UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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UNOLS NEV

HIGHLIGHTS

* CHARLIE MILLER SPEAKS
* NAVY INITIATIVES PROMISE IMPACT
* UNOLS VESSELS AND MEMBERSHIP REVIEW
* NEW OFFICERS ELECTED

Vol. 1 No. 4 Fall, 1984

EDITORIAL - We lead off this issue of UNOLS NEWS with an editorial by Charles Miller, Oregon State University, who is Chairman of UNOLS' Advisory Council.

LET'S RE-EMPOWER OUR OCEANOGRAPHIC INSTITUTIONS - Oceanographic institutes and universities have consistently produced the big ideas, the exciting breakthroughs and the bulk of results in American Oceanography: plate tectonics, a history and explanation of Pleistocene glaciations, revision of geochemistry through discovery of seafloor vents, a testable explanation for the origin of life, thorough revisions of the dynamical description of ocean currents, and on and on. Other federally funded efforts have been important, but for dramatically less money the academic sector has been vastly more productive and is the source of most trailblazing work. Sound financing from the U.S. government since WWII has bought from the American academic ocean community a totally revised understanding of the planet. We have been more important in that regard than the space effort or any other facet of the scientific community overall, a fact little appreciated outside our own part of that community. Generous past support has been the basis for U.S. leadership of the international ocean effort.

Moreover, there are many scientific opportunities immediately beckoning in oceanography. These are the product both of our past successes and of the extraordinary advances in science and technology generally. To choose just a single example, the dream of instrumenting the entire world ocean for continuous monitoring of physical, chemical and biological variables is now feasible. The resulting understanding of ocean processes will be scientifically dramatic and practically valuable. Academic oceanography is ideally suited for efficient development of this and most of the other exciting opportunities.

Unfortunately, academic oceanography is in trouble. When it works well, it is for three reasons, and in each of these respects it is not healthy:

(1) The freedom of academic life, particularly the freedom to follow ideas wherever they lead, attracts the brightest and most idealistic workers. In cooperating and competing scientific groups they find the best habitat for scientific work. However, the limits on funding for study of the oceans by the institutes and schools relative to demand, have stifled the cooperative aspect and grossly overemphasized the competitive one. This is undermining the fabric of our ocean institutions nationwide.

(2) The interaction of experienced professional scientists with the ambitious and critical graduate student body is an ideal mechanism for innovation. Yet, applications for graduate study in oceanography have all but stopped. Applications from the markedly gifted have disappeared. This ultimately will damage not only academic oceanography, but all oceanography, and that result is not very far off.

(3) Generous funding for ocean work has been available from the U.S. government under mechanisms that required tolerable work at justification and tolerable, even healthy, competition for funds. Funding is still available but the competition has stiffened in all fields until each of us is constantly at risk of losing the means of livelihood or, at best, the wherewithall to pursue our ideas. The effort involved in justifying funding has become unsupportable.

All of these problems have several roots, but one they have in common is the project by project mode of funding. Each study undertaken must be elaborately justified and judged in competition with all the others submitted at the same time. So long as funds are adequate to cover, say, 70% of the projects of qualified scientists, this is not unhealthy. However, when the funds cover 30% or less, then the choices depend on the chances of simultaneous submission and of the draw among peer reviews, and frequently upon political considerations. Our institutions are damaged by this as much as the individual investigators.

The competititve aspect of life in our institutions has become so dominant that the collegial aspect has all but disappeared. There is no time for all-institution seminars. Meetings across disciplinary lines are only attractive if there is the prospect of joint funding. Because immediate colleagues cannot act as reviewers of your proposals, it is time wasted to keep them informed about your progress. Their good opinion of you and your work has no bearing on your access to support. In fact, many oceanographers view their immediate colleagues as their most dangerous rivals, since no institute can hope for more than a few pieces of the pie.

