

# Eighth International Ship Operators Meeting

26 September 1994, Dartmouth, Nova Scotia, Canada

## Summary notes

Country	Representative	Organization
Belgium	Mr. M.A. Pollentier	MUMMS, Oostende
CEC	Dr. M. Weydert	DG XII, Brussels
Canada	Mr. S.B. MacPhee	BIO, Dartmouth Chairman
	Cpt. R. Heath	BIO, Dartmouth
France	Dr. D. Girard	IFREMER, Paris
	Mr. J.X. Castrec	IFREMER, La Seine sur Mer
Germany	Dr. D. Strohm	F, Bremen
Japan	Mr. H. Hayashi	JAMSTEC, Yokosuka
	Mr. H. Yamada	JAMSTEC, Yokosuka
	Mr. T. Chiba	NME, Yokosuka
Korea	Mr. Kyung-In Lee	KORDI, Seoul
Netherlands	Mr. C.N. van Bergen Henegouw	NIOZ, Texel Secretary
	Ms. M.J. Rietveld	NIOZ, Texel
OCEANIC	Ms. K. Bouton	U Delaware, Lewes
South-Africa	Mr. A. Robertson	SFRI, Cape Town
Spain	Mr. J.I. Diaz	CSIC, Barcelona
UK	Ms. C. Harper	NERC, Swindon
	Dr. C.W. Fay	NERC-RVS, Barry
USA	Ms. E. Dieter	NSF, Washington
	Cpt. M.R. Mulhern	NOAA, Silver Spring

## Apologies for absence

Australia	Mr. M. J. Pook	NFSC, Hobart
Finland	Ms E. Lahdes	IMR, Helsinki
France	Dr. J.Y. Binot	IFREMER, Paris
	Mr. F. Goutorbe	IFRTP, Plouzane
Germany	Dr. D. Kohnke	BSH, Hamburg
Netherlands	Dr. J.H. Stel	NGF, The Hague
Russia	Mr. I.M. Sborshchikov	PPSIO, Moscow
UK	Mr. J.W. Ramster	MAFF, Lowestoft
	Dr. B. Hinde	NERC, Swindon
UN	Mr. E.J. de Boer	FAO, fisheries division, Italy
USA	Dr. D. Heinrichs	NSF, Washington
	Rear Admiral W.L. Stubblefield	NOAA, Silver Spring

## 1. INTRODUCTION AND WELCOME

Dr. Steve MacPhee, director of the Bedford Institute of Oceanography, as this years chairman welcomed all 21 participants from 11 countries and 2 international organizations to the eighth ISO-meeting. He invited all participants to a dinner party after the meeting. A round table was held introducing all those attending the meeting.

The draft-agenda was accepted.

## 2. MINUTES OF THE Seventh MEETING

The minutes were discussed. The chairman indicated that in respect of the research vessel capacity of eastern-Europe and the Russian Federation, participation in ISOM of a number of the new born states would be very welcome. He asked the secretary to enhance a better contact to stimulate participation. He reported that for this year's meeting Brazil and Argentina were invited. The chairman mentioned the Workshop on safe working loads applied to oceanographic cables, held in March during Oceanology International 1994 in Brighton (UK). This Workshop was a great success (see report on the workshop). He thanked Dr. C. Fay and his group for organizing and the EC (represented by Dr. M. Weydert) for funding the Workshop.

The minutes were accepted as a true record of the seventh meeting held in Antwerp on 11 October 1993.

### **3. RESEARCH CO-ORDINATION**

#### **Insurance/legislation/waivers**

Ms. Rietveld introduced this item because the Netherlands is chartering ship time, now their blue ocean research vessel Tyro is out of service. Chartering ship time, so was learned, didn't solve insurance matters automatically. This problem might occur also when ship time is exchanged. The introduction initiated a round table discussion on the subject. It became clear that an overview on the subject was needed to make clear how insurance is taken care of in every country and what regulations and conditions apply in respect of insurance when chartering out. The chairman asked the secretary to produce this overview for next year's meeting. The secretary will contact all participants with a questionnaire on the subject.

