2000. It is still our goal to have the "Concept" design completed by late spring 2001 (April-May), at which time the Delaware Research Vessel Committee will again convene to continue the review process.

Sincerely,

Matthew J. Hawkins
Director, Marine Operations

C/c: Dr. Robert Knox, UNOLS Council
Mike Prince, UNOLS Office
Dolly Dieter, NSF
Sujata Millick, ONR

Appendix VII

From - Mon Sep 18 10:17:41 2000

From: Braxton Tesh <braxton@skio.peachnet.edu>
To: Mike Prince <office@unols.org>
Subject: R/V Savannah Update

Mike,

Here is an update on the R/V Savannah : The ship was designed by Rodney E. Lay & Assoc. of Jacksonville, Florida and is now under construction at the Washburn & Doughty Shipyard of East Booth Bay, Maine. The yard is expected to complete their contract by July 1, 2001 at which time the ship will be sailed to Skidaway Institute of Oceanography in Savannah. The science labs will then be finished out and much equipment and electronics will be moved over from the R/V Blue Fin. This work will be completed by SkIO staff with hopes of having the ship up and operational by the Fall of 2001. Presently the Washburn & Doughty Shipyard is working a double crew on the R/V Savannah and is ahead of schedule with much of the steel work completed, the engines are set on their beds and the generators also set in place. If this pace continues we may shave a couple of months off the schedule. The estimated cost of the ship now stands at \$ 3.4 million.

R/V Savannah

LOA 91' 6"

Beam 27'

Draft 8'

Horsepower 900

Gross Tonnage ~300

Cruise speed 12 knots

Main Engines two Caterpillar model 3406E
450 hp @ 1800 rpm

Bow Thruster a 16" American Bow Thruster TRAC Series with 65
hp hydraulic motor

See you in D.C. next week. Regards, Braxton

Appendix VIII

FIC Activities and Plans PowerPoint Document

(Click on separate document)