Loss of collegiality is a sign of morbidity in our institutions, for make no mistake, collegiality is the very stuff from which new science based on divergent, innovative ideas is formed. Every historical study of scientific advance in any of today's most productive fields implies that. The present funding system has removed the time and freedom required to sustain collegiality, even has destroyed its desirability for the hard-bitten scientific gladiators who stalk our halls.

Worse, the ocean institutions have become powerless. Since the means of continued action is controlled from Washington, all loyalty transfers to Washington. What your institute director thinks of your work is all but

irrelevent to your ability to operate, and most directors are powerless to assist you with projects requiring immediate action or local control. They have no resources to second guess a decision from Washington. These points were amply illustrated during the 1983 EL NINO events off the West Coast, to which our response was so close to nil as to make no difference. Despite some interest among our directors, they couldn't help their scientists do anything about it. Why? Because all resources are distributed from Washington directly to individual workers by a system requiring 1.5 years to respond. All ship operations are agreed upon nationally at least six months before each calendar year begins, and the commitments are effectively ironclad.

Inability to respond to events like EL NINO is only indicative of our situation. The most important danger of emasculated institutions is that nobody on the scene supervises or has substantial means of promoting, aiding or even curtailing any part of our most effective oceanographic enterprise. Essentially, the only authority exercised by an oceanographic institute director in the U.S. is to approve appointments to the staff. That amounts to granting permission to use the institute letterhead in applying to Washington for salary, equipment and shiptime. Many successful, senior scientists would never waste the time of day discussing their scientific endeavours with their director. Informative interaction is saved for the real authority figures, the NSF and ONR program managers. This situation is pathological.

There is medicine for our disease. We need to convert a substantial fraction of federal support for ocean science into grants to institutions for maintenance of their efforts generally. This will re-empower our ocean institutes. It will bring project review home and make our colleagues important again. The medicine will help most, of course, if this fraction is created by an infusion of new money. But, if NSF and ONR simply are directed to convert a substantial portion of their present support of oceanography to grants to institutions for use at the discretion of their directorates, it will be an enormous help. Institutions can be held accountable for productive use of funds as easily as individuals, perhaps more easily.

A shift from exclusive support of highly specified projects to general support of oceanographic institutions will result in a mixed system with (1) project support for special programs and to protect initiatives of individual scientists from the idiosyncracies that inevitably will develop under particular institute directors, but with (2) general support to maintain collegiality in healthy oceanographic institutions. Again, the larger the portion of the institutional support that is new money, the more positive will be the effect, but most important is to re-empower the institutes themselves.

Systems such as I am advocating already operate in Canada, Germany, France, Russia, Japan, Scandinavia and Great Britain. That is, in all of the other countries contributing to modern oceanography in significant degree. Comparison of their production per worker of new facts and ideas to that typical in the U.S. is embarrassing. A day in one of their institutes is an intense pleasure, a return to better times as we used to know them in American ocean sciences.

American oceanographers, like the constituency of any bureaucracy, are largely responsible for the manner in which their federal patron treats them. We can move towards a mode for distributing oceanographic research

funds that will reinvigorate our most productive institutions. Let's get on with it.

Charles Miller, Oregon State University

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ADVISORY COUNCIL MEETING HIGHLIGHTS - June 28-29, 1984, Seattle, Washington.

The prime items of business were the reviews of UNOLS membership and ships. Programs that need to provide information or which have been relatively inactive in UNOLS affairs were contacted and asked to provide new data. The return has been good and the periodic review will continue to be done at intervals of one-two years. Designation of UNOLS vessels is an important means for keeping all ship-ops on their toes and to ensure the high standard to which the fleet operates.

At present UNOLS has only one National Facility, the ALVIN program, and that was also reviewed and approval recommended. The Council has established a councillor role to watch for good programs or facilities for future designation as UNOLS National Facilities. Charlie Miller presently has the assignment.