#### **Reports on staff exchange**

Mr. Chiba dispatched, on behalf of JAMSTEC, that in March-April 1994 NME Nautical Officer (Capt. Hyodo) joined the James Clark Ross, the UK Antarctic Ice Breaker. A marine superintendent from NERC-RVS will visit the JAMSTEC facilities in November in return. And similiary, NME initiated a technician training with the University of Alaska and PMEL (US), aboard the RV Alpa Helix and RV Discovery respectively. Mr. Kyung-In Lee (Korea) was most interested in exchanging staff with JAMSTEC in future.

Dr. M. Weydert (EC) mentioned that for special training courses funding was possible from the EC. He is looking forward to proposals. In that respect the ISOM participants suggested a marine technicians workshop to discuss mutual experiences and problems. The language, however, might form an obstacle, because technicians are not always able to discuss their work in detail outside their own language. Next year in Miami (US) three meetings on technical subjects are organized. All ISOM participants are invited. The chairman asked the secretary to look into this and find out whether an European input can be established. (check with Dolly).

#### **Reports on lost equipment**

The meeting mentioned the environmental impact of lost or overthrown equipment. This item might be discussed in depth in future meetings. Dr. Strohm (FRG) reported that the University of Kiel lost equipment worth over 300,000 USD. He will discuss possibilities for recovery with the Nautile with Dr. Girard (F). Mr. Robertson (SA) reported the loss of three current meter array's in 1993 because of acoustic release failure and of a sediment trap in 1994. All recovery attempts failed. Cpt. Heath (CA) reported the loss of a optical acoustic system in the North Atlantic. Mr. Diaz (S) reported losses in the Antarctic of bongo nets. Mr. Pollentier (B) reported the loss of a CTD system in the Gulf of Biscay. During the meeting Dr. Girard (F) offered assistance to recover the system. Dr. Fay (UK) reported losses of drifting current meter moorings. Sometimes they are picked up by fishermen. Getting the moorings back from them becomes more and more a

problem. He also reported the loss of an underwater camera and damage to the RV Challenger. Loss of moorings probably also by fishing activities was reported by Ms Dieter (USA). The problem of losing moorings by fishing activities was discussed. Informing official governmental bodies (through application for diplomatic clearances) and/or fishery organizations on the position of moorings would probably increase the number of losses. Cpt. Heath (CA) explained that Bedford Institute developed a trawl-resistant package for an acoustic Doppler current profiler (a paper on this package was distributed during the meeting). Dr. Weydert (EC) remarked that if the meeting would have ideas on procedures to get lost equipment back from fishermen, the EC might assist in providing legislation.

The chairman concluded that discussions on lost equipment which occurred in the past would assist the ship operators to anticipate on problems in future.

## **Others**

### **Standardization of cables:**

When exchanging ship time and/or equipment internationally standardization is becoming more important. Also manufacturers would also consider price reduction and/or development of new cables (fiber optics) when the demand for such a product could be high enough. In that case countries must agree on a standard for a particular application (for instance CTD). The EC can provide financial support for European industrial developments.

### **OCEANIC database:**

Ms Bouton gave a presentation on the OCEANIC database through Internet's World Wide Web. In this way information on ship details and ship schedules are very easy to obtain. In a program planning phase this information assists ship operators to make a number of possible cruise scenarios. After this phase bilateral discussions in more detail can follow. For this purpose it would be preferred when ISOM participants inform OCEANIC as soon as they have preliminary plans available and up-date this information as soon as changes occur.