OFS is working on a plan for workshops to discuss and plan either special facilities operation, or other needs. The Council was asked to look at ideas and to consider what levels these should be aimed at for maximum effectiveness; e.g., facility supervisors, lab directors, technicians, etc. It is obvious that this will also depend on the particular topic. The benefit of fleet-wide workshops is also an obvious need and the Council will be keeping in close touch with OFS personnel on this subject. Ideas are invited from the community.

The Council also noted needs for establishment of minimum service/equipment lists for the fleet's ships (note article in UNOLS NEWS vol. 1, no. 2 on the NECOR recommendations in this regard). Close cooperation with RVOC is a must in this area and the expertise in that group has already been brought to bear on related subjects.

Another important area for study is fleet-wide dissemination of data and techniques amongst the ship technician community.

Dick Alderman of NOAA reviewed the activities of the Federal Oceanographic Fleet Coordination Council (FOFCC) and noted that many UNOLS people will be interested in the 2nd annual report of FOFCC published in May, 1984. Ask your UNOLS rep to get a copy at the next Washington D.C. meeting.

Carl Lorenzen is taking over the Council role for overseeing the Fleet Efficiency and Effectiveness Reports. These are important, they are read and acted upon. Give them your attention and thought.

Work continues on Access for Ocean Research in foreign waters; Fleet Replacement studies are progressing (see UNOLS NEWS vol. 1, no. 3) and Bob Dinsmore reported on the progress of his committee's review and study. Your UNOLS rep has distributed a report of July 25, 1984 on their work and if they are out of copies, write to UNOLS Headquarters for a copy.

Scripps Institution of Oceanography has purchased the replacement for E. B. SCRIPPS. The new vessel has been named the ROBERT GORDON SPROUL in honor of the late President of the UC system. The Naval Post-Graduate School's ship ACANIA is coming to the end of the trail and poses some problems for UNOLS consideration for ship availability. Moss Landing Marine Lab and other CENCAL (Central California Consortium) schools are working on plans for joint operations. John Martin of MLML is chair and has a committee of school reps working on various topics in addition to the above. Chris Mooers, Bruce Robison, Donn Gorsline and Ken Bruland have been asked to chair sub-committees dealing with future needs in the four major ocean science areas, with emphasis on jointly used equipment. These groups will be getting to work this fall.

The various council roles were reviewed and reported upon. Details of the upcoming updating of the UNOLS Advisory Council Report on Fleet Composition were discussed and data is being requested for the January, 1985 meeting of the Council at which the update will be drafted.

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NAVY INITIATIVES IN OCEANOGRAPHY - Navy Secretary John Lehman has written the CNO that "it is now time for a major reinvigoration of Navy efforts in oceanography." In a July 17, 1984 memo, the Secretary told the Chief of Naval Operations the details of the new U.S. Navy policy which includes 15 "initiatives":

(Some of UNOLS interest are listed here.)

CNO will expand ONR's Fellowship Program to support additional doctoral level education in ocean sciences to an average of five fellowships per year. Both civil and naval personnel will be eligible and will sign a "two-for-one service obligation for each year of supported graduate study. "The fellowships will be titled "Secretary of the Navy Oceanography Fellows."

The ONR will expand its program of chairs in oceanography to five. The chairs will be at civilian academic oceanographic institutions and be designated "Secretary of the Navy Chair of Oceanography".

A Master of Ocean Sciences Program will be set up by the Director of Naval Oceanography in conjunction with the current MIT/Woods Hole Program in Ocean Sciences.

An Institute for Naval Oceanography will be set up. This will have a super computer (Class VII) and be linked to universities and institutions in the U.S. Priority funding will be available.

Some $11.3 million will be available for an ocean science building at NPG.

The Navy will continue to support NROSS (the Navy Remote Sensing System).

* The Navy will have $35 million in its budget for a new ship, Navy-owned, for oceanographic research. The civilian academic oceanographic research community will use it. Target date is 1991.

* CNO and ASN (RE&S) will provide a plan "to optimize the management and use of Navy deep submersibles for all forms of oceanographic activities",

The adequacy of the Navy's non-combatant undersea vehicles will be reviewed.

* A construction plan for oceanographic research ships will be developed by the Director of Naval Oceanography and the CNR. "The objective of the program is to insure proper deep ocean research platforms are available to meet Navy operational and research requirements."

* The Navy's programs in ocean science and technology will be generally strengthened with a primary focus of an accelerated effort on remote sensing, data assimilation, ocean modeling and the conduct of oceanographic field programs."

Ask your UNOLS rep to obtain more information at the next UNOLS meeting from ONR reps.

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RITA COLWELL NAMED TO NATIONAL SCIENCE BOARD - Dr. Rita Colwell, a widely-known microbiologist with a long association in marine sciences and affairs has been named to the National Research Board by President Reagan. She is Vice-President for Academic Affairs at the University of Maryland.

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BULLETIN BOARD ON MICROCOMPUTING FOR THE OCEAN SCIENCE - Bob Corell (New Hampshire) and Dick Blidberg (New Hampshire) have announced the formation of a bulletin board for microcomputing through the OMNET system. This will facilitate communication amongst microcomputer users in the ocean community. The board, called OCEAN.MICRO, is now up and running. You can scan it through your SCIENCENET mailbox. If you want to access the board, type "check OCEAN.MICRO" then type "scan all". We suggest you check the Bulletin Board once a week. If you want to put through a message, just send the message as a standard memo by addressing as follows:

To: OCEAN.MICRO
From: Your Telemail/OMNET name

then write out the message you want to share with those interested in using microcomputers in the ocean sciences. Its simple.

The board will hold your message for 60 days then it will be automatically removed. If you have any questions on the board or on becoming a subscriber to OMNET, just call or write OMNET, Inc., 70 Tonawanda Street, Boston, Massachusetts 02120, 617-265-9230. If you have suggestions or questions about the way in which the board is being used, please contact Bob Corell or Dick Blidberg, Marine Program, University of New Hampshire, Marine Program Building, Durham, NH 03824, or Marine Systems Engr. Lab, University of New Hampshire, P. O. Box G, Durham, NH 03824, 603-749-6056 or 603-862-2994. PASS THE WORD.

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SOME PUBLICATIONS OF INTEREST

"An Ocean Climate Research Strategy", National Academy Press, Washington, D.C., 1984, Ferris Webster, author.

"An Assessment of Oceanographic Program of the Department of Energy", National Academy Press, Washington, D.C., 1984, Feenan Jennings, Chair.

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JOHN BYRNE LEAVES NOAA FOR OREGON STATE PRESIDENCY - John Byrne, Administrator of NOAA will take his new duties as President of Oregon State University in Corvallis on November 1, 1984. The Deputy Administrator will serve as Acting Administrator until a new appointee is selected after the first of the year.

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ROSS HEATH NEW DEAN OF COLLEGE OF OCEAN AND FISHERY SCIENCES AT UNIVERSITY OF WASHINGTON - Ross Heath has resigned as Dean of the School of Oceanography at Oregon State University and taken up the reins at University of Washington replacing D. James Baker who left to become President of JOI, Inc. in Washington, D.C.

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USC PURCHASES REPLACEMENT FOR VELERO IV - The University of Southern California has purchased the OSPREY, a 220' Pacific purse seiner, from Ralston-Purina Corp. The vessel, built in 1976, will be converted as a general oceanographic research vessel and will replace the R/V VELERO IV sometime next summer. VELERO IV, the oldest vessel in the UNOLS fleet, will be retired at that time. The new vessel will be put into shape using funds raised from private sources and from funds requested from NSF/OFS. Conversion costs are estimated to be about $3.5 million and will be done in two stages. Operation as a general research ship will begin at the end of the first phase with additional equipment added in the second phase during the following year. More details will be provided in a later issue of UNOLS NEWS after plans are finalized in consultation with ship users.