## **4. RESEARCH FLEET CHANGES**

Ms Dieter (USA-NSF) reported that the US Academic Fleet continues its planned upgrades with the construction of the RV Agor 24 and 25. These vessels are being constructed under the auspices of the Office of Naval Research. The Agor 24 will be operated by Scripps Institution of Oceanography (SIO) and should be fully operational in early 1996. The Agor 25 will be operated by Woods Hole Oceanographic Institute (WHOI) and is expected to be operational in early 1997. The ships are 274 feet in length and have berthing for 34 scientist with 3,000 sq. ft of laboratory space. Both vessels will be outfitted with multi-beam as are all of the existing large academic research vessels (Melville, Knorr, Thomson, Ewing and Atlantis II). The preliminary design has been finished for the proposed Arctic Research Vessel. The vessel is designed with a LOA of 340 ft, beam of 89 ft, draft of 30 ft and an ice capability of 3 ft @ 3 knots. The mid-life/upgrades of the three Oceanus class vessels has been completed. Although the upgrades were similar each vessel was customized to accommodate the needs of the operating institution. The Seward Johnson, operated by Harbor Branch Oceanographic Institution, has also just completed a mid-life conversion, including lengthening the vessel by 34 feet and upgrading the laboratories and berthing. A mid-life upgrade is planned for the New Horizon in 1995. The 180 ft general oceanographic vessel is operated by SIO. The retirement of the submersible handling vessel, Atlantis II, is planned for early 1996. At that time the Deep Submergence Vessel Alvin will go through an extensive overhaul and the RV Knorr will be converted to support both Alvin and ROV operations. It is anticipated that Knorr and Alvin will be back in operation in late 1996. For 1995 all of

the large vessels will be fully utilized with Knorr in the Indian Ocean for WOCE, Thomson in the Indian Ocean for JGOFS, Ewing and Melville in the Pacific mainly for marine G&G and Atlantis II and Alvin working in the Atlantic in early 1995 and spending the remaining portion of the year in the Pacific. The Intermediates and small ships will be doing mainly regional cruises.

Dr. Fay (UK) reported that all vessels are fully operational and that no major refits are planned for next year. Planned is the construction of a second UK deep-sea side scan sonar system (TOBI) in 1995. The tests of the system are planned in October 1995. The major development is the move of the Research Vessel Services from Barry to Southampton in May 1995. Dr Harper (UK) advised that RRS Discovery was currently involved in a series of biogeochemistry cruises off the coast of Oman. She would then resume work for WOCE off S. Africa before returning to the N Atlantic in early 1995. RRS Charles Darwin was working in 1994/95 on a series of cruises based on the mid-Atlantic Ridge from Iceland to the Azores, using the recently-installed multi-beam echo sounder with great success. She had also participated in a successful charter cruise with scientists from the Netherlands as part of OMEX, situated off the SW Approaches and the Bay of Biscay. RRS Challenger would be fully occupied with cruises around the UK, principally for LOIS.

Mr. Lee (Korea) reported ..... (not received)

Mr. Weydert reported on the Finnish fleet, on behalf of Ms E. Lahdes. No major refits were executed and planned for next year. The fleet is mainly operational in the Baltic Sea. The RV Aranda is very much used for multinational expeditions (f.i. Nordic Antarctic Research Expedition in November 1995). In 1993 about 26% of the scientists were non-Finnish; in 1994 this percentage was 18%.

Mr. Diaz (Spain) presented the news about the RV Hesperides. She was successfully operating past season (September 93 - May 94) in the Atlantic, Antarctica and eastern Pacific. Technical staff (4 people) have been recently incorporated for supporting the future scientific cruises. New scientific systems installed this year in the vessel at the shipyard includes a BGM-3 marine gravity meter, and a GPS attitude sensor (Ashtech 3DF ADU), as well as the complete refurbishment of the Seismic Multi-channel system. Recently, has been fixed the vessel schedule for the next two seasons: September 94 - May 95 in the Atlantic (central and south) and Antarctica (Weddell Sea and Livingston Island) and September 95 - May 96 in the Atlantic (central and south), Antarctica (Bransfield Strait) and eastern Pacific (Chile to Mexico). The cruises included several multipurpose campaigns, some of them under the umbrella of WOCE, JGOFS, ODP and MAST international research programs.