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NOTES FROM THE SEMIANNUAL UNOLS MEETING, MAY 24-25, 1984, WASHINGTON, D.C. - Featured speaker at the meeting was Dr. Edward Knapp, Director of NSF, who reviewed the progress and future of oceanography in NSF. His review was positive and cited a number of areas of growth, computer access and other topics. He also lauded UNOLS' role in the process.

Paul Wolff (NOAA) discussed the management of the NOAA Fleet and new policies for its deployment and utilization.

Harris Stewart reviewed the work of the Advisory Council and noted that the Council views the Fleet as being in good health. He described the role of the Fleet Replacement Committee and the planned update of the Advisory Council Report on the Fleet. He also reviewed the status of the various council activities and the results of the Charter review. He also acknowledged the service of the outgoing councillors, Bob Corell, Donn Gorsline, Roger Larson, John Van Leer and Joseph Curray.

Acquisition of the POLAR DUKE for Polar Programs in the Antarctic was announced and details of the chartered ship distributed to the reps. The ship will be in operation this coming season.

Reports of federal agencies were made by Keith Kaulum of ONR, Ron La Count of NSF/OFS, Bob Rowland of USGS, and Admiral Munson of NOAA. Details of these are available in the Summary Report in your UNOLS rep's office.

The report of the ALVIN Review Committee, UNOLS Office, Fleet Replacement Committee, UNOLS National Expeditionary Planning Committee, Access for Ocean Research Committee were given and are detailed in the Council's summary report.

Ship Ops data were presented by Bob Dinsmore and are detailed below:

SHIP OPERATIONS FUNDING SUMMARY

	NSF	ONR	1985 OTHER	TOTAL	OPS DAYS
Projected Costs (May, 1984)			(in $million)		
East Coast	15.894	3.094	5.215	24.203	
West Coast	15.098	1.785	1.375	18.257	
Total	30.992	4.879	6.588	42.460	5,999
Anticipated funding	25.0	4.9	7.0	36.9	
Shortfall	5.9	0.0	(0.4)	5.5	
Projected Cost (Oct. 1984)					
East Coast	14.782	2.354	2.442	19.578	2,758
West Coast	13.610	1.835	1.765	17.223	2,455
Total	28.392	4.189	4.207	36.791	5,213
Anticipated funding	25.0	4.2	4.2	33.4	
Shortfall	3.392	-	-	3.392	
		1984 RUNNING SUMMARY			
May '83-projected cost	28.7	4.4	6.4	39.5	6,016
Anticipated funding	25.4	4.1	6.4	35.9	
Shortfall	3.3	0.3	0.0	3.6	
Oct. '83-projected cost	27.4	5.0	8.3	40.7	5,892
Anticipated funding	25.0	4.5	8.0	37.5	
Shortfall	2.4	0.5	0.3	3.2	
May '84-projected cost	24.7	4.8	7.2	36.7	5,210
Anticipated funding	24.3	4.8	7.2	36.2	
Shortfall	0.4	0.0	0.0	0.4	

Moss Landing Marine Laboratory was advanced to full membership, Louisiana Universities Marine Consortium and the Naval Postgraduate School were approved for Associate Membership as was University of South Florida.

The Charter was revised as follows:
Add as paragraph (g) under Section 3:

UNOLS vessels are defined as those United States vessels which are operated by UNOLS Member Institutions and are significantly funded by the Federal Government. They are operated in accordance with UNOLS Safety Standards and are scheduled by established UNOLS procedures. Designation or removal of designation of UNOLS vessels is by a vote of UNOLS Members, after review and recommendation by the Advisory Council.

The membership then formally readopted the Charter.