Mr. Hayashi (Japan) presented a paper on a major refit of the former nuclear powered ship Mutsu into a diesel-electric powered ship. She was built in 1970 as a cargo transportation and crew training vessel and is owned by Japan Atomic Energy Research Institute. After the experimental voyage in 1991, Mutsu entered in the decommissioning procedure at Sekinehama port, Aomori pref. After the completion of the decommissioning work, Mutsu is planned to be owned by JAMSTEC and renewed as the large oceanographic research vessel equipped with sophisticated instruments for the earth environmental observation. Mr. Hayashi reported also on the sea trials of the ROV Kaiko to water depths of over 10,000 m. After initial problems Kaiko will be operational in March/April 1995 for these great depths. Besides, he reported on the progress of the building plan of the deep-sea drilling vessel. Mr. Yamada distributed the operation schedule of JAMSTEC research vessel in 1994 fiscal year to all the participants of ISOM. Finally Mr. Chiba presented a paper on the significant features of swath vessel Kaiyo.

Mr. Castrec (France) presented the IFREMER Research fleet changes. As planned the RV L'Europe was launched in 1993 on September 16, christened on September 29, in the presence of M. Paleocrassas, vice-president of the European Commission in charge of Fisheries and the Environment; M. Jean Puech, French Minister of Agriculture Fisheries and representatives of ICRAM (Istituto Centrale Per la Ricerca scientifica e tecnologica Applicata Al Mare), IFREMER's Italian partner on this project. Trials continued in January, February 94. She is operational for the scientific cruises since 1st march 94. The new Thalassa is

under construction by the group Leroux and Lotz. The ship's dimensions are fixed at a length of 74,5 meters, width of 14,9 meters and depth on the main deck of 6,45 meters. She will be operational in October 1995. Mr. F. Goutorbe IFRTP, through the ISOM secretary, reported on the building of a Marion Dufresne II, a multi-purpose oceanographic research vessel. She will be delivered in April 1995. A leaflet on the ship was handed out.

Mr. MacPhee (Canada) explained that there would likely be a merger of the Science fleet and the Canadian Coast Guard fleet in 1995. This merger would be helpful as it would make icebreakers more readily available for Arctic Science operations. He also mentioned that a new vessel Teleos, a 78 meter fisheries research vessel would be joining the science fleet late in 1994. The vessel is a refurbished commercial fisheries vessel that has been outfitted for oceanographic and stock abundance surveys. She will replace the Gadus Atlantica a vessel that has been on long term charter. Otherwise, Mr. MacPhee noted serious funding problems that will affect research and ship operations over the next few years.

Mr. Robertson (South Africa), participating on ISOM for the first time, presented an overview of the South African fleet. The fleet comprises three fisheries research ships and an Antarctic research/supply vessel. They are owned by the Department of Environmental Affairs and Tourism. The Department is responsible inter alia for national weather forecasting, Antarctic research and the management of the countries living marine resources. All four vessels are operated by the Chief Directorate: Sea Fisheries and all are registered in Cape Town, the home port of fisheries research for the past 100 years. The largest of the fisheries research ships is RV Aficana a 78m stern trawler configured, multi-purpose vessel. Built in Durban in 1982, Aficana was based very much on the lines of Cirolina (UK MAFF). The 53m FRS Algoa, previously the French whitefish trawler Ludovic Jego, was purchased in late 1991 and underwent a major conversion program in 1992/93. The selection of Ludovic Jego was based on the vessels suitability for conversion into a multi-purpose fisheries research ship. She is used for pelagic recruit and pre-recruit surveys, squid work and is presently the prime vessel in the Sardine Anchovy Recruitment Program, (SARP). She is capable of deploying commercial sized demersal and pelagic trawls and operates on a 24 hours per day basis. The smallest of the fisheries research ships is the 36m Sardinops. Built as a side trawler in 1958 the vessel has limited laboratory space and accommodation for 4 research staff. She is used primarily for lobster and line-fish research. The polar supply vessel SA Agulhas was built in 1977 to service South African bases in the sub-Antarctic islands and on the Antarctic mainland. During 1992, the ship underwent a middle order conversion program to improve her efficiency as a supply vessel and to upgrade the extremely limited oceanographic facilities.