The last business item was election of officers for the coming year and the following were elected:

Chairman	Ferris Webster (Delaware)
Vice Chairman	Bob Corell (New Hampshire)
Councillors	Donn Gorsline (1 year term, USC) Carl Lorenzen (Washington) Art Maxwell (Texas) Tom Malone (Maryland) Associate member rep.
ALVIN Review Committee	Jody Deming (Hopkins) Kirk Cochran (SUNY Stony Brook) Geoffrey Thompson (WHOI)

Tex Treadwell reviewed the initial work of the revised UNOLS Safety Standards Committee. Members are Gene Allmendinger (UNH), Jack Bash (URI), Bill Harkness (UH), Ken Palfrey (OSU), Eric Nelson (DUKE/UNC), and Jim Williams (UCSD/SIO). Tex is the committee chair. The draft report was commended as a marked improvement over the former report and he noted the suggested recommendations and additions for incorporation in the final draft report. This will be circulated to the membership for comment and review.

The Executive Secretary was instructed to prepare a summary list of UNOLS directives, operative resolutions, standards and guidance now in effect and circulate the list to the membership. The meeting then adjourned at 12:30 p.m.

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NOAA TO PRESENT DETAILED DIGITAL DATA FOR OFFSHORE ECONOMIC ZONE

Highly detailed data on the coastline of the United States will be available in digital form beginning in January, the National Oceanic and Atmospheric Administration (NOAA) announced recently.

Developed by NOAA's National Ocean Service (NOS) it will be used for commercial, state and regional planning activities in the U.S. coastal zone. These include mapping and boundary determinations for territorial seas and the Exclusive Economic Zone. The latter is an area of nearly four billion acres within 200 miles of U.S. shores over which the U.S. has economic jurisdiction.

The digital data will be derived from the NOS nautical chart data base using scales of 1 to 40,000 or larger, and will show all land mass areas, islands, and the geographical features that are shown on the nautical charts.

Areas of coverage will include the continental United States and Alaska, Puerto Rico, the Virgin Islands, the chain of islands from Hawaii to Midway, the northern Mariana Islands, Guam, Wake Island, Johnston Island, Howland Island, Baker Island, Palmyra Atoll, Kingman Reef, Jarvis Island, and American Samoa. The information will be based on mean low water in areas bordering the Atlantic Ocean and mean lower low water in areas bordering the Pacific Ocean.

The digital data will be available for the northeast Atlantic coast and the Pacific coast of the continental United States in early 1985, and will be available for all areas of coverage by the end of 1985.

In addition, NOS will make available "turning point" positions along the U.S. coast from which the width of the offshore economic zone is measured. These positions, when plotted on a chart, can be used to determine exact jurisdictional locations.

For further information, contact: Captain C. William Hayes, NOAA; Nautical Charting Division, N/CG2; Charting and Geodetic Services, National Ocean Service, NOAA, Rockville, MD. 20852, or call (301) 443-8660.

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Dr. Rod Mesecar, Oregon State University has contributed the following technical note to UNOLS NEWS. (UNOLS NEWS is open for short notes or announcements of general interest in the UNOLS community.)

STREAMING TAPE RECORDER BEING EVALUATED FOR USE WITH THE SAIL SYSTEM

A means of adequate bulk data storage in a standardized data recording media, has been a limitation of the SAIL System and other types of similar instrumentation systems.

For the past several years, the computer industry has been producing tape devices which are used as protective back-up units for disk systems. These tape devices are called streamers or streaming tape drives. These streamers will handle huge amounts of data -- 20 to 60 megabytes are not uncommon. In addition, several manufacturers have proposed two standards for streamers. These proposed standards apply to devices using the 1/4-inch tape cartridge (similiar to DC-300 or DC-300 XL). This tape cartridge is described by ANSI Standard 3.55-1977, and this standard is incorporated by reference into the proposed streamer standards.