Dr. Strohm (Germany) mentioned already in last year's meeting, two major changes in the German fleet. In January 1994 the fishery research vessel Walther Herwig III came into service. This ship replaced 21 years old Walter Herwig II. In November 1994 the German Hydrographic Service (BSH, Hamburg) took over the Deneb. This vessel replaced two older Rostoc based vessels. The Deneb is a sister ship of Atair and Wega. More important than those two changes for the German research vessel situation is a study ordered by the Federal Ministry for Research and Technology. As a result of this study (titled: The use of German research vessels) two aspects are being discussed by all parties involved: 1) the overall capacity of the German fleet (number, technical outfit, working space on board for different marine scientific disciplines, etc. in relation to demand, e.g. number of German scientists, their requirements for working possibilities in specific regions of the world oceans) and 2) the procedures of cruise planning (the Federal structure in Germany versus a more centralized procedures used in other countries).

Ms. Rietveld (Netherlands) reported that the loss of the RV Tyro has stressed the need to increase the area of operation of the Pelagia, from shallow coastal seas to deeper waters. The foreseen conversion will take place in early 1995 and will make her apt for sampling at a depth of up to 4000 meters. For ocean research programs the Netherlands will make use of the naval RV Tydeman and charter ships from international partners. The Charles Darwin (UK) executed the Dutch contribution to OMEX, a European research project. The Netherlands research organization has started a procedure for the decision on a new blue ocean research vessel. The Netherlands is looking for possible partners in these plans.

Cpt. Mulhern (USA) represented the National Oceanic and Atmospheric Administration (NOAA), and expressed regrets for Rear Admiral William L. Stubblefield who was unable to attend. NOAA was participating in the ISOM meeting for the first time, and Capt. Mulhern presented an overview of the NOAA Fleet. NOAA is part of the US Department of Commerce, and operates a fleet of 23 ships (18 are active and 5 inactive) specialized for oceanographic, coastal, and fisheries research and assessment as well as for nautical charting. The vessels that are inactive are out of service due to insufficient operating funds. NOAA's missions include climate, ocean, and atmospheric research; nautical charting; coastal ecosystem health; environmental satellite data and information services; weather forecasting; and fisheries research and management; all of which are supported by the NOAA fleet. The ships range in size from 92 to 27 meters, and the largest active blue-water oceanographic vessels are the Discoverer (92 meter LOA), Surveyor (89 meter), and Malcolm Baldrige (84 meter). Most of the NOAA ships were built in the 1960's, and although they are in generally excellent condition NOAA has recently begun a Fleet Replacement and Modernization (FRAM) program. The proposed FRAM plan calls for construction of certain specialized new ships, "enhanced" repairs to some existing vessels to extend their service life, conversion of vessels obtained from the US Navy and other sources, increased cooperation and shared-use of the academic research fleet, and increasing charter from private ship operators. NOAA is investigating contracting from commercial firms for nautical charting surveys as well as other ship support, and is presently involved in numerous studies to identify alternative approaches for meeting NOAA's ship requirements. As part of the fleet modernization program, one new research vessel (84 meters LOA) is presently under construction and will be delivered in August 1997. During the coming year one vessel obtained from the Navy (68 meters) will be converted, and extensive repair and upgrade of several vessels will be completed. As fleet modernization proceeds, a number of NOAA's vessels are expected to become surplus. Captain Mulhern noted that NOAA appreciated the invitation to attend this meeting very much and looks forward to continuing participation in ISOM.

## **5. SHIP EXCHANGE/BARTER ARRANGEMENTS**

When exchanging ship time shipboard standardized and containerized facilities are becoming important. Dr. Fay (UK) opened a general discussion on using these facilities. In that respect the interface to research vessels and local legislation on the use of these type of facilities have to be known. Mr. Van Bergen Henegouw (NL) presented a paper on standardized container laboratories (Moses) developed within an European framework (Eureka). When exchanging ship time or joining other ships scientist are able to set-up their lab well in advance without using ship time. This containerized lab can be placed on most modern research vessels. The chairman asked the secretary to present during next year's meeting a list of facilities based on container sizes, if possible with technical information on the necessary requirements to be connected to research vessels. The participants will be asked to list their containerized facilities. The secretary will present a summary in next meeting.

Mr. Castrec (France) remembered ISOM on the tri-lateral arrangement between USA, Australia and France. In 1994, the RV Le Noroit operated by IFREMER will provide 22 days for NSF. In 1995, the RV Nadir and submarine Nautille operated by IFREMER will provide 6 dive-days for NSF. In 1994, the RV Le Suroit operated by IFREMER provide 25 days in Mediterranean for the University of Kiel. In 1995, the RV Poseidon operated by University of Kiel will provide 18 days in Atlantic for IFREMER.

## **6. ANY OTHER BUSINESS**

Dr. Weydert (EC) mentioned the development in respect to autonomous underwater vehicles. For those vehicles no legislation is ever made, concerning speed limits, damage, and liability. Does ISOM has any particular ideas? In a short discussion that followed parallels were drawn towards similar situation in space and floating containers in sea. Dr. Weydert will outline the problem in a paper. Mr. Van Bergen Henegouw will contact Prof.dr. Soons of the University of Utrecht, who is a specialist in matters related to the Law of the

Sea. On next years meeting the matter will be on the agenda.

Mr. Robertson (SA) would like to discuss in next year's meeting computer aid systems on board research vessels. Perhaps participants could provide information on existing systems.

Dr. Girard (France) asked the other members on the average cruising speed of research vessels. He did some research on this topic and the result was that of 80 research vessels the average cruising was approximately 10.5 knots. He has information that most scientists considered that too slow. After a short discussion most considered 12-13 knots cruising speed economically acceptable.

Ms. Dieter (US) mentioned that some years ago the NSF took over from ISOM the funding for OCEANIC database. Because of budget restraints the NSF is asking the ISOM to start funding OCEANIC database again. The annual contribution should be in the order of \$15.000. The NSF, however, doesn't want to collect small amounts from all participants. In the coming year the secretary will propose a finance plan.

## **7. DATE AND PLACE OF NEXT MEETING**

The chairman thanked all participants for their constructive contribution to this meeting and invited ISOM to visited the CCG Icebreaker, Louis St.Laurent in the morning of 27th September.

This year's meeting however was the first meeting in the history of ISOM in which the agenda was not finished in one day. Due to the increased number of participants a one day meeting is not sufficient anymore. It was suggested to have at least a two day meeting in future. Then also special subjects (workshops) and informal meetings can be organized. The meeting agreed on this change.

Dr. Steven MacPhee, this year's chairman, introduced Mr. Alan Robertson of the Sea Fisheries Research Institute in South Africa who will be responsible for chairing the meeting in 1995. The provisional date for the next meeting is October 3 and 4 (starting October 2 with an informal meeting) in Cape Town, South Africa.

## **ACTION LIST for next year's meeting:**

- 1. An overview on the subject of Insurance/legislation and waivers will be presented. This overview will be based on a questionnaire answered by all participants.
- 2. The secretary will find out if and how an European input in the technical workshop in the US can be organized.
- 3. A summary of the available shipboard containerized facilities will be presented. This summary will be based on a questionnaire answered by all participants.
- 4. Dr. Weydert will outline the problem on legislation for autonomous underwater vehicles. The secretary will ask a specialist on matter related to the Law of the Sea to give his comments on the outline.
- 5. The secretary will propose a finance plan for the funding of the OCEANIC database