The proposed streamer standards for quarter-inch compatibility (QIC) are known as QIC-02 and QIC-24. QIC-02 describes a proposed standard for an intelligent interface. The salient features of this standard are:

- Description of hardware connector and cable; electrical signal characteristics.
- Provides for selection of up to four devices (tape drives).
- Communicates with a host by use of eight control lines and an 8-bit bi-directional data bus.
- Uses one set of 2-wire handshakes for command and status and a different set of 2-wire handshakes for read and write data.
- Contains a minimum set of commands and status, plus a large number of options.
- Describes fault detection and corrective action to be taken.

QIC-24 provides a format and recording standard to enable tape cartridges to be interchanged between various machines and users. The standard requires recordings to be made at 10,000 FRPI (flux reversals per inch) using NRZI (non-return to zero-flux changes on ones). Group code recording (GCR) is used to provide a self-clocking read capability. GCR encodes an 8-bit byte into 10 bits, such that there are not more than two contiguous zero bits in a 10-bit byte. The recording takes place in bit-serial form.

Recording on tape is by block format. A block is made up of a preamble, a start-of-date marker (one byte), 512 bytes of data, a block address, a cyclic redundancy check (CRC), and a postamble. Each section of the block is controlled by the standard. In order to accommodate many megabytes of storage on a 300 or 450-foot tape, streamers use either 4 or 9 tracks on the 1/4-inch tape, recording on one track at a time. The QIC-24 standard delineates the track sequence and location on the tape. The standard calls for recording in both directions of tape travel. Each time the tape nears the end of its travel in one direction, the tape movement will be reversed (except for the final track). This method of recording has come to be known as serpentine recording.

By judiciously ignoring some of the features of QIC-02 and QIC-24, it seems likely that the two standards could be adopted to operate within limited constraints of the recording requirements of the shipboard SAIL Systems.

A modest grant was funded in March 1984 by OFS/NSF to purchase, adapt and evaluate a streaming tape unit with the SAIL System. One recorder unit is now mated to the SAIL System and scheduled for evaluation in September 1984 on the R/V WECOMA. With a modest circuit change, it appears the OSU/streaming recorder can also be used to record the output of a NBIS CTD system.

For additional information about this announcement, please contact:

Dr. R. Mesecar
OSU/T.P. & D. Group
College of Oceanography
Corvallis, OR 97331
(503) 754-2208

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George Shor's letter on Scripps policy concerning the use of isotopes on ships is published not only to alert investigators to its content but also to remind potential users of all UNOLS ships that the use of isotopes may require careful advanced planning and prompt submission of plans.

To: Those planning use of Radioisotopes on SIO ships
Subj: Requirement for EARLY submission of Use Plan for radioisotopes, or unnatural concentrations of stable isotopes, on SIO ships

The Scripps Institution, like most other UNOLS ship operators, has rules regarding the use of radioisotopes or unnatural concentrations of stable isotopes aboard ship. These rules are to protect the later scientific use of the ship for geochemical sampling--and as such the degree of "cleanliness" required is many orders of magnitude better than required for health and safety. We therefore require that a "use plan" be submitted in advance for any experiment involving isotope use.

The SIO Isotope Committee has complained that in several cases they have been confronted with what amounts to a "fait accomplis," since the use plan has been submitted long after the ship request and proposal, with insufficient lead time to make needed modifications of plans. This has been true particularly of the R/V MELVILLE, which we have tried to keep "clean," and on which radioisotopes are only allowed in small amounts under stringent restrictions when an alternative solution is impossible.

Therefore: starting now (and retroactively), if a ship request indicates that the use of isotopes is planned, it will be held "in suspense" and not scheduled firmly until an isotope use plan is received, reviewed, and approved. If the plan is unsuitable, and no acceptable modifications can be made, we will search for another ship that can accommodate the work, or simply decline to schedule the work.

A corollary to this is: if a ship request indicates that NO isotope use is planned, none will be allowed.

George G. Shor, Jr.
Associate Director

UNOLS Office, WB-15
School of Oceanography
University of Washington
Seattle, WA 98195

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